Development and Preliminary Testing of an Online Brief Emotion Regulation Training (BERT) Program for Emerging Adults

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ABSTRACT

Mental wellness is a critical component of healthy development and serves as a way to protect against stress and promote resilience against psychopathology. Emerging adulthood is an important time to foster mental wellness as individuals adjust to changing social roles, such as transitioning to college. Emotion regulation is a key mechanism for effective prevention because of its role in socio-emotional competence and its transdiagnostic significance for psychopathology. In this dissertation study, a brief, time and cost-effective emotion regulation training program for emerging adults (BERT) was developed and tested. Phase 1 focused on program development. Phase 2 utilized the brainwriting premortem method to refine program content. Undergraduate students (n = 12) attended four focus groups presenting initial program content. Four clinicians were also interviewed to determine program barriers. Qualitative analyses aggregated participant feedback to identify compliments, changes, and concerns about BERT in preparation for the pilot, and critical feedback was immediately implemented. In Phase 3, the 5-week program was pilot-tested in a college sample (N = 42) to evaluate Implementation (low attrition, high content engagement, favorable attitudes, low incidence of technical errors, costs), Reach (enrollment and completion demographics comparable to the population in which recruitment took place), and Efficacy (positive change in emotion regulation pre- to post-program). Twenty-seven participants completed at least 80% of program content. Chi-square analyses did not show any significant difference between participants who started the study and those who dropped out. Repeated
measures ANOVAs exhibited significant improvements in emotion regulation, psychological distress, anxiety, stress, negative affectivity, and quality of life, suggesting promising initial efficacy. Development of BERT has high potential significance for promoting healthy development because the electronic delivery and brief nature of the program will reduce barriers to adoption and Implementation and the program development process that incorporates stakeholder feedback at multiple levels is expected to improve program Reach and Efficacy. The program development process, which incorporates stakeholder feedback at multiple levels, informs better implementation and dissemination.
Mental wellness is important for healthy development and serves as a way to protect against stress and promote resilience against psychological distress. After the teenage years, emerging adulthood is an important time to foster mental wellness as individuals adjust to changing social roles, such as transitioning to college. Emotion regulation, or how one manages or responds to emotions, is important for protecting against negative psychological outcomes while fostering well-being. In this dissertation study, a brief, time and cost-effective emotion regulation training program for emerging adults (BERT) was developed and tested in three phases. Phase 1 focused on program development. Phase 2 utilized focus groups to get program feedback. Participant feedback identified compliments, changes, and concerns about BERT in preparation for the pilot, and critical feedback was immediately implemented. In Phase 3, the 5-week program was pilot-tested in a college sample. Twenty-seven participants completed at least 80% of program content. Significant improvements were found in in emotion regulation, psychological distress, anxiety, stress, negative emotions, and quality of life, suggesting promising initial efficacy. The program development process, which incorporates stakeholder feedback at multiple levels, informs better implementation and dissemination. Development of BERT has high potential significance for promoting healthy development because the electronic delivery and brief nature of the program will reduce barriers to adoption, implementation, and maintenance.
Dedication

Mom and Dad, this is for you. I would be no one without your unconditional love and support.
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Introduction

Mental wellness is a critical piece of healthy development in emerging adulthood, a time when youth transition from adolescence to adulthood (Park, Mulye, Adams, Brindis, & Irwin, 2006). For optimal functioning, emerging adults must utilize appropriate and effective regulatory strategies to maintain mental health (Patel, Fischer, Hetrick, & McGorry, 2007; Westerhof & Keys, 2010). Healthy emotional functioning is particularly relevant to this population as they take on new roles, solidify their identity, and are tasked with more responsibility (Bonnie, Stroud, & Breine, 2015; Schulenberg, Sameroff, & Cicchetti, 2004). While many of the skills necessary to transition successfully (e.g., self-regulation, communication, executive functioning, etc.) can be learned early in life, this developmental period brings unique stressors and often more independence, which can make it difficult to translate these skills from late adolescence into early adulthood (Roisman, Masten, Coatsworth, & Tellegen, 2004; Schwartz, 2016; Schwartz & Pantin, 2006). This “perfect storm” is especially evident in the transition to college, when students often leave home for the first time while facing new and higher expectations for their socioemotional and executive functioning (Robotham & Julien, 2006; Scales, et al., 2016; Stephanou, et al., 2016). As such, emerging adults often experience inconsistent mental well-being. The purpose of this dissertation is to develop and test a brief prevention program to improve emotion regulation (ER; Gross & Thompson, 2007), a key resilience factor, in college students (Arnett, 2007). The following sections examine ER as an important prevention target, discuss the process of prevention program development, and provide a theoretical foundation and rationale for an online Brief Emotion Regulation Training (BERT) Program. Phase 1 outlines BERT content development, then Phase 2 focuses on premortem refinement, and Phase 3 describes BERT preliminary testing.
Emotion Regulation in Emerging Adulthood

A key developmental period. Emerging adulthood, generally ranging from 18- to 26-years-old, is an important developmental period in industrialized countries characterized as the transition between adolescence and adulthood (Arnett, 2007; Tanner & Arnett, 2016). The pubertal hallmarks of adolescence begin to stabilize in this period, though brain development is still active in emerging adulthood (Blakemore & Choudhury, 2006; Paus, 2005). Furthermore, social roles in emerging adulthood may vary from those typical in adulthood (Roisman, et al., 2004). This period requires greater responsibility (e.g., family, work, community, romantic) and is typically grounded in stable identity formation, contrasted with adolescence where identity exploration has fewer consequences (Kroger, 2002). Emerging adults are particularly at risk because established milestones from previous generations (e.g., graduate from high school, enter college or workforce, start a family) have become less rigid allowing for more flexibility (Arnett, 2016; Kroger, 2002). Although this affords more diverse paths to healthy development, the uncertainty often leads to anxiety and confusion about how to navigate the transition into adulthood (Bonnie, et al., 2015). Changing social roles challenge the identities formed in late adolescence, with new needs for intimacy competing with the instability of new college relationships (Kroger, 2002). Cognitively, emerging adults begin to use more sophisticated reasoning skills through pragmatism (e.g., adapting to practical constraints), dialectical thought (e.g., competing solutions), and reflective judgment (e.g., evaluate accuracy), which complicates thought and problem solving making it challenging to find simple solutions to their problems (Arnett, 2016).

Adolescence and young adulthood are periods generally depicted with good health; however, this is a time when mortality from other causes such as violence, accidents, and substance use is on the rise (Mulye, et al., 2009; Pharo, Sim, Graham, Gross, & Hayne, 2011). Furthermore,
the World Health Organization World Mental Health International College Student project found that 31.4% of first-year college students reported mental health concerns in the previous year (Auerbach, et al., 2018). Major depressive episodes (18.5%) and generalized anxiety disorder (16.7%) are the most common mental health diagnoses in college freshmen, followed by alcohol use disorder (6.3%), panic disorder (4.5%), mania (3.1%), and substance use disorders (3.0%; Auerbach, et al., 2018). Additionally, high levels of stress related to studying, exams, transitions, and finances, among other causes, have a host of consequences on psychological well-being, though distress may fluctuate over the course of the semester and by year in college (Bewick, Koutsopoulou, Miles, Slaa, & Barkham, 2010; Gatto, Miyazaki & Cooper, 2020; Robotham, 2008; Robotham & Julien, 2006).

Although there is research to suggest that childhood and adolescent outcomes effect later adulthood (e.g., Wickrama, Conger, & Abraham, 2005), there is less research on how functioning during emerging adulthood influences outcomes partly because the transition from adolescence to adulthood may fall in different places for each person, as adulthood is marked by accepting individual responsibility, independent decision making, and financial independence (Arnett, 2016). Taken together, the above-described experiences, problems, and stressors common in emerging adulthood would be expected to have important implications for public health, including later risk for chronic illness, suicide, and addiction (Auerbach, et al., 2018; Blanco, et al., 2008; Hunt & Eisenberg, 2010).

A resilience factor. Emotion regulation (ER) is a foundational component of healthy development. ER refers to one’s responses to emotion, as well as the ability to control emotion processes (Eisenberg & Spinrad, 2004). Gross and Thompson (2007) define ER as “processes [that] may be automatic or controlled, conscious or unconscious, and may have their effects at one
or more points in the emotion generative process (p. 8).” In line with the Research Domain Criteria (RDoC) proposed by the National Institute for Mental Health, it is important to consider common factors underpinning all disorders and better target resilience factors (Insel, et al., 2010). Focusing on these factors can better inform treatments and identify effective components while broadening the range of impact with briefer interventions (Messer & Wampold, 2002). ER is a key target for intervention and prevention work as healthy emotions are critical for functioning (Fernandez, Jazaieri, & Gross, 2016). Although directionality is not well-established, ER deficits are associated with multiple disorders including depression, anxiety, substance-use, personality, eating, and somatoform disorders (Berking & Wupperman, 2012).

Sufficient ER, or regulatory capacity that allows for the ability to respond to emotions in a socially permissible manner, can ease the transition from adolescence as teens are expected to take on the responsibilities of adulthood (Arnett, 2007). Behaviors and habits formed during this time are likely to persist through life. Similar to adolescents, emerging adults continue to face emotional instability, this time with new social responsibilities (Zimmerman & Iwanski, 2014). Fortunately, the brain is plastic during this stage of development, allowing the flexibility to acquire new skills and habits before the prefrontal cortex is fully developed (Stephanou, et al., 2016). While ER may be affected by stable characteristics (e.g., temperament) and life circumstances (e.g., family context, economic situation), it is also subject to development across the lifespan. ER is also related to executive function and psychological well-being (e.g., García-Villamisar & Armentia, 2014). In emerging adulthood, optimal ER is connected with social competence, self-control, and academic achievement among beneficial outcomes (O’Connor, et al., 2011). ER is specifically relevant during the transition to college, when emotional suppression can have negative influences on social functioning (Srivastava, Tamir, McGonigal, John, & Gross, 2009). ER is an excellent
treatment target in this population because of the widespread effects of dysregulation. By focusing on this transdiagnostic mechanism, there is the ability to prevent multiple negative outcomes by targeting a primary mechanism of the problem.

**Emotion Regulation Interventions.** ER has been targeted directly and indirectly in a number of treatment programs. Emotion Regulation Therapy (ERT) treats ER as an underlying mechanism for internalizing disorders and has been shown to be efficacious with adults for treating Generalized Anxiety Disorder and Major Depressive Disorder (Mennin, 2006; Mennin & Fresco, 2014). ERT is designed to be a 16-week treatment with 60 to 90-minute weekly sessions conducted by a trained therapist, designed to target motivation, regulation, and contextual learning through awareness skills training, regulation skills training, and experiential exposure (Mennin & Fresco, 2014). In open and randomized control trials, ERT improved ER indices of conflict adaptation, approach-avoidance, attentional flexibility, and heart rate variability (Renna, Quintero, Fresco, & Mennin, 2017). It has not been used in non-clinical samples, though the focus on motivation and contextual learning is appropriate for community prevention.

Dialectical Behavior Therapy (DBT) was developed to manage the intense emotions experienced by suicidal individuals and later those with borderline personality disorder (Chapman, 2006; Dimeff & Linehan, 2001). To full fidelity, this intensive treatment requires 60-minute weekly individual therapy sessions, 1.5 to 2.5-hour weekly group skills training, 24/7 therapist on-call for client care, and a 1 to 2-hour therapist consultation team meeting. These treatment components are all critical to care focusing on enhancing and generalizing capabilities (i.e., mindfulness, interpersonal effectiveness, distress tolerance, emotion regulation), improving motivation and reducing dysfunction, restructuring the environment, and enhancing and maintaining therapist capability and motivation (Chapman, 2006). The treatment has since been
applied to clients with diverse needs, including eating disorders, anxiety, and oppositional defiance (Dimeff & Linehan, 2001; Neacsiu, Bohus, & Linehan, 2014; Bankoff, Karpel, Forbes, & Pantalone, 2012; Gratz, Tull, & Wagner, 2005; Nelson-Gray, et al., 2006). In randomized controlled trials, DBT skills training reduced emotion dysregulation, anxiety, depression and improved regulatory skill use in individuals with anxiety, depression, borderline personality disorder, oppositional defiant disorder, eating disorders, and substance use disorders (Dimeff & Linehan, 2001; Neacsiu, Bohus, & Linehan, 2014; Bankoff, Karpel, Forbes, & Pantalone, 2012; Gratz, Tull, & Wagner, 2005; Nelson-Gray, et al., 2006). This treatment requires significant therapist training and intensive client content (e.g., being on call 24 hours) as it focuses on modifying intense emotions as well as suicidal thoughts, thus bringing high time and financial costs that make it contraindicated for community prevention (Kazdin, 2016; Singla, et al., 2017).

Finally, mindfulness-based approaches focus on nonjudgmental attending to emotions as a way of regulating negative emotions through change in attentional processes, instead of trying to remove the negative states (Farb, Anderson, Irving, & Segal, 2014). Mindfulness has been shown to help individuals with chronic pain, chronic mood disorders, and substance use disorders (Farb, et al., 2014). Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1990) is a well-utilized 8-week treatment (2 ½ hour weekly sessions, 45-minute daily practice, and one day-long retreat) for decreasing psychological distress through the incorporation of mindfulness and acceptance strategies. MBSR was originally created for chronic medical disorders, though rapidly translated for clinical psychopathology (Bishop, 2002). Though MBSR instructors require substantial training, they do not need to be clinicians, and MBSR has been utilized in both clinical and non-clinical samples (Chiesa & Serretti, 2009; Grossman, Niemann, Schmidt, & Walach, 2004; Khoury, Sharma, Rush, & Fournier, 2015). In a pre-post trial, some preliminary success has been
found in reducing psychological distress in college students (Felver, Morton, & Clawson, 2018). In a pre-post trial, MBSR was shown to reduce negative emotion in individuals with social anxiety by improving attentional deployment processes (Goldin & Gross, 2010). A meta-analysis examining MBSR with a non-clinical adult sample exhibited decreased emotion dysregulation, aggressive anger expression, anger suppression, and fear of emotions (Khoury, et al., 2015). Thus, MBSR has promise for community prevention, though the 8-week duration with intensive time commitment and the need for a trained instructor raise implementation barriers.

In summary, intervention efforts have shown success in modifying ER in individuals with and without psychopathology. These interventions are sometimes lengthy, requiring significant clinician or instructor training and participant engagement. Treatment components build heavily on one another, which may complicate skill development for those with barriers preventing consistent engagement with the time and labor-intensive components of the interventions. A community-based prevention program targeting ER may be able to achieve meaningful changes in ER that will promote participants’ well-being without requiring time and cost investments for both instructors/clinicians and participants that may be barriers for implementation.

**Prevention Program Development**

**Prevention and intervention.** Mental health is often divided into mental illness and wellness, though these are better conceptualized as ends of a spectrum than dichotomous categories (Manderscheid, et al., 2010; Westerhof & Keys, 2010). A wellness approach focuses on more than the absence of disease, instead focusing on promoting health behaviors and well-being (Manderscheid, et al., 2010; Swarbrick, 2006). Prevention efforts are often considered as a complement to intervention (i.e., direct treatment focused on mitigating illness) that are offered to a general population that may be at risk of developing a disorder or later receiving intervention.
services (O’Connell, Boat, & Warner, 2009). There are large bodies of literature on both prevention and intervention regarding promotion of wellness in emerging adulthood (Banks, 2019; Kitzrow, 2003; Lockard, Hayes, Locke, Bieschke, & Castonguay, 2019). Intervention efforts have targeted college students in a number of ways, from the individual to system level. As a system, colleges have invested in campus counseling and academic centers to provide better treatment at the individual level (Kadison & DiGeronimo, 2004; O’Keeffe, 2013; Xiao, et al., 2017). In higher education, prevention, ranging from relaxation to cognitive-behavioral therapy (CBT) strategies, has been successful at maintaining subclinical levels of psychopathology (Conley, Shapiro, Kirsch, & Durlak, 2017). Despite important investment in counseling centers and mental health prevention programs by colleges and universities, widely available and cost-effective community prevention programming to promote wellness is needed given that more than 25% of college students who need assistance do not access mental health services (Blanco, et al., 2008).

RE-AIM framework. Developing prevention programs requires careful consideration of how the program will be delivered to, engaged with, and received by the intended audience. Particularly with online programs, it is necessary to consider scalability and accessibility in addition to program effectiveness as dropout and other barriers such as self-reliance, awareness of symptoms, inadequate knowledge of psychological resources, and stigma may reduce impact (Fernández-Álvarez, et al., 2017; Gulliver, Griffiths, & Christensen, 2010; Kessler, et al., 2001). The RE-AIM framework was developed as a public health guideline for creating effective treatments that can be scaled out and implemented on a large scale (Glasgow, Vogt, & Boles, 1999; Balis, Strayer, Ramalingam, & Harden, 2018). Reach (e.g., recruiting a large and representative portion of the target populations), Efficacy (e.g., intervention impact on behavioral target), Adoption (e.g., which settings and staff initiate/participate in program delivery), Implementation
(e.g., fidelity to delivery and costs), and Maintenance (e.g., extending treatments broadly, long term effects) are described as the critical pieces to developing interventions that can be adopted on a larger scale (Glasgow, et al., 1999, 2019).

In order to design effective programs that will be successful for the intended population, it is important to receive feedback on the program at multiple levels. The Multiphase Optimization Strategy (MOST; Collins, Murphy, Nair, & Strecher, 2005; Collins, Murphy, & Strecher, 2007) encourages an approach to electronic interventions that includes a screening and refining phase before evaluating the content in a standard randomized confirmatory trial. Pilot studies are a critical first step to developing an effective evidence-based treatment (Leon, Davis, & Kraemer, 2011). Effectiveness-implementation hybrid designs are one example where clinical intervention evaluation (e.g., impact, effectiveness) occurs while gathering implementation data (e.g., reach, barriers; Curran, et al., 2012). In order to ensure appropriate Implementation, Reach, and Efficacy, it is important to focus on actively engaging the target population and testing the program for intended and unintended consequences. Brief ER programs have yet to be developed for emerging adults. As such, the proposed dissertation includes careful steps to produce an effective program that can ultimately be sustained in practice. After the initial content development phase (Phase 1), scalability was enhanced by getting expert and target population feedback (Phase 2). Incorporating feedback from the onset rather than the end of program development helps ensure that the program will be adopted and well-received. In this way the RE-AIM framework is consistent with participatory action research (PAR), which meticulously and regularly requires reflection and input from participants to reduce inequity and appropriately engage target populations (Baum, MacDougall, & Smith, 2006). PAR incorporates participant feedback as a necessary and invaluable component of the research process as doing so promotes action, acknowledges the
relationship between participants and research, allows the researched to also be researchers, and considers data within the context it has been collected in (Baum, et al., 2006).

**Reach.** As noted above, in the RE-AIM framework, *Reach* refers to the number, proportion, and representativeness of people willing to participate in an intervention based on the population (Glasgow, et al., 1999). In order to effectively reach a target population, it is important to consider barriers or factors that prevent engagement. Considering Reach during the program development stage, as proposed in this dissertation, can set the scene for more applicable interventions that can be successfully adopted, implemented, and maintained. Making room for feedback at each stage of development has been noted as critical to measuring Reach in implementation science (Balis, et al., 2018; Curran, Bauer, Mittman, Pyne, & Stetler, 2012; Glasgow, et al., 1999). Appropriate assessment of Reach includes the ratio of actual participants to eligible participants (Glasgow, et al., 1999; Glasgow, et al., 2019). Thus, assessing Reach does not strictly determine whether or not the program worked, but addresses who engaged with the program and who it worked for, taking an approach that is both needs-based (i.e., considering unique population) and data-driven (i.e., incorporating scientific evidence; Bertram & Kerns, 2019; Harden, et al., 2018; Kwan, et al., 2019).

**Efficacy.** *Efficacy* refers to the outcomes resulting from a program – positive and negative, intended and unintended – with all outcomes considered to best determine success (Glasgow, et al., 1999). Efficacy can be measured at multiple points throughout a program, in pilot studies and during full implementation (Bertram & Kerns, 2019; Curran, et al., 2012). It is important to examine how the primary targeted mechanisms are altered by the program, and whether the program has the intended effect. In addition to assessing change in targeted mechanisms, it is important to consider participant engagement with program content and completion of the
program. It can be difficult to assess Efficacy if there is significant attrition or other barriers to program completion, such as uneven engagement with content or activities, as participants may ignore or skip content that feels irrelevant if not required. Thus, careful pilot testing includes evaluation of any program errors, technological glitches, or other user interface problems, as well as participants’ engagement with program content and completion of program activities. When programs are designed to scale up and scale out, it is critical to evaluate and address potential barriers prior to efficacy trials (Klesges, Estabrooks, Dzewaltowski, Bull, & Glasgow, 2005).

Implementation. Implementation refers to the ability to introduce an intervention with fidelity that also includes if it was delivered as intended, as well as additional costs (time, financial) that allowed the intervention to be implemented (Glasgow, et al., 1999). Implementation can be measured by how closely participants adhere to the intervention as intended at the individual level. Additionally, this includes if the intervention was delivered by practitioners as intended. As such, it encompasses adaptations made to the program during delivery (Harden, et al., 2015). By measuring these constructs, the applicability and feasibility of an intervention can be measured.

Brainwriting Premortem. Reducing barriers to intervention creation is important from the onset of the project, as implementation research recommends early engagement of program stakeholders (Brownson, Colditz, & Proctor, 2018). Program stakeholders may identify unanticipated barriers to delivering the program content that may interfere with the program’s Reach and Efficacy. Pre-implementation focus groups are a common qualitative method as a cost-effective planning technique to determine dissemination barriers and receive collaborative feedback (Flynn, Albrecht, & Scott, 2018; Morgan, 1996). With a novel program such as the one proposed in this dissertation, it is even more important to incorporate feedback early to facilitate program uptake. A similar process is seen in mental health intervention research because there are
often gaps between the design and dissemination of evidence-based treatments in their intended contexts (Palinkas, 2014; Palinkas, et al., 2011).

There are a number of ways to approach pre-implementation focus groups. The brainwriting premortem is a new design for structuring this process. This method focuses on a priori identification of program failures (Gilmartin, et al., 2019). Brainwriting premortem methods have been illustrated as a successful approach to evaluating a plan’s success above pro/con generation, as they specifically address how a program is designed to fail (Veinott, Klein, & Wiggins, 2010). The focus group approach to conducting a brainwriting premortem involves having participants write down their responses to share everyone’s ideas, which is more inclusive than a traditional verbal focus group where people must take turns to speak. Pragmatically, this simplifies qualitative data collection, as participants share and add to presented ideas in writing.

**BERT Development**

**Emotion Regulation Model.** The Gross (2014) model of ER provides a foundation for understanding the path through which an emotion is generated and then pathways to regulation, proposing that an individual can regulate emotions at any stage (see Figure 1). The emphasis on cognition in this model is fitting for emerging adults. Gross (2014) describes a path to an emotional response in which a situation calls forth attention, which leads to appraisal and an eventual response. Along the pathway, there are five regulatory strategies: situation selection (e.g., choosing to engage or avoid), situation modification (e.g., changing a situation), attentional deployment (e.g., shifting attentional resources), cognitive change (e.g., modifying thoughts), and response modulation (e.g., adapting behaviors). These may be implemented at any stage of emotion expression and used to change an emotional state.
Houck and colleagues (2016) extrapolated this model of ER to develop an adolescent ER program to reduce risk behaviors. Specifically, strategies of “Get Out,” “Let It Out,” and “Think It Out,” addressing situation modification, attentional deployment, response modulation, and cognitive change, were taught to teens during a 12-week treatment that involved 60-minute sessions twice a week. Facilitators used a treatment manual as well as observing live, mock groups to implement this intervention. A pre-post trial showed that this intervention was successful in reducing teens’ risky sexual behaviors (Houck, et al., 2016). The promising results of Houck and colleagues’ (2016) intervention for adolescents support the applicability of the Gross (2014) model of ER for emerging adults. Indeed, the Gross (2014) model is even more relevant to emerging adulthood, as the locus of control is placed on the individual (Arnett, 2007; Kroger, 2002) and with the development of the prefrontal cortex during emerging adulthood, cognitive control becomes more important and applicable for regulating emotions (Johnstone & Walter, 2014; Taber-Thomas & Pérez-Edgar, 2015).

Together with the interventions described earlier (Farb et al., 2014; Mennin, 2006; Neacsiu, et al., 2014), Houck and colleagues’ (2016) results show that ER can be changed. Yet, there remains a need for ER programming that is broadly applicable and designed to promote well-being rather than targeted to specific behaviors, intense emotions, or symptoms. The general prevention program to be developed in this dissertation will translate the Gross (2014) model of ER into brief, understandable units of information with clear application to college students’ daily life to facilitate healthy ER in college students so their mental wellness and capacity to manage emotions are enhanced before problems emerge.

**Delivery Format.** In order to combat costs and address growing needs for treatment, intervention efforts are shifting to brief and electronic formats (Andersson, Cuijpers, Carlbring,
Brief interventions are designed to provide in a condensed format all the treatment information that would be delivered in person over a longer period of time, and have been shown to be efficacious in college students for alcohol addiction (Fleming & Manwell, 1999; Heather, 2002; Larimer, Cronce, Lee, & Kilmer, 2004; Terlecki, Buckner, Larimer, & Copeland, 2012) as well as depression (Church, De Asis, & Brooks, 2012; Geisner, Varvil-Weld, Mittmann, Mallett, & Turrisi, 2015) and anxiety (Brunyé, et al., 2013; Call, Miron, & Orcutt, 2014; Chaló, Pereira, Batista, & Sancho, 2017; Tatum, Lundervold, & Ament, 2006). Research comparing internet-based and face-to-face clinical interventions has shown equivalent overall effects, though acceptance of online interventions varies by clinician (Andersson, et al., 2014; Perle, et al., 2012; Wentzel, Van der Vaart, Bohlmeijer, & Van Gemert-Pijnen, 2016).

Electronic formats for treatment are increasingly popular for youth who are raised in a digital world (Prensky, 2001; Prensky & Berry, 2001). Despite a potential loss of connection and accountability that a mental health professional may provide, electronic interventions can often overcome typical barriers to care (e.g., accessibility, cost, stigma; Atkinson & Gold, 2002; Marks, Cavanagh, & Gega, 2007; Newman, 2004). While there may be fewer or less interfering electronic barriers, pre-implementation evaluation (i.e., brainwriting premortem) is an important step in identifying relevant barriers and assessing Reach (Atkinson & Gold, 2002; Newman, 2004; Stewart, et al., 2019). For example, electronic CBT programs for depression have largely shown to be effective, while electronic alcohol interventions show variable effectiveness (Byrnes, et al., 2019; Karyotaki, et al., 2017; Lattie, et al., 2016; Walters, Miller, & Chiauzzi, 2005). Viskovich and Pakenham (2017) piloted a four-week electronic acceptance and commitment therapy program
with college students, which showed promising initial results in improving anxiety and acceptance for those engaged in the program.

**Measurement Feedback System (MFS).** One benefit of conducting treatments online is the ease and accessibility of incorporating a measurement feedback system (MFS; Bickman, 2008). A MFS may serve to bridge the gap between electronic intervention and a health service provider or system. MFS allows the patient and provider to coordinate progress by providing directive feedback intended to accelerate progress or reinforce prevention. This can be utilized as an addition to previously established treatments to improve functioning at faster rates, as is seen in medical or clinical settings (e.g., Carlier, et al., 2012; Kelley & Bickman, 2009; Goodman, McKay, & Dephillips, 2013; Kendrick, et al., 2016). In conjunction with direct feedback and coordinated care, previous work in clinical and medical settings have shown the success of monitoring and feedback systems as a way to track, regulate, and change behaviors (Carlier, et al., 2012; Fortney, et al., 2016; Gatto, et al., 2020; Kelley & Bickman, 2009; Kreps, 2002; Scott & Lewis, 2015; Veloski, Boex, Grasberger, Evans, & Wolfson, 2006). For a community-based program such as the one to be developed in this dissertation, the advantages of incorporating a MFS include continuous progress monitoring that can better identify problems in the moment and encourage individuals to make healthy changes.

**Electronic Considerations.** Though online platforms come with advantages, it is necessary to think differently about measurement and program success (Andersson & Titov, 2014). With no true human interface, it may be difficult to determine how program components are received or which pieces are most effective. It becomes important to evaluate how participants engage with the platform by considering the time they spend completing measurements or program material to estimate engagement. Participant narrative or open-ended responses during program
activities may also be examined as an index of depth of engagement. Additionally, this data proves useful in appropriately measuring effectiveness of online programs. Disengagement or limited engagement can signify that the program is not reaching the appropriate population, includes inappropriate content, or is too time consuming. Inquiring about attitudes about program content is a useful supplement to engagement and completion data, though behavioral data indicating time on program content and appropriate completion of program activities may be more representative of favorable program attitudes.

**Specific Aims**

The overall goal of this project was to systematically develop an online brief emotion regulation training (BERT) program designed to improve ER for emerging adults and conduct a preliminary test of its Implementation, Reach and Efficacy. Phase 1 focused on program creation. In Phase 2, the brainwriting premortem method was utilized to refine program content. Phase 2 was complete when all themes for revising or expanding BERT content and for reducing barriers to engaging with BERT that emerged from the brainwriting premortem focus groups were addressed or intentionally not addressed for pragmatic or theory-based reasons. In Phase 3, BERT was pilot tested in a college sample to evaluate implementation in delivering program content, reach to the recruited population, and efficacy through improved ER.

Phase 3 hypotheses are as follows:

1. BERT will achieve successful *Implementation* for emerging adults.
   a. Implementing the program will not have significant associated costs in regard to time and money.
   b. The program content will be delivered without technological errors.
   c. Participants will engage in at least 75% of program content overall.
d. BERT will exhibit attrition rates lower than 15% at the end of the study.

e. Favorable attitudes about BERT (e.g., program utility, helpful and clear content) will be reported at follow-up.

2. BERT will Reach the targeted population of emerging adults at Virginia Tech.

   a. Enrollment rates in BERT will not differ according to race/ethnicity or gender in comparison to the population of students at VT.

   b. Engagement in BERT program content will not differ according to race/ethnicity or gender.

   c. Attrition rates will not differ according to race/ethnicity or gender in comparison to the population of students at VT and to the sample of initial enrollees in BERT.

   d. Favorable attitudes about BERT (program utility, helpful and clear content) will not differ according to race/ethnicity or gender.

3. BERT will demonstrate Efficacy among the population of emerging adults at Virginia Tech.

   a. Improvement in ER pre- to post-BERT will be seen for those who made it to the final survey.

   b. Improvement in secondary outcomes (thriving, distress) pre- to post-BERT will be seen for those made it to the final survey.

**Phase 1: Brief Emotion Regulation Training (BERT) Design**

In order to develop program content and design, the investigator met with a team of data scientists, graphic designers, and public health experts to create the program interface. In addition
to consulting with dissertation committee members, a coordinated team consisting of the following members convened to create BERT:

- Dr. Anne Brown is an expert in data visualization and assisted in the design and execution of program creation.
- Mr. Jonathan Briganti is an expert in data science, computational analysis with expertise in R, Python, and Qualtrics who assisted in developing the user interface and qualitative data visualizations.
- Mr. Truitt Elliott is an undergraduate student who was responsible for assisting with Qualtrics survey design and program implementation under the supervision of Dr. Brown and Mr. Briganti.
- Mr. Michael Stamper specializes in graphic design and visual arts and assisted in assessing user requirements, designing the program and user interfaces, as well as displaying information and other data relevant in the program.
- Dr. Nathaniel Porter is a sociologist and data consultant who assisted with survey design and Qualtrics implementation.

The following sections outline the design of the BERT program and its four primary components: Emotion Regulation Orientation (ERO), Emotion Regulation Training (ERT), Self-Monitoring (SM), and Ecological Momentary Assessment (EMA).

**Emotion Regulation Orientation (ERO).** At the start of the program, all participants completed a 30-minute emotion regulation orientation (ERO). This was an interactive online orientation that included important information regarding the Gross (2014) model of ER (see Figure 3). In addition, it contained information regarding mental wellness and help-seeking resources (e.g., academic counseling, psychological support; see Appendix A).
Emotion Regulation Training (ERT). Following the ERO, participants were sent the link to begin the emotion regulation training (ERT) via email. This 5-week program was designed to target ER in congruence with the Gross (2014) model. This program was delivered entirely online and comprised four daily 10-minute interactive sessions, weekly self-monitoring, and daily ecological momentary assessment. The program was designed to space out material that may be covered in a standard therapy session. Content was delivered on four weekdays per week. Day one provided psychoeducation, day two targeted the specific ER strategy by applying it to their daily life, day three was a short activity to increase knowledge of the strategy, and day four was a short activity enhancing flexible implementation of these strategies. Topics for each week are outlined below, and more information about content for each week is presented in Table 1.

**Week 1: Situation Selection.** In order to best assist participants in building a strong foundation for ER, this section focused on stressor identification and values.

**Week 2: Situation Modification.** Problem solving was the primary target this week. Students built problem-solving skills by answering questions or completing short activities related to current problems in their daily life.

**Week 3: Attentional Deployment.** This portion of programming targeted mindfulness. It provided information and opportunities to practice mindfulness skills.

**Week 4: Cognitive Change.** This week focused on the basics of Cognitive-Behavioral Therapy (CBT). CBT strategies such as functional analysis and thought challenging were addressed.

**Week 5: Response Modulation.** Healthy coping skills and helpful regulatory strategies were taught during the final week of the program.
Self-Monitoring Assessment. In addition to building skills related to ER, participants filled out weekly monitoring surveys at the start of the week. This survey measured indices of emotional distress, substance use, vitality, exercise, sleep, progress toward goals, and presence/absence of a major stressor that might have affected functioning during the week (see Appendix B). If participants scored high on this measure, they would be sent help-seeing resources (see Appendix A). Participants also set and measured progress to weekly goals.

Ecological Momentary Assessment. The program also included ecological momentary assessments (EMAs) asking participants to label their emotions and rate their stress in the moment (see Appendix C). EMAs were encouraged to be completed after the ERT exercises, though they could be accessed at any time to track their daily mood. The EMA survey was open until 10pm so participants had ample time to track this information, and if they missed this opportunity the next one was available at 8am the following day.

Intervention Dosage. Altogether, participants were expected to complete a 30-minute orientation (ERO) followed by five weeks of content. Across these five weeks, there was approximately 50 minutes of content to complete per week (ERT). Measurement (SM, EMA) comprised approximately 25 minutes per week split across each day of the week. Altogether, the full treatment dose was approximately 6.75 hours of intervention.

Results

User Functionality. Brown, Briganti, and Elliot established a back-end code, while coordinating with Stamper for front end design. Qualtrics surveys were built collaboratively with Gatto and loaded into a Google Script “home page” to allow participants to access all of the surveys in one central location. Stamper, Gatto, Elliot, Briganti, and Brown also worked
collaboratively to design the interface for the feedback profile and design of the homepage (see Figure 2). Approximately 52 hours were dedicated to computer programming and maintenance.

**Graphics.** Stamper and Gatto worked approximately 20 hours together throughout the process to establish a series of images to demonstrate ER functions. One example of this iterative process is seen in the translation of the Gross (2014) model of emotion regulation in Figure 3. A second example can be seen in the translation and synthetization of two separate models into one (Figure 4). The two collaborated throughout the planning stage to create visuals that would effectively communicate psychological processes throughout the exercises, as well as designing a simple and clean Qualtrics user interface (see Figure 5).

**Modifications.** Though $650 was allocated for computer programming, this was insufficient to allow for development as intended as funds were primarily allocated to compensate participants. Due to resource restrictions, several modifications were made to program delivery. First, the program was designed to be delivered as a mobile application, which was not available at this time. As such, notifications were delivered via email, rather than text or push notifications. Additionally, the EMA was delivered at the same time as other exercises, rather than a discrete measurement.

**Accessibility.** When designing the user functionality and developing graphics, the design team was intentional about incorporating Americans with Disabilities Act (ADA) features. Graphics were designed to be clear and considerate of different types of colorblindness. Videos provided closed captioning features.

**Discussion**

Initial program development was an iterative and collaborative process. In order to create a working product, some features and functions were modified in order to ensure effective data
collection. The process of program development happened in conjunction with focus groups, allowing for the two to inform each other. For example, focus group participants were asked about the formatting of reminders since the proposed design was unable to be implemented with the available resources.

**Phase 2: Brainwriting Premortem**

**Method**

Due to the COVID-19 pandemic, the brainwriting premortem was significantly modified. As focus groups shifted to a virtual platform, substantial changes were made to the brainwriting premortem implementation.

**Participants**

Undergraduate participants were recruited through diversity offices, student centers, departments (i.e., engineering, biology), and across universities utilizing snowball sampling and social networks to expand the sample. Participants from diverse backgrounds (e.g., underrepresented racial/ethnic groups, sexual minorities, low income) were specifically recruited through diversity offices and student centers listservs to ensure feedback from underrepresented students was attained to promote Reach. Participants included 12 undergraduate students from three universities across four focus groups that took place between June and August 2020. The sample was predominantly female ($n = 10$; male [$n = 1$], trans male [$n = 1$]), heterosexual ($n = 8$; bisexual [$n = 2$]), queer [$n = 1$], lesbian [$n = 1$]), white ($n = 7$; Asian [$n = 2$], American Indian/Alaskan Native/Latinx [$n = 1$], multiracial [$n = 2$]). All were full-time students and were in their $2^{nd}$ ($n = 2$), $3^{rd}$ ($n = 2$), $4^{th}$ ($n = 7$), or $5+$ year ($n = 1$), with 2 transfer students. Clinicians were recruited through listservs and personalized emails. Four white women clinicians from early- to mid-career were interviewed of which two had doctorates in clinical psychology (PhD) and two
were licensed clinical social workers (LCSW). All had experience working with emerging adults. Undergraduates and clinicians were all compensated with $10 Amazon gift cards for their participation.

Materials

As described above, in Phase 1, a coordinated team created a mock-up of the ER program content. In this phase, program components and visuals were sampled and presented to undergraduates and clinicians entirely online. For undergraduates, all content was presented on a Google Doc (see Appendix D), where they also provided feedback directly into the document. Clinicians were presented a PowerPoint presentation (see Appendix E) and provided their responses verbally, which were recorded by a research assistant.

Procedure

In line with participatory action research, the brainwriting premortem is designed to engage participants and acquire reflective feedback to improve program development. Though the focus groups were originally designed to be conducted in person, the COVID-19 pandemic required substantial modifications to this procedure, forcing the brainwriting premortem to adapt to a virtual platform. Undergraduate focus groups were extended to a 1.5-hour online session via videoconferencing software and Google document. Clinicians attended 45-minute individual interviews via videoconferencing software. All participants completed a brief follow-up Qualtrics survey at the end of the meeting. Participants provided written consent online and verbal consent at the beginning of the videoconferencing sessions. See Appendix F for consent text for undergraduates and Appendix G for consent text for clinicians.

Undergraduates. Participants were offered the opportunity to introduce themselves at the start of the group, while being oriented to the instructions and collaborative rule-setting.
Participants were asked to log out of Google apps to ensure anonymity as they typed responses into the Google Doc (see Appendix D). Ideas were anonymously shared on the Google Doc, allowing the text to come in different colors to distinguish feedback. Individuals had the opportunity to agree or disagree with shared ideas. There were 5 minutes at the end to verbally share additional ideas. Participants completed a short online survey at the end of each group to provide general feedback about the program as a whole (see Appendix H).

**Clinicians.** During individual interviews, clinicians were presented a PowerPoint presentation (see Appendix E) to showcase BERT in its current stage of development. The clinicians were encouraged to give feedback after each component was rejected to identify failures and successes. Following the focus group, they received an email to complete an online survey similar to that administered to undergraduates (see Appendix I).

**Analyses**

Constructivist grounded theory (Wertz & Charmaz, 2011) was utilized as a framework for qualitative analysis to determine emergent themes regarding potential barriers. This method allows for themes to emerge without forcing preconceived theoretical frameworks to guide the process. Typically, data are analyzed line-by-line, followed by determining themes, and then comparing themes to each other (Mills, Bonner, & Francis, 2006). Themes naturally emerged in the brainwriting premortem focus groups as participants shared and validated ideas, yielding rapid identification and organization of themes. Notes from clinician interviews were similarly analyzed to identify and organize themes. Themes from clinician interview notes were summarized first by undergraduate research assistants, then recoded by the author to create two distinct checklists of themes for undergraduates and clinicians. For each theme, changes to the program were identified in accordance with participant feedback, or a pragmatic or theory-based reason was noted for
changes that could not be made. Themes were then categorized into statements that comprised compliments to the program (Keep), suggested program changes (Change), and or expressed concerns or critical thoughts about the current program (Concern). Decisions were then made about how to best address the Change and Concern themes. Actions for Change and Concern themes were categorized as follows: (a) address in survey at the end of BERT (survey); (b) change now (now); (c) change in later program iterations (later); (d) already in the program, and where (embedded); or (e) don’t change, and why (none).

Results

Undergraduates

Focus Group. Emergent themes are presented in Table 2, illustrating the rich information provided by undergraduate focus groups. Recurrent themes and concepts emerged across focus groups. Themes included various skills (e.g., acceptance, coping), language (e.g., increase clarity, inclusivity), timing (e.g., longer or shorter), and external supports (e.g., discussion boards) among others. Prompt-by-prompt, many ideas were only present in one focus group (n = 136), with a few ideas present in two (n = 12), three (n = 2), or all four focus groups (n = 1). However, similar suggestions were visible across prompts, suggesting some degree of data saturation. As seen in Table 3, more changes and concerns were expressed than compliments, consistent with the purpose of the brainwriting premortem. Embedded in the program were 26.5% of Change and Concern themes. Some Change and Concern themes (21.9%) could not be addressed due to pragmatic or theoretical reasons. For 23.8% of Change and Concern themes, the decision was made to inquire in the final survey for BERT, after Phase 3 participants had fully completed the program. Immediate changes were made for Phase 3 for 12.7% of Change and Concern themes. For the
remaining Change and Concern themes (6.6%), the decision was to make the change in later iterations of the program, largely due to pragmatic reasons (e.g., text reminders, app-based format).

**Post-session Survey.** As Table 4 shows, undergraduates were positively impressed by BERT. They rated their likeliness of completing program content as high ($M = 4.00$, $SD = 1.13$, range = 2 to 5 on a 5-point scale). They also rated their likelihood of recommending BERT to others even higher ($M = 4.67$, $SD = .65$, range = 3 to 5 on a 5-point scale). Weeks 4 ($n = 9$) and 5 ($n = 10$) were identified as the elements most likely to succeed.

**Clinicians**

**Individual Interviews.** Emergent themes from clinician interviews are presented in Table 5. Across interviews there was substantial agreement, with 85 themes present in one interview, 4 themes present in two, 2 themes present in three, and 2 themes present in all four interviews. Table 3 shows categorization of themes. As with the undergraduates, more changes and concerns were expressed than compliments, consistent with the purpose of the interviews. Embedded in the program were 20.4% of Change and Concern themes. Certain Change and Concern themes could not be addressed due to pragmatic or theoretical reasons (9.7%). For approximately 12.9% of Change and Concern themes, the decision was made to inquire in the final survey for BERT, after Phase 3 participants had fully completed the program. Immediate changes were made for Phase 3 for 11.8% of Change and Concern themes. For the remaining Change and Concern themes (24.7%), the decision was to make the change in later iterations of the program, again largely due to pragmatic reasons.

**Post-session Survey.** Though all clinicians were provided a follow-up survey at the end of the interview, only one clinician completed this survey. This clinician noted that they were
extremely likely to recommend this program, and identified weeks 1, 2, and 5 were identified as the content most likely to succeed.

Discussion

Many program suggestions were already included in the initial program design, though all specific elements could not be presented in the focus groups and interviews due to time limitations. Across the focus groups and interviews 30 changes were made to BERT before initiating Phase 3. Many of the changes designated as “change later” resulted from technological limitations in the current program iteration and will be more feasible in a future app-based format. Although the brainwriting premortem method is designed to get at program failures, 32 compliments were given, and the post-session survey results descriptively suggested positive expectations for BERT. Thus, aims for Phase 2 were met.

Phase 3: BERT Pilot

Method

Participants

A new sample of undergraduate students ($N = 42$) from 18 to 23-years-old ($M = 18.88; SD = 1.25$) was recruited to continue evaluating Implementation, Reach, and Efficacy. Table 6 compares the demographic characteristics of the initial enrollment sample compared to those who completed the initial survey; completed the ERO; completed at least one ERT activity in Week 1; and completed the final survey. Participants were predominantly female, non-Hispanic white, heterosexual, and first-year students. Participants were recruited through introductory Psychology classes using their internal extra credit system, academic classes, diversity offices, student centers, women’s centers, and wellness centers to encourage recruitment of participants from diverse backgrounds (e.g., underrepresented racial/ethnic groups, sexual minorities, low income) to better
evaluate Reach. Recruitment was limited to one university to maintain consistency in the academic calendar and in relevant resources offered to participants who reported stressful events. See Appendix J for recruitment materials. Participation took place entirely online, and participants provided consent electronically. See Appendix K for the consent form. All participants were compensated with $10 Amazon gift cards after completion of the initial (Appendix L), mid-point (Appendix M), and follow-up surveys (Appendix N).

Measures

The following measures were utilized throughout the study. A detailed outline of which measures were administered during each survey is displayed in Figure 6, and reliabilities are presented in Table 7.

**Difficulties with Emotion Regulation Scale (DERS; Gratz & Roemer, 2004).** This 36-item self-report questionnaire is designed to measure ER in six subscales: nonacceptance of emotional responses (NONACCEPT), difficulty engaging in goal-directed behavior (GOALS), impulse control difficulties (IMPULSE), lack of emotional awareness (AWARE), limited access to ER strategies (STRAT), and lack of emotional clarity (CLARITY). The DERS has been shown to have good test-retest reliability overall \( r = .88 \) and adequate test-retest reliability for each subscale \( r = .69−.89; \) Gratz & Roemer, 2004). In a racially and ethnically diverse sample of undergraduate students, the DERS exhibited good internal consistency \( \alpha = .93−.94; \) Ritschel, Tone, Schoemann, & Lim, 2015). For this study, the DERS total score showed excellent internal consistency across time points \( \alpha = .93-.94 \). There was good to excellent internal consistency across time points on the NONACCEPT \( \alpha = .87-.91 \), GOALS \( \alpha = .87-.89 \), IMPULSE \( \alpha = .75-.82 \), AWARE \( \alpha = .86-.92 \), STRAT \( \alpha = .87-.91 \), and CLARITY \( \alpha = .80-.82 \) subscales.
Emotion Regulation Questionnaire (ERQ; Gross & John, 2003). This 10-item self-report questionnaire has two subscales: cognitive reappraisal (CR) and expressive suppression (ES). Items are answered on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree), and items are summed for subscale scores. Reappraisal ($\alpha = .79$) and suppression ($\alpha = .73$) showed acceptable internal consistency and test-retest reliability ($r = .69$). For this study the ERQ showed good internal consistency across time points for the CR ($\alpha = .70-.89$) and ES ($\alpha = .76-.82$) scales.

Brief Adjustment Scale (BASE-6; Cruz, Peterson, Fagan, Black, & Cooper, 2019). This 6-item self-report questionnaire measures overall psychological functioning. This scale has established good internal consistency ($\alpha = .87-.93$) and test-retest reliability (ICC = .77). It has established high convergent validity with commonly used mental health questionnaires such as the Outcomes Questionnaire-45 ($r = .66-.81$), Patient Health Questionnaire-9 ($r = .80$), and Generalized Anxiety Disorder-7 ($r = .76$). For this study the BASE-6 showed good to excellent internal consistency ($\alpha = .84-.91$ across time points).

Depression Anxiety Stress Scales-21 (DASS-21; Lovibond & Lovibond, 1995). This 21-item self-report questionnaire includes three scales measuring depression, anxiety, and stress. Research shows good internal consistency for the Depression ($\alpha = .97$), Anxiety ($\alpha = .92$), and Stress ($\alpha = .95$) scales (Antony, Bieling, Cox, Enns, & Swinson, 1998). For this study the DASS-21 showed questionable to good internal consistency for the Depression ($\alpha = .63-.82$ across time points), Anxiety ($\alpha = .36-.67$ across time points), and Stress ($\alpha = .63-.85$ across time points) scales.

Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). This is a 5-item self-report measure designed to assess cognitive interpretation of life satisfaction. Items are rated on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree), and items are summed and classified from extremely dissatisfied to extremely satisfied. This scale has exhibited
good internal consistency ($\alpha = .87$; Arrindell, Meeuwesen, & Huyse, 1991; Diener, et al., 1985). For this study the SWLS showed acceptable to good internal consistency across time points ($\alpha = .78-.86$).

**Thriving Scale (Porath, Spreitzer, Gibson, & Garnett, 2012).** This is a 10-item self-report measure that captures thriving in a work setting with two subscales: learning and vitality. Instructions were modified to focus on experiences in college. Items are rated on a 7-point Likert scale. This scale has excellent internal consistency ($\alpha = .94$; Porath, et al., 2012). For this study this scale showed questionable to good internal consistency across time points for the learning scale ($\alpha = .67-.82$) and poor to excellent internal consistency across time points for the vitality scale ($\alpha = .55-.91$).

**World Health Organization Quality of Life-Brief (WHOQOL-BREF; WHOQOL Group, 1998).** This 26-item measure assesses quality of life across four domains: physical, psychological, social, and environmental. The WHOQOL-BREF has exhibited acceptable internal consistency for physical ($\alpha = .82$), psychological ($\alpha = .81$), environmental ($\alpha = .80$), and marginal internal consistency for the social ($\alpha = .68$) domain (Skevington, Lotfy, & O’Connell, 2004). In this study, the WHOQOL-BREF exhibited acceptable to good internal consistency across time points for physical ($\alpha = .76-.79$), psychological ($\alpha = .84-.85$), environmental ($\alpha = .81-.86$), and social ($\alpha = .74-.84$) domains.

**Modified Differential Emotion Scale (mDES; Fredrickson, Tugade, Waugh, & Larkin, 2003).** This 20-item self-report measure assesses positive and negative affective experiences. This scale has shown acceptable internal consistency for the positive ($\alpha = .79$) and negative ($\alpha = .69$) emotions scales. For this study the mDES demonstrated good to excellent internal consistency across time points for the positive ($\alpha = .92-.99$) and negative affect ($\alpha = .85-.90$) scales.
COVID-19 Scales (Conway, Woodard, & Zubrod, 2020). A series of measures were adapted from recommended CDC scales to measure impacts due to the COVID-19 pandemic (see Appendix L). All items were reported on a 7-point Likert scale from not true at all (1) to very true of me (7). Three short scales were utilized in this study: Perceived Coronavirus Threat Questionnaire (PCTQ), Coronavirus Impacts Questionnaire (CIQ), and the Coronavirus Experiences Questionnaire (CEQ). The CIQ is divided into three subscales: financial, resource, and psychological. The CEQ is divided into 3 subscales: personal diagnoses/symptoms, proximity to others, and news. For this study the PCTQ ($\alpha = .82$), CIQ ($\alpha = .70$), and CEQ ($\alpha = .69$) showed acceptable to good internal consistency.

Ancillary Measurement. During the initial survey, participants completed a demographic questionnaire. They also completed a knowledge questionnaire to see how much they knew about ER prior to the study. Quantitative and qualitative feedback about program utility and design were collected in the follow-up survey. Based on the focus group, 16 questions were added to the survey to gain feedback on BERT (all new items are signified with an asterisk in Appendix N). One question each was added to evaluate SM, EMA, and ERT, and the remaining 13 questions regarded overall BERT feedback. COVID-19 measures were also added to the follow-up survey to account for the impacts of the pandemic on participant engagement.

Procedure

Initial Survey. After recruitment, participants received a link to the initial survey (see Appendix L). This survey included a demographic questionnaire, as well as the BASE-6, DASS-21, DERS, ERQ, Thriving Scale, SWLS, and WHOQOL-BREF.
**Midpoint Survey.** This brief midpoint assessment took place during the third week of BERT (see Appendix M). This survey included the standard weekly self-monitoring questionnaire, plus the DERS, ERQ, and DASS-21.

**Self-Monitoring Survey.** As noted when describing Phase 1, participants completed a brief questionnaire including the BASE-6 and Vitality Scale at the start of each week (see Appendix B). Automatic feedback was graphed to represent scores and interpretation of the BASE-6 and Vitality Scale, as well as feedback regarding sleep and substance use. These graphs and feedback could be accessed anytime on the Google Script homepage (see Figure 3).

**Daily EMA.** Every day participants received the mDES as an ecological momentary assessment to capture daily mood (see Appendix C). This request was delivered seven days a week at 8am and participants had until 10pm to complete this measurement. This measurement was designed to enhance emotion identification and emotional granularity.

**Follow-up Survey.** The follow-up survey included the same measures as the initial survey (see Appendix N). In addition, COVID impact questions were included, as well as qualitative and quantitative questions to examine program utility and acceptability and follow up on focus group and interview themes from Phase 2 (see Appendix L).

**Analyses**

Descriptive statistics are presented to examine Implementation. Specifically, attrition (lower than 15%), attitudes (positive and favorable), engagement (75% of program content), and technological errors (no glitches) were assessed. Chi square analyses comparing participant demographics (enrollees and completers) with the demographics of the college population were conducted to evaluate Reach. Additionally, chi-square analyses and t-tests were conducted to test whether enrollment, attrition, favorability ratings, and engagement with BERT varied according
to demographic characteristics. There was not enough variance in sexual orientation, so chi-square was not conducted for this variable. Additionally, academic year was collapsed to first year or advanced student, and race was collapsed to non-Hispanic white and those with an ethnoracial minoritized identity. To evaluate preliminary Efficacy, repeated measures ANOVAs were conducted to examine changes in ER as evidenced by ERQ and DERS scores from initial, midpoint, and follow-up time-points. To account for multiple tests a familywise Bonferroni correction was used to adjust the alpha for determining significance. Repeated measures ANOVAs were also conducted to examine changes in psychopathology, as reported on the DASS-21, thriving, as reported on the Thriving Scale, and Quality of Life, as reported on the WHOQOL-BREF, over the course of the program. As with the primary outcomes, the familywise Bonferroni correction was used to adjust the alpha for determining significance. Post hoc power analysis determined that power for these planned repeated measures ANOVAs ranged from .08 to .96. Thus, results should be interpreted with caution. Intent-to-treat analyses, including all participants who were randomly assigned to a group regardless of whether they completed the protocol they were assigned to, would have been conducted had this been a randomized controlled trial. Intent-to-treat analyses reduce bias when interpreting results regarding differential effectiveness of treatment conditions compared with control conditions (McCoy, 2017). Since the current efficacy trial did not involve random assignment to conditions, intent-to-treat analyses were not conducted.

Results

Data Cleaning

Based on established cutoffs for univariate outliers (Iglewicz & Hoaglin, 1993), one score was identified as an outlier on the DASS-21 and winsorized to 3 standard deviations from the mean. No multivariate outliers were identified. Three participants had not completed the midpoint
survey. As such, Little’s MCAR Test was performed to determine if values were missing at random ($\chi^2 (147, N = 42) = 106.80; p = .995$). Since the values were missing at random, missing midpoint values for 3 participants were replaced by carrying forward their initial survey values. This provides a conservative estimate assuming no change, especially because sample means suggest an increase in scores at midpoint. Two participants who completed BERT did not complete the final survey, with an additional participant missing parts of the survey. Again, Little’s MCAR Test was performed to determine if values were missing at random ($\chi^2 (129, N = 30) = 104.57; p = .944$). Since the values were missing at random, missing final values for these 3 participants were replaced by carrying forward their midpoint survey values, or their initial survey values if they did not complete the midpoint survey. Again, this provides a conservative estimate assuming no change.

**Hypothesis 1: BERT will achieve successful Implementation for Emerging Adults**

**Cost.** As mentioned earlier, BERT development took a substantial amount of time and had associated costs. A total of approximately 248 person hours were required for programming and graphic design, and copious uncounted hours were dedicated to content development by the author. There were insufficient funds to build this program as an app-based software, therefore there were downstream costs associated with the Google Script platform. Implementation required collaborative efforts between the grant team and five undergraduate students to ensure the program was delivered with fidelity. Approximately 1-2 hours per day were required by team members to oversee the data collection process, send program content, and manage email reminders.

**Attrition.** See Figure 7 for the CONSORT diagram showing participant attrition from initial screening through the final survey. For the purpose of testing hypotheses about attrition, participants were considered to have initiated BERT if they completed the ERO prior to the first
week of the ERT. Using this definition, 34 of the 42 participants completing the initial survey initiated the BERT program. Participants were considered to have completed BERT if they completed program content through Week 5. Using this definition, 30 participants completed BERT, though 2 did not complete the final survey. This resulted in a 11.8% overall attrition rate, which is less than the 15% criterion for considering BERT to meet Implementation criteria.

**Attitudes.** Descriptive statistics for participants’ attitudes about BERT reported on the final survey are presented in Table 8. Overall, participants’ responses suggest favorable attitudes, as all positively worded items had mean scores above the mid-points on their respective scales and all negatively worded items had mean scores below the mid-points on their scales. Notably, all components of BERT were reported as helpful ($M_s = 5.29 - 5.79$ on a 7-point scale). There were varied responses to the ease of remembering the program concepts ($M = 4.61; SD = 1.52$ on a 7-point scale) and application to daily life ($M = 4.89; SD = .96$ on a 7-point scale). Participants reported that it was not difficult to keep up with program demands ($M = 3.36; SD = 1.34$ on a 7-point scale), that they were engaged ($M = 6.11; SD = .79$ on a 7-point scale), and the wording was easy to understand ($M = 6.04; SD = .69$ on a 7-point scale). Participants reported they would be somewhat likely to recommend BERT to someone else ($M = 3.86; SD = .59$ on a 5-point scale). All of this supports the Implementation of BERT.

**Follow-Up from Focus Groups.** During the focus groups, participants had recommended in-person and discussion board options to facilitate engagement. These options were included as items in the final survey to learn from participants’ thoughts after completing BERT. When considering an in-person option, opinions were mixed with the largest reports of maybe ($n = 13$), followed by no ($n = 8$), then yes ($n = 7$). Participants were also split regarding including an online discussion board component with the largest reports of no ($n = 11$), followed by yes ($n = 9$), and
maybe \((n = 8)\). Focus groups had also suggested a more intensive or lengthy program. On the final survey, participants reporting disliking the brevity of BERT \((M = 5.82; \ SD = .72; \ “I \ dislike \ how \ brief \ this \ program \ is;” \ 1 = \ strongly \ disagree; \ 7 = \ strongly \ agree)\), but appreciating the intensive nature of this program \((M = 3.57; \ SD = 1.26; \ “I \ dislike \ the \ intensive \ nature \ of \ this \ program;” \ 1 = \ strongly \ disagree; \ 7 = \ strongly \ agree)\).

**Engagement.** Completion rates for each part of the program are shown in Table 9. For the ERO, 38 started the ERO and 34 completed it. Thirty-two participants started the ERT exercises. There were technical errors collecting compliance for 2 ERT exercises, so ERT completion rates are scored out of 18 instead of the full 20 exercises \((M = 16.57; \ SD = 2.81)\). Twenty-six participants \((78.1\%)\) completed more than 75% of the ERT exercises, exceeding the criterion set to indicate Implementation of BERT. Nineteen participants completed 100% of the ERT content. There was a technical error in the administration of the Week 4 SM such that it was not possible to determine whether inconsistencies in SM completion were due to the technological error or participant lack of completion. Since participants may not have had equal opportunities to complete all 5 SM surveys, the 75% criterion was set at 3 SM completions. Using this criterion, 85.3% of participants were considered to have completed more than 75% of the SM opportunities. Finally, EMAs were administered daily throughout the 5-week program, resulting in 35 opportunities. The average number of EMAs completed was 28, which is an 80% completion rate, and 70.6% \((n = 20)\) of participants exceeded a 75% completion rate. Three participants completed the EMA more than 35 times. Thus, engagement data support Implementation of BERT.

**Technical Errors.** As mentioned above, there were three technical errors impacting data collection from BERT, one of which also affected participants’ experience through lack of administration of SM one week. Due to GoogleScript constraints, the program was unable to be
fully automated. As such, email reminders were sent manually each day, and were not always
administered at the exact same time each day. Two of the surveys did not directly reroute to the
BERT homepage, which may have influenced SM self-reflection. The criterion for Implementation
was that there be no technical errors, so this did not support Implementation of BERT. Overall,
however, engagement and attitude data suggest these technical errors had minimal impact on
participants’ experience with BERT.

**Hypothesis 2: BERT will Reach the Targeted Population of Emerging Adults at Virginia Tech**

**Enrollment.** Chi-square analyses were conducted to compare demographics of the
recruited sample (those who completed the initial survey) to the university at large. There was a
significant difference in the gender distribution of this sample (85.7% female) compared to
university at large (57% male; $\chi^2(1, N = 42) = 14.13; p < .00$). This suggests poorer Reach than
would be desired. The ethnoracial distribution of this sample did not significantly differ from the
university population. Because the university only reports ethnicity separately from race, results
were extrapolated from two calculations: (1) assuming that no White students enrolled in the
university during the semester the study took place were Hispanic/Latinx, and (2) assuming that
all Hispanic/Latinx students enrolled in the university during the study took place were White. The
true value for the population will fall somewhere between these two values. In both cases, the
actual numbers of ethnoracial minority students (ERM; $n = 13$) and non-Hispanic White students
(NHW; $n = 29$) were not significantly different than expected based on university demographics
([1] ERM=13.26, NHW=28.74; $\chi^2(1, N = 42) = .007; p = .931$; [2] ERM=16.8, NHW=25.2; $\chi^2(1,
N = 42) = 1.433; p = .231$). This suggests better Reach, and aligns with our goals to Reach
ethnoracial minority participants.
**Attrition.** Chi-square analyses were conducted to examine whether there were demographic differences between participants who completed the initial survey and continued on to BERT compared with those who did not initiate BERT. There were no significant differences based on minority status ($\chi^2 (1, N = 42) = 35; p = .55$), gender ($\chi^2 (1, N = 42) = 1.19; p = .28$), or first year status ($\chi^2 (1, N = 42) = .02; p = .90$). These results support the Reach of BERT.

To explore the data, separate logistic regressions were conducted to examine whether there were study variable differences between participants who completed the initial survey and continued on to BERT compared with those who did not initiate BERT. There were no significant differences based on age ($\chi^2 (1, N = 42) = .68; p = .17$), BASE-6 ($\chi^2 (1, N = 42) = .13; p = .72$), SWLS ($\chi^2 (1, N = 42) = .97; p = .32$), DERS subscales ($\chi^2 (6, N = 42) = 2.90; p = .82$), ERQ subscales ($\chi^2 (2, N = 42) = .58; p = .75$), mDES scales ($\chi^2 (4, N = 42) = 3.25; p = .52$), DASS-21 subscales ($\chi^2 (3, N = 42) = .99; p = .80$), Thriving subscales ($\chi^2 (2, N = 42) = 2.33; p = .31$), or WHOQOL-BREF subscales ($\chi^2 (4, N = 42) = 2.06; p = .73$).

**Attitudes.** Independent samples $t$-tests were conducted to examine whether there were race/ethnicity (minority vs. White) differences in participants’ favorable attitudes towards BERT on the follow-up survey. There were no significant differences in attitudes about helpfulness ($ps = .07 \sim .93$). There were no differences in difficulty remembering program concepts ($t (25) = -.93; p = .16$), applicability to daily life ($t (25) = -1.27; p = .22$), keeping up with program demands ($t (25) = .80; p = .71$), engagement ($t (25) = -.46; p = .60$), understanding wording ($t (25) = -.77; p = .15$), or recommending the program to others ($t (25) = .13; p = .97$). A similar $t$-test could not be conducted to test for gender differences because too few men completed BERT. At this time, there are not differential attitudes based on ethnic/racial identity, suggesting no barriers to Reach.

**Hypothesis 3: BERT will Demonstrate Efficacy among the Population of Emerging Adults**
at Virginia Tech

Emotion Regulation. As the Bonferroni correction was utilized, the alpha for the DERS was .007 and for the ERQ was .025. Repeated measures ANOVA showed that overall difficulties with emotion regulation as represented by the DERS total score significantly decreased from baseline to follow-up \( F(2,58) = 9.07; p < .000; \) \( \eta^2 = .24; \) power = .97), suggesting a reduction in difficulties with emotion regulation. This is consistent with hypotheses.

Repeated measures ANOVAs were also conducted for each of the subscales of the DERS. Based on the Bonferroni-corrected alpha, no significant change was seen from baseline to follow-up for any of the subscales: limited access to emotion regulation strategies \( F(2,58) = 5.07; p = .009; \) \( \eta^2 = .15; \) power = .80); nonacceptance of emotional responses \( SD = 4.15; F(2,58) = 5.11; p = .009; \) \( \eta^2 = .13; \) power = .78); difficulty engaging in goal-directed behavior \( F(2,58) = 5.64; p = .009; \) \( \eta^2 = .29; \) power = .82); impulse control difficulties \( F(2,58) = 4.52; p = .015; \) \( \eta^2 = .14; \) power = .75); lack of emotional awareness \( F(2,58) = .14; p = .870; \) \( \eta^2 = .01; \) power = .07); lack of emotional clarity \( F(2,58) = 3.82; p = .028; \) \( \eta^2 = .12; \) power = .67).

Repeated measures ANOVAs were also conducted to examine changes in the ERQ subscales across all three timepoints. Based on the Bonferroni-corrected alpha, cognitive reappraisal skills significantly changed from baseline to and follow-up \( F(2,58) = 7.73; p < .001; \) \( \eta^2 = .21; \) power = .94). The improvement from baseline to follow-up is consistent with hypotheses. There was no statistically significant change in emotion suppression over time \( F(2,58) = 2.49; p = .092; \) \( \eta^2 = .08 \), though this analysis did not achieve sufficient statistical power (.48).
Secondary Outcomes – Distress. Repeated measures ANOVA showed that psychological distress assessed on the BASE-6 significantly decreased from baseline to follow-up \((F(2,58) = 8.42; \ p < .001; \ \text{partial } \eta^2 = .23; \ \text{power} = .96)\). Additionally, the predicted cutoff score for this measure is 19 (Cruz, et al., 2019), suggesting that the decrease from 20.50 to 14.97 also is a clinically meaningful decrease in scores. This is consistent with hypotheses.

As the Bonferroni correction was utilized, the alpha for the DASS-21 was .016. Repeated measures ANOVAs showed no significant change in depression assessed on the DASS-21 from baseline to follow-up \((F(2,58) = 2.99; \ p = .058; \ \text{partial } \eta^2 = .09; \ \text{power} = .56)\). Anxiety assessed on the DASS-21 showed statistically significant change from baseline \((M = 4.07; \ SD = 3.54)\) to midpoint \((M = 6.73; \ SD = 5.88)\) and follow-up \((M = 3.93; \ SD = 4.21; \ (F(2,58) = 5.41; \ p < .007; \ \text{partial } \eta^2 = .16; \ \text{power} = .83)\). Means primarily returned to baseline. Stress assessed on the DASS-21 also showed a statistically significant within-person decrease over time \((F(2,58) = 6.30; \ p < .003; \ \text{partial } \eta^2 = .18; \ \text{power} = .88)\). Similar to anxiety, stress increased from baseline \((M = 8.31; \ SD = 5.51)\) to midpoint \((M = 12.73; \ SD = 7.38)\), and decreased from mid-point to follow-up, though the mean still remained higher than baseline at follow-up \((M = 10.20; \ SD = 7.81)\). These results provide promising support for hypotheses.

Secondary Outcomes – Thriving. The Bonferroni correction resulted in an alpha of .025 for the Thriving Scale. Repeated measures ANOVA showed that the learning subscale on the Thriving measure showed a significant mean decrease from baseline \((M = 5.75; \ SD = .94)\) to midpoint \((M = 5.35; \ SD = .84)\), and a slight increase to follow-up \((M = 5.70; \ SD = .83)\), yielding a statistically significant within-person dip then return to baseline for learning \((F(2,58) = 6.49; \ p < .003; \ \text{partial } \eta^2 = .18; \ \text{power} = .89)\). The vitality subscale also showed statistically significant change over time, increasing from baseline to follow-up \((F(2,58) = 7.22; \ p < .001; \ \text{partial } \eta^2 = \)
.22; power = .96); however, the Mauchly’s Test of Sphericity was significant ($p < .00$). Therefore, these results should be interpreted with caution as they may not be accurately representing the data. These results provide mixed support for hypotheses.

Repeated-measures ANOVAs were conducted comparing baseline to follow-up for each of the WHOQOL-BREF subscale scores, with the Bonferroni correction resulting in an alpha of .0125. Physical health significantly increased from baseline to follow-up ($F(1,29) = 14.49; p < .001$; partial $\eta^2 = .33$; power = .96). There was no significant change in psychological health over time ($F(1,29) = 1.68; p = .205$; partial $\eta^2 = .06$), nor in social relationships ($F(1,29) = 6.37; p = .017$; partial $\eta^2 = .18$) or environmental health ($F(1,29) = 5.16; p = .031$; partial $\eta^2 = .15$). ANOVAs for psychological health, social relationships and environmental health also had questionable observed power (.24, .68, and .59, respectively). Results are partially consistent with hypotheses.

Finally, a repeated-measures ANOVA was conducted to examine change in SWLS total score. There was no statistically significant change from baseline to follow-up ($F(1,29) = 3.098; p = .090$; partial $\eta^2 = .10$), and this analysis was underpowered (.40) to detect effects.

**Post-Hoc Analyses**

*mDES.* As the Bonferroni correction was utilized, the alpha for the mDES was .025. Changes in mDES mean and total scores were examined between baseline and follow-up for positive and negative affect with a repeated-measures ANOVA to determine broader changes in affectivity following BERT engagement. For the positive affect total score, there was no change from baseline to follow-up in the total ($F(1,29) = .02; p = .882$; partial $\eta^2 = .00$; power = .05) or mean score ($F(1,29) = .05; p = .832$; partial $\eta^2 = .00$; power = .06). For negative affect total score,
there was a significant decrease over time on the total \( F(1,29) = 13.07 \); \( p = .001 \); partial \( \eta^2 = .31 \); power = .94) and mean score \( F(1,29) = 13.22 \); \( p < .001 \); partial \( \eta^2 = .31 \); power = .94).

**COVID-19.** The COVID-19 pandemic caused a range of interference in students’ lives as evidenced by scores on the PCTQ, CIQ, and CEQ (see Table 10). When compared to outcome variables, the PCTQ was negatively correlated with physical health (WHOQOL-BREF; \(-.41\); \( p < .04 \)). The CIQ total score was negatively correlated with vitality (Thriving Scale; Total: \(-.94\); \( p < .02 \)); Financial: \(-.45\); \( p < .02 \)), social relationships (WHOQOL-BREF; Total: \(-.41\); \( p < .03 \)), psychological health (WHOQOL-BREF; Total: \(-.48\); \( p < .02 \)); Financial: \(-.39\); \( p < .05 \)); Psychological: \(-.54\); \( p < .01 \)), and satisfaction with life (SWLS; Total: \(-.55\); \( p < .01 \)); Financial: \(-.69\); \( p < .00 \)). The CIQ was positively correlated with increased difficulties in emotion regulation (DERS; Total: \(.53\); \( p < .01 \)), difficulties in emotional clarity (DERS; Total: \(.55\); \( p < .01 \)); Financial: \(.38\); \( p < .05 \)); Resources: \(.44\); \( p < .02 \)); Psychological: \(.52\); \( p < .01 \)), limited access to ER strategies (DERS; Total: \(.54\); \( p < .01 \)); Financial: \(.42\); \( p < .03 \)); Resources: \(.44\); \( p < .03 \)); Psychological: \(.57\); \( p < .01 \)), psychological distress (BASE-6; Total: \(.46\); \( p < .02 \)); Psychological: \(.43\); \( p < .02 \)), impulse control difficulties (DERS; Resources: \(.43\); \( p < .03 \)), depression (DASS-21; Psychological: \(.49\); \( p < .01 \)), and positive affect (mDES; Psychological: \(-.40\); \( p < .04 \)), negative affect (mDES; Psychological: \(.43\); \( p < .03 \)). The CEQ is negatively correlated with anxiety (DASS-21; Diagnoses/Symptoms: \(-.44\); \( p < .02 \)), and positively correlated with difficulties in emotion regulation (DERS; Proximity: \(.44\); \( p < .02 \)), limited access to ER strategies (DERS; Proximity: \(.39\); \( p < .05 \)), nonacceptance of emotional responses (DERS; Proximity: \(.39\); \( p < .05 \)), DERS-Impulse (News: \(.38\); \( p < .05 \)), depression (Proximity: \(.43\); \( p < .01 \)).

**Discussion**
Phase 3 was designed to assess the Implementation, Reach, and Efficacy of BERT with emerging adults. Overall, this pilot showed promising initial results supporting the utility of BERT. Recruitment showed initial interest in BERT, though approximately 1/3 of students screened did not continue to the initial survey. A systematic review on smartphone apps for depression showed pooled dropout rates at 26.2%, though this was adjusted to 47.8% when considering effects due to publication bias (Torous, Lipschitz, Ng, & Firth, 2020). For the purpose of evaluating Implementation, Reach, and Efficacy, participants were considered to have initiated BERT if they completed the ERO. Furthermore, participants who initiated BERT can be thought of as “engagers” who made it to the 2nd week of BERT or “non-engagers” who dropped out before then. All non-engagers either had not initiated BERT (n = 5 completed the initial survey but did not start the ERO; n = 4 started but did not complete the ERO), dropped out after the ERO and during the first week of BERT (n = 4). Thus, participants who completed the initial survey but did not “engage” had limited interactions with the BERT program. Most participants who engaged in BERT past the first week of ERT completed at least some ERT activities through the fifth and final week.

Applying the a priori criteria for examining Implementation, there is partial support for the Implementation of BERT at this stage. There was a significant time cost associated with BERT Implementation, which raises questions about the generalizability of BERT as a stand-alone intervention; therefore, this criterion was not met. There were some technical errors, so the second criterion was not met. However, the remaining three criteria were met. Regarding engagement, the sample of participants who initiated BERT as a whole completed 92% of ERT content and 80% of EMA opportunities, and 26 participants (76% of those who initiated BERT, and 87% of those who engaged after the first week of the ERT) completed more than 75% of program content.
Attrition for those who initiated BERT was approximately 12%, meeting the attrition criterion of less than 15%, Engagement and attrition rates compare favorably or better with those for app- or smartphone-based interventions for health behaviors and disease management (Egilsson, Bjarnason, & Njardvik, 2021; Iribarren, et al., 2021; Meyerowitz-Katz, et al., 2020; Torous, et al., 2020). For the fifth and final Implementation criterion, among BERT completers, attitudes generally supported that the program was helpful, had positive impacts on emotional and mental well-being, and that there is utility for this type of program.

There was mixed evidence for Reach of the program, according to a priori criteria. Students with minoritized racial and ethnic identities participated at rates that would be expected given the university distribution, representing a strength in Reach. Ensuring equitable Reach is especially important because these students are likely to face race-related stressors that increase health risks (Williams, 2018). Strengthening emotion regulation skills may ameliorate physiological and psychological mechanisms for the detrimental effects of race-related stressors, thereby promoting health equity (Peterson, Charles, Yeung, & Coyle, 2020). However, program enrollment did not adequately represent the gender distribution of the population of students at large. This sample was mostly female in a 57% male student population. Gender biases may reduce male-identifying individuals’ participation in a program explicitly focused on emotion, as there is still stigma around attending to emotional well-being in male-identifying individuals (Galdas, Cheater, & Marshall, 2005; Latalova, Kamaradova, & Prasko, 2014; Vogel, Wester, Hammer, & Downing-Matibag, 2014). Though the low number of men participating precluded testing gender differences in engagement and favorable attitudes, there were no gender differences in attrition and no race/ethnicity differences in engagement, attrition, or favorable attitudes, thereby partially meeting the second, third, and fourth a priori criteria for evaluating Reach.
Initial Efficacy of BERT was well-established by results. There was good evidence for improvement in ER, the primary outcome, as indicated by the DERS total score and the ERQ cognitive reappraisal score. No significant changes were seen in DERS subscale scores. This may reflect low power due to the small sample size, or may reflect broad rather than targeted change in ER. There was also no significant change in emotional suppression. When considering that there was no specific change in emotional awareness, emotional clarity, or emotional suppression, it is possible that BERT is not facilitating a change in emotion identification, which the EMA was intended to facilitate. Yet, BERT is still showing significant improvements in overall ER and cognitive reappraisal, suggesting that foundational ER skills are increasing even if participants are not recognizing or reporting an increase in specific ER components. Additionally, it is possible that a virtual platform does not provide the type of feedback required (e.g., in the moment clinical judgement) that can facilitate precise changes. Future research with expanded measurement including emotionally salient tasks, changes in risk-taking, and executive functioning tasks will be needed to address the extent to which specific ER components or skills are impacted by BERT.

Efficacy was also supported by significant improvement in secondary outcomes, with consistent results for indices of distress and some mixed results for indices of thriving. Distress was measured by the BASE-6 and DASS-21. Scores of psychological functioning (BASE-6), anxiety (DASS-21) and stress (DASS-21) showed statistically significant improvement, though there was not significant improvement on depression (DASS-21). Moreover, improvement on the BASE-6 appears to be clinically meaningful. This is especially important considering that there was significant clinical change found in a preventive intervention with a community sample that did not require significant clinician involvement. Baseline scores on the DASS-21 are lower and often below clinical cutoffs. Change on the DASS-21 follows a quadratic pattern, increasing to the
midpoint, and returning to a lower score. This could be due to normal increases in distress over the course of the semester. Specifically, the structure of the semester tends to increase workload and exams towards the middle of the semester, which coincides with this study’s midpoint assessment. Alternatively, BERT’s focus on ER may have contributed to an increase in awareness of distress that resulted in higher reports on the DASS-21 at the mid-point, with further mastery of ER skills leading to the decline by program end. The finding that emotional awareness on the DERS did not improve over the course of BERT does call this alternative explanation into doubt.

Thriving was measured by the Thriving Scale and WHOQOL-BREF. The Thriving scale showed a decrease from baseline to midpoint in learning, followed by a return to baseline by the follow-up. Similar to the explanation above, challenges common to the middle of the semester may have negatively affected participants’ sense that they were improving and growing, following which they may experience a reduction in cognitive or emotional barriers to approaching learning. Findings may connect to a growth mindset surrounding emotions, which is associated with ER strategies, cognitive reappraisal, and flexibility (Schroeder, et al., 2017). Vitality, on the other hand, showed an increase from baseline to mid-point, followed by a slight decrease by follow-up. Though these findings should be interpreted with great caution, they are especially notable within the context of COVID-19 as this construct relates to feeling alive and energized. Perhaps, at the least, findings may suggest that BERT was protective in maintaining a sense of vitality in the midst of the pandemic. The WHOQOL-BREF demonstrated significant improvements in quality of life in physical health, though not in other domains of well-being. Increasing ER strategies can reduce barriers to physical well-being by shaping physiology or guiding healthy decision making that promotes physical health (DeSteno, Gross, & Kubzansky, 2013). The lack of change in psychological health, social relationships, and environment health cannot be disentangled from the
context of COVID-19 where there are social and environmental limitations and significant stressors across domains. There was no change in life satisfaction indicated by the SWLS. Life satisfaction is a broader construct that may take longer to change as a result of an ER program. Alternatively, the COVID-19 pandemic may be restricting students’ lives in a way that dampens BERT’s effect on life satisfaction.

Changes in emotional affectivity were explored in post-hoc analyses. Interestingly, the mDES exhibited significant reductions in negative emotion, though there was no change in positive emotion. The consistency of positive emotion may also result from a higher concentration of positive emotion at baseline. Though negative emotions started at a lower frequency than positive emotions, after completing BERT there was an even lower frequency of these negative states. This decrease in negative affectivity could result from increased regulation or management of negative emotional states.

Phase 2 indicated some changes and concerns to be implemented into BERT, which were evaluated in Phase 3. Overall results support the promise of BERT seen in Phase 2. Focus groups highlighted the potential problems with the brief and intensive nature of the program, and Phase 3 participants were supportive of the intensity of this program but were unsure of the brevity of the program. Phase 2 focus groups recommended in-person or discussion board options for engagement, and those who completed BERT were divided on these possibilities. Participants did not feel the program was too cliché. They did report that some of the concepts were challenging to remember. Phase 2 focus groups had concerns about the clarity of the ER model, which was partially supported by Phase 3 participants. Based on this feedback, further development of BERT to clarify program concepts is called for to meet the needs of participants to help them better remember and apply the content to their daily lives.
There are important limitations in Phase 3. Despite strong recruitment efforts, only 42 participants enrolled in BERT. Thus, some conclusions are limited by insufficient power and should be interpreted with caution. The small and homogenous sample also raises the question of the generalizability of these results. Additionally, it is possible that the technological errors present in the delivery of this content may have impacted the pattern of results, though it is likely that these errors would detract from rather than strengthen BERT’s Implementation and Efficacy. Since BERT was unable to be fully automated in its current iteration, it required manually sent email reminders to keep participants on track. Occasionally, there were difficulties in loading the participant homepage that influenced data collection, making it impossible to know if participants were 100% compliant with program content.

An unavoidable limitation was conducting this work during the COVID-19 pandemic. When examining the COVID-19 scales (threat, impacts, experiences), it was clear that the extent to which participants were impacted by the pandemic was associated with outcome variables, including worse well-being, ER, and psychological outcomes. The threat of becoming infected with COVID-19 was not heavily related to outcomes. Secondary impacts of COVID-19 (i.e., financial, resources) and direct experiences (i.e., diagnosis, symptoms) were heavily associated with outcome variables. Interestingly, receiving a diagnosis of COVID-19 or experiencing symptoms of COVID-19 related to a decrease in anxiety. It is possible that after having the illness, there was less anxiety as there was a reduced fear of becoming infected. Individuals may also have felt a sense of relief or reduction in anxiety from the potential to re-open networks after acquiring antibodies.

In summary, results for Phase 3 are promising. Overall, the results demonstrate the Implementation of BERT. Reach of the program shows good potential in regard to race/ethnicity,
yet needs much expansion in regard to men’s participation. Initial Efficacy data establishes clear capability of this program to create gains in ER, reductions in psychological distress, and improvements in quality of life. Potential areas for improving future program modification to improve efficacy include changing vitality, life satisfaction, and specific emotion regulation components.

**Overall Discussion**

An online Brief Emotion Regulation Training (BERT) program was developed and evaluated within the RE-AIM framework (Glasgow, et al., 1999) to ensure the program is not only efficacious but capable of being effectively implemented and disseminated. Following a series of focus groups and clinician interviews, initial development of BERT was adapted in order to improve its potential efficaciousness. Once these suggested changes were integrated into the program, BERT was pilot tested to determine its Implementation and prospective Reach and Efficacy. Though there was substantial attrition between interest and initiating BERT, Implementation was mostly supported and initial Efficacy was very promising. BERT demonstrated Reach in regard to race/ethnicity but not gender, suggesting the importance of future program development exploring the barriers and preferences of men for developing emotion regulation skills.

**Development**

This project utilizes dissemination and implementation science for a pragmatic program development process (Glasgow, 2013; Glasgow, et al., 2019). With the understanding that only a portion of evidence-based treatments ever reach their target audience, BERT was designed within the context of the RE-AIM framework (Glasgow, et al., 1999) to acknowledge, identify, and overcome barriers during the course of program development. As such, Phase 1 was dedicated to
establishing an initial structure for BERT, with the flexibility to change after feedback was solicited in Phase 2 focus groups, prior to the pilot study in Phase 3.

BERT is unique because it is a brief and intensive technological intervention that does not require the presence of a clinician to complete or understand program content. Additionally, it takes a transdiagnostic and preventive lens by focusing on ER as an underlying mechanism impacting a wide variety of disorders in emerging adulthood. Additionally, it is sensitive to a health equity framework (Peterson, et al., 2020) by considering traditional barriers to care and attempting to circumvent these to provide equitable care to vulnerable populations. The brief and intensive nature of this program is designed to create an immersive approach to treatment, contrasting with the traditional intervention structure (Schleider et al., 2020). In building a technological intervention, each piece was designed to mimic components of face-to-face evidence-based treatments. BERT was designed to build emotion regulation strategies guided by the Gross (2014) process model of ER. Influenced by a cognitive-behavioral perspective, the program also incorporates third-wave components such as mindfulness and acceptance. Specifically, the orientation provides a grounding in psychoeducation on ER and mental health, the weekly self-monitoring as a weekly symptom check-in akin to measurement-based care (Scott & Lewis, 2015), the EMA to enhance emotional clarity, and the ERT to facilitate daily ER skills practice. Currently, these components are delivered together. However, in future iterations, it will be critical to disentangle these components and understand which ones are most significantly contributing to change. Additionally, in recruiting larger and more diverse samples, the program can improve in ways that better serve diverse populations.

Focus Groups
The focus groups were critical in guiding the development of BERT. Incorporating stakeholders earlier in the process provided invaluable input to developing a sensitive and targeted treatment program. Though many suggested changes were already in the program, there were critical observations participants made that were incorporated prior to pilot launch. For example, they noted to include steps for behavior change, types of coping, windows of completion, sensitive language, and general suggestions for clarity that were able to focus the program more intentionally. Though content was often saturated within focus group, the same themes were less saturated between groups. This is a limitation in the current work. Additionally, participants expressed enthusiasm and interest in BERT, which further supports potential Reach and Implementation.

Often, participants were suggesting a more intensive and interactive program than proposed. Data from Phase 3 provide mixed evidence about whether it would be beneficial for BERT to be more intensive. About a third of the people who initially expressed interest in BERT did not continue to the program and some who started did not finish, which may signal that the program was too lengthy or intensive for some to complete over this period of time. On the other hand, most participants who began the ERT completed over 75% of program content, and many completed 100% of program content. This suggests that they might have also completed a more intensive program. Future qualitative and quantitative research with BERT completers and non-completers will be needed to understand how to best calibrate the program.

**Implementation**

Despite support for Implementation from participants’ engagement, low attrition once initiating BERT, and favorable attitudes, there were time costs and some technological errors and known technological limitations that may have posed barriers to implementation and retention.
Due to the cost of developing a mobile app, Qualtrics and GoogleScript platforms were utilized, which limited some of the desired program design. Specifically, email reminders rather than text and push notifications may have made it difficult for participants to access BERT content, as well as producing additional time costs to program facilitators. Current software was limited in personalizing content and sending automated reminders on content yet to be completed, which may have confused participants. The opportunity to personalize program reminders as well as the flexibility for participants to choose their notification style (i.e., text, push notification, email) would improve accessibility and reduce confusion. Moreover, participants all had to begin the program at the same time. This may have limited Reach, as participants who were interested at an earlier time might have developed ambivalence about starting the program when they were contacted at a later date. Time to receive an invitation to commence the intervention ranged from three days to three weeks. In the development stage, the design team was mindful of ADA criterion ensuring broader accessibility. In future iterations, development aims to create a BERT program that is fully accessible to diverse populations, all gender identities, and individuals with disabilities to ensure an equitable program. As a free and completely automated program, BERT will be able to better reach individuals in need. Following efficacy studies, the program has the potential to be modified for adolescents to disseminate this information at a younger age with the hopes to improve ER from an earlier age reducing risk and fostering resiliency in vulnerable youth.

Reach

As noted earlier, recruitment efforts were not successful in proportionately representing male participants relative to the university population. There were few men represented in the focus groups which may have meant the opportunity was missed for critical feedback that could have been incorporated to be more inclusive of men. Rigid gender roles may subtly discourage
engagement with an “emotion” program, as emotions may be associated with traditional femininity (American Psychological Association, Boys and Men Guidelines Group, 2018). In line with the APA guidelines for men and boys (American Psychological Association, Boys and Men Guidelines Group, 2018), future efforts can more heavily target majors or organizations with higher concentrations of male-identifying individuals (i.e., engineering, business, ROTC, fraternities) to ensure adequate representation.

Additionally, the focus of recruitment was more on students from racial, ethnic, and sexual minority groups, rather than an even gender distribution. Concerted effort was made to engage a diverse sample by contacting diversity offices and advocates. This effort seems to yield the desired results in regard to ethnoracial minority students, who participated proportionately to their representation in the undergraduate population. However, the small sample size complicates the ability to determine how successful these efforts were at reaching specific populations within minoritized groups.

It was not possible to precisely calculate the proportion of students exposed to recruitment information to capture the full Reach of the program. As such, it is important to evaluate this aspect of Reach in future studies. Approximately 1/3 of people who filled out the screener did not continue to the initial survey, which was the entry to the ERO and subsequently the ERT. BERT “engagers” who made it through the first week tended to complete a large majority if not all of the program content, suggesting that both enhancing initial recruitment scope and providing more rapid access to the ERO might improve Reach.

The external context cannot be ignored when considering barriers to Reach, specifically the semester timing and the COVID-19 pandemic. The program began in the middle of the semester, which may have influenced the pattern of results or dropout. Often, students have more
flexibility in the beginning of the semester as there are fewer academic deadlines. Tests and assignments tend to spike towards the middle and end of the semester. Future iterations of this program will be administered at the start of the semester to facilitate Reach.

The COVID-19 pandemic has been shown to significantly impact on mental health and well-being (Kumar & Nayar, 2020). As individuals are forced to stay indoors and away from others for safety, it is especially critical to engage self-regulation strategies to cope with this distress. This highlights the need for ER, impulse control, and acceptance to combat the stressors associated with this isolation. Unsurprisingly, in this study the impacts of COVID-19 were correlated with most outcomes including ER, psychological distress, and quality of life. This may have introduced new and unexpected barriers to program completion and success rates. Notably, many traditional psychological treatment options have become inaccessible or obsolete during the pandemic, but there were no necessary modifications to the proposed BERT intervention for it to be implemented, highlighting the importance of this type of program implementation. Since BERT was administered during the COVID-19 pandemic, it is impossible to disentangle the results from this context.

**Efficacy**

**Emotion Regulation.** This intervention showed promise in modifying ER, though not universally. Changes in emotion regulation were evident in cognitive reappraisal (ERQ) and improvements in overall difficulties in emotion regulation (DERS total score).

There were no significant differences in the DERS subscales after applying a Bonferroni correction. Since there was no change in emotion suppression (ERQ), lack of emotional clarity (DERS), and lack of emotional awareness (DERS), it is possible that this program may be targeting different emotional processes than planned. Since this program is primarily teaching strategies, it
may be lacking the necessary foundations in emotional understanding and expression. The DERS is designed to identify difficulties in emotion regulation; however, it primarily focuses on strategies to implement “when [they are] upset” (Gratz & Roemer, 2004). It may be easy to determine ways that behavior is changing (e.g., “When I’m upset, I have difficulties controlling my behavior”), though more difficult to recognize changes in awareness (e.g., “I am attentive to my feelings”) or clarity (e.g., “I am confused about how I feel”). Though the EMA was designed to increase emotional granularity, it may have been insufficient to increase clarity or emotional understanding without direct teaching surrounding this measurement. As currently designed, this program focuses on coping and modifying identified emotional states, rather than the specifics of each emotion. It is possible that some of these changes may be muted or inconsistent due to a small sample size that have reduced the power to examine precise program effects. In the future, grounding the program in more emotional awareness and understanding may increase the applicability. Providing more psychoeducation on acceptance and expression as regulatory strategies may also assist in improving clarity, awareness, and suppression.

**Distress and thriving.** Significant improvement was seen on both indices of psychological distress. This is an especially powerful result in the context of the cascading “mental health pandemic” resulting from the isolating effects of social distancing and quarantining during COVID-19 (Choi, Heilemann, Fauer, & Mead, 2020). Though a community sample was recruited, it is interesting that on average baseline scores on the BASE-6 were clinically elevated and returned to below the clinical cutoff after the BERT intervention. There was no change in vitality, though there was an improvement in learning. Significant improvement was also seen on quality of life in physical health. There was no improvement in other dimensions of well-being, which may also be related to the broader context of the pandemic. It is particularly meaningful that an
intervention designed to promote emotion regulation, but not to manage psychopathology, did significantly reduce psychopathology, though it did not show a significant change in depression. This secondary effect of BERT highlights its utility as a preventive intervention and further supports the focus on ER as a critical transdiagnostic factor underlying psychopathology in emerging adulthood. Results suggest that BERT has the potential to be beneficial if participants can get started and keep with the program. BERT’s online platform allows for the ability to disseminate this program broadly. Once initial recruitment Reach and identified implementation barriers are improved, the brevity and ease of access to this program will allow for the continued development of an effective transdiagnostic program.

**Future Directions**

Though the current study provides promising results, further research is needed to continue developing BERT. In addition to the points mentioned above, there is a need to expand Reach to male-identifying students, and future work with larger samples is needed to address limited statistical power in the current analyses. Relatedly, several scales demonstrated poor or questionable reliability that limits interpretability of analyses. It will be important in future research to examine “for whom” BERT works best with a larger sample.

Future research will also demonstrate the extent to which current findings generalize outside the context of COVID-19. The rapid transition to a virtual world may have impacted the pattern of results, as well as the accessibility of this program. Though the online nature of BERT increased the program’s accessibility during the pandemic, there were also potential negative impacts due to virtual burnout. With all content presented online, BERT may have felt more like a burden than a positive influence, especially with increases in virtual burnout as a result of online learning (Mheidly, Fares, & Fares, 2020).
BERT can be widely disseminated because it is cost-effective, adaptable, and does not require significant clinician burden. BERT has great potential as a cost-effective tool to promote regulation and mitigate distress in emerging adulthood. When unmanaged, poor ER can manifest in deleterious ways (e.g., impulsive behaviors, outbursts, criminal behaviors, dropout) that have a host of negative associated consequences (Weiss, Sullivan, & Tull, 2015). By promoting ER strategies, rather than waiting for deficits to emerge, BERT could reduce the global costs of mitigating the effects of dysregulation by preventing its emergence.

ER is critical for all individuals with a developing prefrontal cortex who are expanding their regulatory capacity. As such, BERT should be modified for adolescent populations as intervening upstream and earlier in the developmental trajectory has positive downstream mental health consequences. Integrating BERT into school settings may allow for increased accessibility and accountability to ensure that content is delivered to intended populations. By administering this in a context where youth are surrounded by professionals, it is possible that they will be able to assist in emotion identification and clarity by providing broader psychoeducation or individualized feedback. Additionally, BERT may be useful as a tool for individuals in need who are still waiting to receive clinical care.

The sudden onset of the COVID-19 pandemic highlights BERT’s adaptability. The online formatting reduces traditional barriers to care, while also freeing up clinicians to do more targeted problem solving than basic psychoeducation. BERT teaches basic ER strategies that are beneficial in both clinical and non-clinical samples for enhancing mental wellness. It utilizes an evidence-based approach to treatment that can overcome barriers to care. Later iterations of this program will be delivered on web- and phone-based apps embedding more features to improve accessibility for individuals with disabilities. Additionally, BERT can be tested with non-university attending
emerging adults to determine the potential benefits and protective effects of providing these individuals with a free and accessible preventive intervention.

**Conclusion**

Overall, results suggest great promise of BERT, which provides a novel transdiagnostic treatment approach to a prevention program through a dissemination and implementation lens. Approaching treatment development by beginning with the end in mind allows for critical examination of the shortcomings and growth areas of this kind of program. The online format lends itself to better fidelity. In this pilot, there were still technological barriers that impeded perfect implementation. Additionally, by identifying and addressing dissemination barriers, the program can make significant improvements that will allow for more widespread program uptake. BERT takes an upstream approach to addressing a key mechanism underlying many psychological disorders, which allows it to more effectively prevent a range of negative outcomes while also promoting well-being.
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BRIEF EMOTION REGULATION TRAINING


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Table 1. Daily Emotion Regulation Training (ERT) program content is outlined below. ERT is specified for each day.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Foundational information provided in the following content areas</td>
<td>The ER model will be provided step by step over the course of 5 weeks, with each week adding different skills in the emotion regulation process. Participants will use examples from their current experiences.</td>
<td>This will be represented in an interactive exercise to practice using the ER model or specific skill.</td>
<td>This will reinforce or summarize skills learned earlier in the week or continue to practice using the ER model or specific skill.</td>
</tr>
<tr>
<td>1</td>
<td>Situation Selection (Stressor Identification &amp; Values)</td>
<td>Stress, Decision-Making, and Values</td>
<td>Identify situation, stressors, physical symptoms, associated values</td>
<td>Identify physical stress in the body, related emotions</td>
<td>Decode provided situation, rate stressors, pick least stressful situation</td>
</tr>
<tr>
<td>2</td>
<td>Situation Modification (Problem solving)</td>
<td>Stressful situations, problem solving, changing situations</td>
<td>Identify situation, stressors, modifications to situation and stressors</td>
<td>Identify possible modifications to short scenarios</td>
<td>Problem solving puzzle: create your own adventure/ change the story</td>
</tr>
<tr>
<td>3</td>
<td>Attentional Deployment (Mindfulness)</td>
<td>Mindfulness, shifting attention</td>
<td>Identify situation, stressors, and ways to shift attention from stressors</td>
<td>Stressful situation presented, identify components without stress</td>
<td>&quot;Take 5&quot; grounding exercise (identifying senses)</td>
</tr>
<tr>
<td>4</td>
<td>Cognitive Change (CBT Skills)</td>
<td>Cognitive triangle, functional analysis</td>
<td>Identify situation, stressors, antecedents, behaviors, and consequences</td>
<td>Identify thoughts, behaviors, emotions for presented stressful situation, and place on cognitive triangle</td>
<td>Pick out thoughts, behaviors, emotions from provided scenario to interactive cognitive triangle, identify and change antecedents</td>
</tr>
<tr>
<td>5</td>
<td>Response Modulation (Healthy regulation &amp; coping skills)</td>
<td>Responding to unmanageable situations</td>
<td>Identify situation, stressors, thoughts, behaviors, emotions, coping strategies</td>
<td>Match list of coping skills to emotional states</td>
<td>Name favorite coping skills, practice present-moment implementation</td>
</tr>
</tbody>
</table>
Table 2. Undergraduate focus group data. Responses are coded as (a) address in survey at the end of BERT (1; survey); (b) change now (now); (c) change in later program iterations (later); (d) already in the program, and where (embedded); or (e) don’t change, and why (none).

<table>
<thead>
<tr>
<th>Question</th>
<th>Code</th>
<th>Focus Groups</th>
<th>Participants</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Address Code</th>
<th>How we plan to address it?</th>
</tr>
</thead>
<tbody>
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<td><strong>Keep</strong></td>
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<td>Q1 ER model</td>
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<td>0</td>
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<td>0</td>
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<td>Q3 Daily</td>
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<td>Q4 ERT length is good</td>
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<td>Q5 ERT structure</td>
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<td>3</td>
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<td>Q7 Create your own adventure is good</td>
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<tr>
<td>Q8 Mindfulness exercises are effective</td>
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<td>2</td>
<td>0</td>
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<td></td>
<td>Compliment</td>
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<td>Q9 Week 5 looks good</td>
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<td>0</td>
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<td>Q10 Week 4: days 3-4</td>
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<td>Q11 SM questions are concise</td>
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<td>0</td>
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<td>1</td>
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<td>Q12 Program components are relevant</td>
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<td>Q13 Program structure is good</td>
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<td>0</td>
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<td>Potential to reach many people</td>
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<td>Participants will be able to answer survey again</td>
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<td>Day 2 is similar week to week so it says in the same spot Will already be making changes</td>
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<td>Participants recollect specific strategies they would engage</td>
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<td>Appropriateness of program for people in therapy</td>
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<td>Week 4: Add stress exercise</td>
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<td>Reflect on current coping before changing</td>
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<td>Q9 Switch Week 4: Day 2 with Day 3</td>
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<td>Day 2 is similar week to week so it says in the same spot Day 2 will always explore a situation unique to participants</td>
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<td>Personally apply new skills</td>
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<td>Introduce the steps of behavioral change</td>
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<td>Identify unhelpful coping skills</td>
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<td>Add steps for behavioral change Teach if coping skill is adaptive or maladaptive</td>
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<td>Q10 Make attainable goals/explain purpose of the model</td>
<td>1 1 0 1 0 0</td>
<td>Detailed explanations are provided throughout the program</td>
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<td>Connect weeks together</td>
<td>1 1 0 0 1 0</td>
<td>Weeks are built on one another</td>
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<td>Fill in SM as week goes along</td>
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<td>Allow flexibility to complete program on their own time</td>
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<td>Create anonymous option</td>
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<td>Reluctance in sharing experience</td>
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<td>There will be many opportunities to share experiences and reduce reluctance</td>
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<td></td>
<td></td>
<td>Though sporadic questions may be stressful, there is no other way to check comprehension</td>
</tr>
<tr>
<td>Issues with time zones</td>
<td></td>
<td>1</td>
<td>1 1 0 0 0</td>
<td></td>
<td>Now</td>
<td>Adjusting program for different time zones</td>
</tr>
<tr>
<td>Add resources</td>
<td></td>
<td>1</td>
<td>1 1 0 0 0</td>
<td></td>
<td>Embedded</td>
<td>Each section will have additional resources provided</td>
</tr>
<tr>
<td>Program is not in the &quot;real world&quot;</td>
<td></td>
<td>1</td>
<td>2 0 2 0 0</td>
<td></td>
<td></td>
<td>Exercises have people reflect on current stressors, and evaluate stressful situations happening in the moment</td>
</tr>
<tr>
<td>Participants won't be disciplined</td>
<td></td>
<td>1</td>
<td>2 2 0 0 0</td>
<td></td>
<td></td>
<td>Have participants rate their engagement with the program</td>
</tr>
<tr>
<td>Program is too brief to make an impact</td>
<td></td>
<td>1</td>
<td>2 0 0 2 0</td>
<td></td>
<td>Survey</td>
<td>Program is structured to be brief and intensive</td>
</tr>
<tr>
<td>No outlet for feedback</td>
<td></td>
<td>1</td>
<td>1 0 1 0 0</td>
<td></td>
<td></td>
<td>Ask if people want a place to ask questions/discussion board?</td>
</tr>
<tr>
<td>Exercises aren't long enough to produce calming effects</td>
<td></td>
<td>1</td>
<td>1 0 1 0 0</td>
<td></td>
<td>None</td>
<td>Program is designed to be brief and build skills</td>
</tr>
</tbody>
</table>

*Note. Table 2 continues on next page.*
<table>
<thead>
<tr>
<th>Question</th>
<th>Code</th>
<th>Focus Groups</th>
<th>Participants</th>
<th>How we plan to address it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignoring email notifications</td>
<td>3</td>
<td>8</td>
<td>2 3 3 0</td>
<td>Later We have no other way of changing the notification style, will be developed differently in the future</td>
</tr>
<tr>
<td>Won't respond to ERT notifications on time</td>
<td>1</td>
<td>1</td>
<td>1 0 0 0</td>
<td>No change</td>
</tr>
<tr>
<td>Program is self-motivated</td>
<td>1</td>
<td>2</td>
<td>0 0 0 2</td>
<td>Completion rates will determine how difficult it is to engage in the program</td>
</tr>
<tr>
<td>Ensure clarity in ERT questions, information, discussions</td>
<td>1</td>
<td>4</td>
<td>0 0 0 4</td>
<td>Ensure clarity of questions</td>
</tr>
<tr>
<td>Program will interfere with responsibilities</td>
<td>1</td>
<td>2</td>
<td>2 0 0 0</td>
<td>Program is designed to be flexible Exercises have people reflect on current stressors, and evaluate stressful situations happening in the moment</td>
</tr>
<tr>
<td>ERT is not in the &quot;real world&quot;</td>
<td>1</td>
<td>2</td>
<td>0 2 0 0</td>
<td>Program is structured to be brief and intensive Ask if Day 3-4 are too intense</td>
</tr>
<tr>
<td>Program structure is too intense</td>
<td>2</td>
<td>3</td>
<td>2 1 0 0</td>
<td>Ask if participants were honest in their responses</td>
</tr>
<tr>
<td>Days 3-4 are too intense</td>
<td>2</td>
<td>2</td>
<td>1 1 0 0</td>
<td>Survey</td>
</tr>
<tr>
<td>Participants won't be forthcoming</td>
<td>1</td>
<td>1</td>
<td>0 0 0 1</td>
<td></td>
</tr>
<tr>
<td>Participants shouldn't always choose least stressful situations</td>
<td>1</td>
<td>2</td>
<td>2 0 0 0</td>
<td>Clarify how to select situations to not promote avoidance of stress</td>
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*Note. Table 2 continues on next page.*
<table>
<thead>
<tr>
<th>Question</th>
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<th>Total N</th>
<th>N per Focus Group</th>
<th>Address Code</th>
<th>How we plan to address it?</th>
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</thead>
<tbody>
<tr>
<td>Week 1 content is difficult to grasp</td>
<td></td>
<td>1</td>
<td>2</td>
<td>0 0 2 0</td>
<td>Add disclaimer about choosing situations</td>
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<tr>
<td>Program is not in the &quot;real world&quot;</td>
<td>Q6</td>
<td>2</td>
<td>4</td>
<td>0 3 1 0</td>
<td>Exercises have people reflect on current stressors, and evaluate stressful situations happening in the moment</td>
</tr>
<tr>
<td>Participant's sensitivity will affect their responding</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1 0 0 0</td>
<td>Unclear what this means</td>
</tr>
<tr>
<td>Program is not in the &quot;real world&quot;</td>
<td></td>
<td>1</td>
<td>3</td>
<td>0 0 3 0</td>
<td>Exercises have people reflect on current stressors, and evaluate stressful situations happening in the moment</td>
</tr>
<tr>
<td>Have participants measure stress and choose how they handle situations</td>
<td></td>
<td>1</td>
<td>2</td>
<td>0 2 0 0</td>
<td>Exercises are designed with intention</td>
</tr>
<tr>
<td>Readiness for create your own adventure exercise</td>
<td>Q7</td>
<td>1</td>
<td>2</td>
<td>2 0 0 0</td>
<td>Don't need any level of readiness to participate in create your own adventure exercise</td>
</tr>
<tr>
<td>Create an emotion regulation toolbox</td>
<td></td>
<td>1</td>
<td>2</td>
<td>0 2 0 0</td>
<td>Each week is designed to build a skill for the toolbox</td>
</tr>
<tr>
<td>Week 2: Participant's ideas will not be taken seriously</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1 0 0 0</td>
<td>Unclear what this means</td>
</tr>
<tr>
<td>Skills are complicated and need to be carefully taught</td>
<td></td>
<td>1</td>
<td>1</td>
<td>0 0 0 1</td>
<td></td>
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<tr>
<th>Question</th>
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<th>Participants</th>
<th>Address Code</th>
<th>How we plan to address it?</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Total N</td>
<td>N per Focus Group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mindfulness is challenging</td>
<td>Q8</td>
<td>1</td>
<td>2 2 0 0 0</td>
<td>Now</td>
<td>Add disclaimer about mindfulness</td>
</tr>
<tr>
<td>Won't be able to use Shift Focus skill</td>
<td></td>
<td>1</td>
<td>2 2 0 0 0</td>
<td>None</td>
<td>Going to teach shift focus skill</td>
</tr>
<tr>
<td>Students may be confused about material</td>
<td></td>
<td>1</td>
<td>2 0 0 0 2</td>
<td>None</td>
<td>Material assumes students are new to the topic</td>
</tr>
<tr>
<td>Week 4: Difficult to change situation</td>
<td></td>
<td>1</td>
<td>1 0 0 1 0</td>
<td>Now</td>
<td>Add disclaimer about challenges in modifying situations</td>
</tr>
<tr>
<td>Exclude serious mental illness</td>
<td></td>
<td>1</td>
<td>1 0 1 0 0</td>
<td>Now</td>
<td>Consider inclusion and exclusion criteria to ensure appropriate audience</td>
</tr>
<tr>
<td>Add resources</td>
<td>Q9</td>
<td>1</td>
<td>1 0 1 0 0</td>
<td>Embedded</td>
<td>Each section will have additional resources provided</td>
</tr>
<tr>
<td>Coping is temporary</td>
<td></td>
<td>1</td>
<td>2 2 0 0 0</td>
<td>Embedded</td>
<td>Information about how to cope will be provided in the program</td>
</tr>
<tr>
<td>Difficult to remember Week 4 key words</td>
<td></td>
<td>1</td>
<td>2 2 0 0 0</td>
<td>Survey</td>
<td>Ask about trouble remembering concepts</td>
</tr>
<tr>
<td>Consider unhealthy coping skills</td>
<td></td>
<td>1</td>
<td>6 0 3 3 0</td>
<td>Embedded</td>
<td>5.1 includes information on adaptive vs. maladaptive coping</td>
</tr>
<tr>
<td>Week 5: Add application of coping skills</td>
<td>Q10</td>
<td>1</td>
<td>1 0 1 0 0</td>
<td>Embedded</td>
<td>Discusses coping applications in 5.1</td>
</tr>
<tr>
<td>Individual differences in model interpretation</td>
<td></td>
<td>1</td>
<td>1 1 0 0 0</td>
<td>Survey</td>
<td>Ask if participants are having trouble with interpretation</td>
</tr>
</tbody>
</table>

*Note. Table continues on next page.*
<table>
<thead>
<tr>
<th>Question Code</th>
<th>Concern</th>
<th>Focus Groups</th>
<th>Participants</th>
<th>Address Code</th>
<th>How we plan to address it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q10</td>
<td>Difficult to apply coping skills</td>
<td>1</td>
<td>2</td>
<td>0 0 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lessons are too taxing for participants</td>
<td>1</td>
<td>2</td>
<td>0 2 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Participants comparing success with each other</td>
<td>1</td>
<td>2</td>
<td>0 0 0</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Wording is intimidating, should be personalized</td>
<td>1</td>
<td>1</td>
<td>0 1 0</td>
<td>Embedded</td>
</tr>
<tr>
<td></td>
<td>SM requires more time to be a habit</td>
<td>1</td>
<td>2</td>
<td>0 0 0</td>
<td></td>
</tr>
<tr>
<td>Q11</td>
<td>SM will be unsuccessful</td>
<td>1</td>
<td>2</td>
<td>0 0 0</td>
<td>Survey</td>
</tr>
<tr>
<td></td>
<td>Experiences are exaggerated</td>
<td>1</td>
<td>2</td>
<td>0 0 0</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Second guessing SM responses without conversation component</td>
<td>1</td>
<td>2</td>
<td>0 0 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EMA survey format</td>
<td>2</td>
<td>3</td>
<td>0 0 0</td>
<td>Now</td>
</tr>
<tr>
<td>Q12</td>
<td>Emotion identification is challenging</td>
<td>1</td>
<td>1</td>
<td>0 0 0</td>
<td>Embedded</td>
</tr>
<tr>
<td></td>
<td>Density of program information impairs processing</td>
<td>1</td>
<td>1</td>
<td>0 0 0</td>
<td></td>
</tr>
</tbody>
</table>

*Note. Table 2 continues on next page.*
<table>
<thead>
<tr>
<th>Question</th>
<th>Code</th>
<th>Total N</th>
<th>Participants</th>
<th>Address Code</th>
<th>How we plan to address it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Concern**

**Q12**
- Completing EMAs daily is too frequent
  - Focus Groups: 1
  - N per Focus Group: 1
  - Participants: 0 0 0 1
  - Address Code: Survey
  - How we plan to address it?
    - See if timing of EMA is too taxing

**Q13**
- Certain situations don't involve emotion
  - Focus Groups: 1
  - N per Focus Group: 1
  - Participants: 1 0 0 0
  - Address Code: None
  - How we plan to address it?
    - Program is not designed to cover situations that don’t involve emotion

- Program is too lengthy
  - Focus Groups: 1
  - N per Focus Group: 6
  - Participants: 0 0 3 3
  - Address Code: Survey
  - How we plan to address it?
    - Program is structured to be brief and intensive
    - Evaluate timing concerns for EMA/SM

- EMA is too frequent/don't need both SM and EMA
  - Focus Groups: 1
  - N per Focus Group: 2
  - Participants: 0 0 0 2
  - Address Code: Survey
  - How we plan to address it?
    - Program builds sequentially
    - Cannot account for different motivation styles

- Weeks won't connect to each other
  - Focus Groups: 1
  - N per Focus Group: 1
  - Participants: 0 1 0 0
  - Address Code: None
  - How we plan to address it?
    - Program builds sequentially

- Participants might not be motivated
  - Focus Groups: 1
  - N per Focus Group: 3
  - Participants: 0 0 0 3
  - Address Code: None
  - How we plan to address it?
    - They are allowed to report their own unique stressful situations

- Some events are more stressful to certain people
  - Focus Groups: 1
  - N per Focus Group: 2
  - Participants: 0 0 0 2
  - Address Code: Embedded
  - How we plan to address it?
    - They are allowed to report their own unique stressful situations

- Ensure events are inclusive
  - Focus Groups: 1
  - N per Focus Group: 4
  - Participants: 0 0 0 4
  - Address Code: Embedded
  - How we plan to address it?
    - They are allowed to report their own unique stressful situations

**Q14**
- Keeping track of program responsibilities is difficult
  - Focus Groups: 1
  - N per Focus Group: 2
  - Participants: 2 0 0 0
  - Address Code: Survey
  - How we plan to address it?
    - Ask if skills were implemented/evaluate ER skills pre/post

- Program is too lengthy
  - Focus Groups: 1
  - N per Focus Group: 3
  - Participants: 0 0 0 3
  - Address Code: Survey
  - How we plan to address it?
    - Program is structured to be brief and intensive

- Unsuccessful translation of skills from program to the "real world"
  - Focus Groups: 1
  - N per Focus Group: 1
  - Participants: 0 1 0 0
  - Address Code: Survey
  - How we plan to address it?
    - Ask if skills were implemented/evaluate ER skills pre/post

*Note. Table 2 continues on next page.*
<table>
<thead>
<tr>
<th>Question</th>
<th>Code</th>
<th>Focus Groups</th>
<th>Participants</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Address Code</th>
<th>How we plan to address it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program is self-motivated</td>
<td></td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td></td>
<td>Completion rates will determine how difficult it is to engage in the program</td>
</tr>
<tr>
<td>Participants might not be motivated</td>
<td></td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td></td>
<td>Completion rates will determine how difficult it is to engage in the program</td>
</tr>
<tr>
<td>Consider identity and include broader audiences</td>
<td>3</td>
<td>11</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>Embedded</td>
<td>Exercises are developed to be culturally sensitive, and inclusive</td>
</tr>
<tr>
<td>Broader examples to encompass more viewpoints</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>Survey</td>
<td>Exercises have people reflect on current stressors, and evaluate stressful situations happening in the moment</td>
</tr>
<tr>
<td>Situations will be cliché</td>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td></td>
<td>Ask if situations are too cliché</td>
</tr>
</tbody>
</table>
Table 3. Number of changes across undergraduate focus groups and clinician interviews. Responses are coded as (a) address in survey at the end of BERT (1; survey); (b) change now (now); (c) change in later program iterations (later); (d) already in the program, and where (embedded); or (e) don’t change, and why (none).

<table>
<thead>
<tr>
<th></th>
<th>Students</th>
<th>Clinicians</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Change</td>
<td>Concern</td>
</tr>
<tr>
<td>Now</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Later</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>None</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>Embedded</td>
<td>22</td>
<td>18</td>
</tr>
<tr>
<td>Survey</td>
<td></td>
<td>11</td>
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<tr>
<td>Compliment</td>
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</tr>
<tr>
<td>Total</td>
<td></td>
<td>66</td>
</tr>
</tbody>
</table>

Table 4. Focus group feedback, participants rated their likeliness to participate in this kind of program (engage) or recommend the program to others (recommend) on a 5-point Likert scale.

<table>
<thead>
<tr>
<th>Likeliness</th>
<th>Students</th>
<th>Clinician</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Engage</td>
<td>Recommend</td>
</tr>
<tr>
<td>Extremely Likely</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Somewhat Likely</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Neither Likely nor</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unlikely</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somewhat Unlikely</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Extremely Unlikely</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Question</td>
<td>Code</td>
<td>N</td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>---</td>
</tr>
<tr>
<td>Q2</td>
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<tr>
<td>Q4</td>
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<td>Q6</td>
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<td>Q9</td>
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<td>Q11</td>
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<tr>
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Note. Table 5 continues on next page.
<table>
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<tr>
<th>Question</th>
<th>Code</th>
<th>N</th>
<th>Address Code</th>
<th>How we plan to address it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clarify ER model</td>
<td>2</td>
<td>Survey</td>
<td>Ask about ER model</td>
<td></td>
</tr>
<tr>
<td>ERO grammar</td>
<td>1</td>
<td></td>
<td>Check ERO grammar</td>
<td></td>
</tr>
<tr>
<td>ERO: Clarify researchers in model explanation</td>
<td>1</td>
<td></td>
<td>Explained researchers in ERO</td>
<td></td>
</tr>
<tr>
<td>ERO: discuss stress less, focus on emotions</td>
<td>1</td>
<td>Now</td>
<td>Incorporated emotions into discussions of stress</td>
<td></td>
</tr>
<tr>
<td>ERO: Clarify eustress definition</td>
<td>1</td>
<td></td>
<td>Redefined eustress</td>
<td></td>
</tr>
<tr>
<td>Specify maladaptive coping</td>
<td>1</td>
<td></td>
<td>Specify maladaptive vs. adaptive coping</td>
<td></td>
</tr>
<tr>
<td>ERO: Teach avoidance and related coping skills (e.g., social media)</td>
<td>1</td>
<td>Later</td>
<td>Discuss functional avoidance in future programming</td>
<td></td>
</tr>
<tr>
<td>Explain differences between emotion regulation and coping</td>
<td>1</td>
<td></td>
<td>Clearly separate coping from regulating</td>
<td></td>
</tr>
<tr>
<td>ERO: Clarify Yerkes-Dodson</td>
<td>1</td>
<td>Survey</td>
<td>See if ERO was clear</td>
<td></td>
</tr>
<tr>
<td>ERO: Specify boredom in Yerkes-Dodson</td>
<td>1</td>
<td>Survey</td>
<td>See if ERO was clear</td>
<td></td>
</tr>
<tr>
<td>Incorporate teachings on avoidance-escape routes into week</td>
<td>1</td>
<td></td>
<td>Include avoidance and escape into stressful situations more intentionally</td>
<td></td>
</tr>
<tr>
<td>Program serves to complement therapy</td>
<td>1</td>
<td>Later</td>
<td>Consider adding program as plug in to therapy</td>
<td></td>
</tr>
<tr>
<td>Validate the emotion</td>
<td>1</td>
<td></td>
<td>Make it clear that all emotions are valid and serve a purpose</td>
<td></td>
</tr>
<tr>
<td>Explain that multiple situations happen at once</td>
<td>1</td>
<td></td>
<td>Weave awareness of multiple situations into weekly content</td>
<td></td>
</tr>
<tr>
<td>Week 3: adapt shifting attention vs. framing the positive</td>
<td>1</td>
<td>Now</td>
<td>Stay intentional in explaining the difference between shifting attention and focusing the positive</td>
<td></td>
</tr>
<tr>
<td>Include relaxation/mindfulness apps</td>
<td>1</td>
<td>Later</td>
<td>Will have more detailed resources to deepen knowledge</td>
<td></td>
</tr>
<tr>
<td>Frame ABCs to include cognitions, not just behaviors</td>
<td>1</td>
<td>Now</td>
<td>Keep A as activating event or antecedent</td>
<td></td>
</tr>
</tbody>
</table>

*Note. Table 5 continues on next page.*
<table>
<thead>
<tr>
<th>Question</th>
<th>Code</th>
<th>N</th>
<th>Address Code</th>
<th>How we plan to address it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embed cognitive change skills in week</td>
<td>1</td>
<td>Embedded</td>
<td>Week 4 has a number of cognitive strategies</td>
<td></td>
</tr>
<tr>
<td>Week 4: Take time to thought challenge</td>
<td>1</td>
<td>Embedded</td>
<td>4.2 details thought challenging</td>
<td></td>
</tr>
<tr>
<td>Add CBT strategy to Week 4</td>
<td>1</td>
<td></td>
<td>Several CBT strategies included in Week 4</td>
<td></td>
</tr>
<tr>
<td>Use mantras to describe thinking patterns</td>
<td>1</td>
<td></td>
<td>Incorporate thought patterns</td>
<td></td>
</tr>
<tr>
<td>Explain standard cognitive distortions</td>
<td>1</td>
<td>Later</td>
<td>Incorporate thought patterns</td>
<td></td>
</tr>
<tr>
<td>Practice thought challenging &quot;rewriting script&quot;</td>
<td>1</td>
<td></td>
<td>Add &quot;rewriting script&quot; as strategy to challenge thoughts</td>
<td></td>
</tr>
<tr>
<td>Week 4: bite-sized exercises</td>
<td>1</td>
<td>None</td>
<td>Already intended to be brief</td>
<td></td>
</tr>
<tr>
<td>Week 4: Add more examples</td>
<td>1</td>
<td>None</td>
<td>Can only fit so many examples</td>
<td></td>
</tr>
<tr>
<td>Day 4: track consequences of coping skills</td>
<td>1</td>
<td>Now</td>
<td>Week 5, Day 4: discuss physical changes after coping skills</td>
<td></td>
</tr>
<tr>
<td>&quot;Menu&quot; of coping skills to manage emotions</td>
<td>1</td>
<td>Embedded</td>
<td>5.4 has a list of different coping strategies</td>
<td></td>
</tr>
<tr>
<td>Week 5: Add sensory component</td>
<td>1</td>
<td>Embedded</td>
<td>Use body diagram when rating situations</td>
<td></td>
</tr>
<tr>
<td>Add categories of coping skills</td>
<td>2</td>
<td>Later</td>
<td>Categorize coping strategies so it is easier to select appropriate ones</td>
<td></td>
</tr>
<tr>
<td>Week 5: Track situation across the course of the week</td>
<td>1</td>
<td>Later</td>
<td>No way to have situations carry over in current program iteration</td>
<td></td>
</tr>
<tr>
<td>Rate emotions</td>
<td>3</td>
<td></td>
<td>EMA</td>
<td></td>
</tr>
<tr>
<td>Monitor social interactions and well-being</td>
<td>1</td>
<td>Embedded</td>
<td>BASE 6: &quot;How much has emotional distress interfered with your relationships this week?&quot;</td>
<td></td>
</tr>
<tr>
<td>Include mental health topics in SM: anxiety/depression</td>
<td>2</td>
<td>Embedded</td>
<td>BASE-6 covers these areas</td>
<td></td>
</tr>
<tr>
<td>Measure SM before program content</td>
<td>1</td>
<td></td>
<td>SM administered on Monday</td>
<td></td>
</tr>
<tr>
<td>Communicate with participants with concerning scores</td>
<td>1</td>
<td></td>
<td>Email participants/ schedule check in when scores are high</td>
<td></td>
</tr>
</tbody>
</table>

Note. Table 5 continues on next page.
### Changes

<table>
<thead>
<tr>
<th>Question</th>
<th>Code</th>
<th>N</th>
<th>Address Code</th>
<th>How we plan to address it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add procrastination to SM</td>
<td>1</td>
<td>Later</td>
<td>Add procrastination to SM survey to cover functional avoidance</td>
<td></td>
</tr>
<tr>
<td>Monitor eating/nutrition in SM</td>
<td>1</td>
<td>Now</td>
<td>Add eating/nutrition to SM</td>
<td></td>
</tr>
<tr>
<td>Prefers mDES</td>
<td>1</td>
<td>Embedded</td>
<td>mDES selected</td>
<td></td>
</tr>
<tr>
<td>Group words with similar meanings</td>
<td>1</td>
<td>Embedded</td>
<td>mDES provides 3 emotions for each example</td>
<td></td>
</tr>
<tr>
<td>Add depression/sadness</td>
<td>1</td>
<td>Embedded</td>
<td>mDES covers sadness</td>
<td></td>
</tr>
<tr>
<td>Add frustrated/overwhelmed to EMA</td>
<td>1</td>
<td>Embedded</td>
<td>Item 2 &quot;angry, irritated, annoyed&quot; and Item 20 in EMA &quot;stressed, nervous, overwhelmed&quot;</td>
<td></td>
</tr>
<tr>
<td>Q11 Add section on negative self-talk</td>
<td>1</td>
<td>Later</td>
<td>Add negative self-talk to Week 4, when exploring cognitive change</td>
<td></td>
</tr>
<tr>
<td>Consider &quot;shoulding&quot; framing experiences without judgment</td>
<td>1</td>
<td>Later</td>
<td>Incorporate thinking styles into Week 4</td>
<td></td>
</tr>
<tr>
<td>Program covers too many topics</td>
<td>1</td>
<td>Survey</td>
<td>Ask if program is too intense/spread too thin</td>
<td></td>
</tr>
<tr>
<td>Add cognitions into EMA</td>
<td>1</td>
<td>None</td>
<td>Ask if they would also like to check on cognitions in EMA</td>
<td></td>
</tr>
<tr>
<td>Likes SPANE for broadness of measurement</td>
<td>1</td>
<td>None</td>
<td>Chose mDES to increase emotional intelligence</td>
<td></td>
</tr>
<tr>
<td>Q12 Program is not sensitive to interpersonal distress</td>
<td>1</td>
<td>Later</td>
<td>Consider ways to incorporate DBT-regulation strategies that includes interpersonal distress into Week 2</td>
<td></td>
</tr>
<tr>
<td>Q13 Add progress bar</td>
<td>1</td>
<td>Later</td>
<td>With more technology, add a way to track progress in program</td>
<td></td>
</tr>
<tr>
<td>Q14 Assist people who are easily stressed</td>
<td>1</td>
<td>Later</td>
<td>Create more intensive supports for people in distress</td>
<td></td>
</tr>
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</table>

### Concerns

<table>
<thead>
<tr>
<th>Question</th>
<th>Code</th>
<th>Address Code</th>
<th>How we plan to address it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>People unaware of triggers</td>
<td>1</td>
<td>Later</td>
<td>Make sure to address that emotional/situational triggers are not always obvious and require more attention</td>
</tr>
<tr>
<td>Take into account DBT perspective into model</td>
<td>1</td>
<td>Later</td>
<td>Can consider DBT models in future iterations</td>
</tr>
<tr>
<td>Q2 Response modulation: participants will have trouble working with the emotions</td>
<td>1</td>
<td>None</td>
<td>Can't account for individual differences in emotions, yet.</td>
</tr>
<tr>
<td>Individual difficulties identifying thoughts and feelings</td>
<td>1</td>
<td>None</td>
<td>Can't account for individual differences in emotions, yet.</td>
</tr>
</tbody>
</table>

*Note. Table 5 continues on next page.*
<table>
<thead>
<tr>
<th>Question</th>
<th>Code</th>
<th>N</th>
<th>Address Code</th>
<th>How we plan to address it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q3</td>
<td>ER model is not intuitive</td>
<td>1</td>
<td>Survey</td>
<td>Ask about ER model</td>
</tr>
<tr>
<td></td>
<td>Emotional response is multidimensional</td>
<td>1</td>
<td>Later</td>
<td>Explain that emotional responses are multidimensional</td>
</tr>
<tr>
<td>Q4</td>
<td>A lot of new information to process</td>
<td>1</td>
<td>None</td>
<td>Program is structured to be intensive, though split up over a few days</td>
</tr>
<tr>
<td>Q5</td>
<td>Difficulties recruiting participants</td>
<td>1</td>
<td>Survey</td>
<td>Measure completion rates</td>
</tr>
<tr>
<td></td>
<td>Program suggests that stress is not okay</td>
<td>1</td>
<td>Now</td>
<td>Ensure that all language is sensitive enough to not bias against stress</td>
</tr>
<tr>
<td></td>
<td>Problem solving happens before labeling emotions</td>
<td>1</td>
<td>Embedded</td>
<td>Participants track their emotions 1st in all Day 2 exercises before changing anything</td>
</tr>
<tr>
<td></td>
<td>Emphasize choice rather than changing the situation</td>
<td>1</td>
<td></td>
<td>All taught modifications to the situation involve making better choices internally to change the external world</td>
</tr>
<tr>
<td>Q6</td>
<td>Create your own adventure will not be useful</td>
<td>1</td>
<td>Survey</td>
<td>Ask about create your own adventure activity</td>
</tr>
<tr>
<td></td>
<td>Mindfulness confounded with spirituality</td>
<td>1</td>
<td>Now</td>
<td>Ensure that there is no religious component of mindfulness</td>
</tr>
<tr>
<td>Q7</td>
<td>Biases against mindfulness</td>
<td>1</td>
<td>None</td>
<td>Cannot change individual perspectives against mindfulness, can only offer the practice</td>
</tr>
<tr>
<td></td>
<td>College students will abandon mindfulness</td>
<td>1</td>
<td></td>
<td>Cannot change individual perspectives against mindfulness, can only offer the practice</td>
</tr>
<tr>
<td>Q8</td>
<td>Week 4: &quot;Talk back&quot;</td>
<td>1</td>
<td>Later</td>
<td>Use &quot;talk back&quot; language in week 4</td>
</tr>
<tr>
<td></td>
<td>Consider if coping is more experimental or informative</td>
<td>1</td>
<td></td>
<td>Allows people to practice in real life</td>
</tr>
<tr>
<td>Q9</td>
<td>Explain coping skills</td>
<td>1</td>
<td>Embedded</td>
<td>5.1 explains coping skills and strategies</td>
</tr>
<tr>
<td></td>
<td>Discuss perfectionism</td>
<td>1</td>
<td>Later</td>
<td>Add perfectionism to thought traps in week 4</td>
</tr>
<tr>
<td>Q11</td>
<td>Difficulty rating emotions in EMA</td>
<td>1</td>
<td>Survey</td>
<td>Ask about difficulty of EMA</td>
</tr>
<tr>
<td></td>
<td>EMA will create stress</td>
<td>1</td>
<td></td>
<td>Ask if EMA is stressful</td>
</tr>
</tbody>
</table>

*Note. Table 5 continues on next page.*
<table>
<thead>
<tr>
<th>Question</th>
<th>Code</th>
<th>N</th>
<th>Address Code</th>
<th>How we plan to address it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include reminders</td>
<td>1</td>
<td>Embedded</td>
<td>Email reminders are sent out every day to ensure they are completing program content</td>
<td></td>
</tr>
<tr>
<td>People will not follow through</td>
<td>3</td>
<td>Survey</td>
<td>Assess completion rates at end of program</td>
<td></td>
</tr>
<tr>
<td>Inability to keep up with program</td>
<td>2</td>
<td>Survey</td>
<td>Assess completion rates at end of program</td>
<td></td>
</tr>
</tbody>
</table>
Table 6. *Demographics for initial enrollment compared to the final sample.*

<table>
<thead>
<tr>
<th>Identity</th>
<th>Initial Enrollment</th>
<th>Final Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>36</td>
<td>27</td>
</tr>
<tr>
<td>Male</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td><strong>Sexual Orientation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterosexual</td>
<td>38</td>
<td>28</td>
</tr>
<tr>
<td>Bisexual</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Gay</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Don't Know</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Multiple Sexualities</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Asian</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Black or African American</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>White</td>
<td>31</td>
<td>22</td>
</tr>
<tr>
<td>Multiracial</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
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<td></td>
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<tr>
<td>Hispanic</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Non-Hispanic</td>
<td>40</td>
<td>29</td>
</tr>
<tr>
<td><strong>Years in College</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>22</td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>3</td>
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<td>4</td>
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<td>5</td>
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<tr>
<td>6</td>
<td>1</td>
<td>1</td>
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</table>
Table 7. Phase 3 descriptive statistics and scale reliabilities for the full sample prior to data analysis or manipulation.

<table>
<thead>
<tr>
<th>Survey</th>
<th>Initial</th>
<th>Midpoint</th>
<th>Final</th>
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<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td></td>
<td>Skewness (SE)</td>
<td>Skewness (SE)</td>
<td>Skewness (SE)</td>
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<tr>
<td></td>
<td>Kurtosis (SE)</td>
<td>Kurtosis (SE)</td>
<td>Kurtosis (SE)</td>
</tr>
<tr>
<td></td>
<td>α</td>
<td>α</td>
<td>α</td>
</tr>
<tr>
<td><strong>BASE-6</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>20.26 (9.11)</td>
<td>19.10 (8.31)</td>
<td>14.64 (6.19)</td>
</tr>
<tr>
<td>Depression</td>
<td>6.57 (6.14)</td>
<td>8.07 (8.53)</td>
<td>5.71 (6.22)</td>
</tr>
<tr>
<td>Anxiety</td>
<td>4.48 (4.71)</td>
<td>7.08 (6.10)</td>
<td>4.21 (4.22)</td>
</tr>
<tr>
<td>Stress</td>
<td>8.73 (5.87)</td>
<td>13.31 (7.67)</td>
<td>10.43 (8.00)</td>
</tr>
<tr>
<td>Strategies</td>
<td>17.83 (6.74)</td>
<td>17.46 (7.44)</td>
<td>15.43 (5.78)</td>
</tr>
<tr>
<td>Non-acceptance</td>
<td>15.05 (6.62)</td>
<td>14.23 (6.41)</td>
<td>13.29 (5.68)</td>
</tr>
<tr>
<td>Goals</td>
<td>15.64 (5.47)</td>
<td>15.46 (4.75)</td>
<td>13.18 (4.14)</td>
</tr>
<tr>
<td><strong>DERS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impulse</td>
<td>11.79 (4.64)</td>
<td>11.00 (3.26)</td>
<td>10.04 (3.55)</td>
</tr>
<tr>
<td>Awareness</td>
<td>16.42 (5.57)</td>
<td>16.43 (4.96)</td>
<td>16.25 (5.33)</td>
</tr>
<tr>
<td>Clarity</td>
<td>12.67 (4.31)</td>
<td>12.27 (3.61)</td>
<td>11.46 (3.23)</td>
</tr>
<tr>
<td>Total</td>
<td>87.14 (24.87)</td>
<td>84.69 (20.39)</td>
<td>77.57 (19.67)</td>
</tr>
<tr>
<td><strong>ERQ</strong></td>
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<tr>
<td>Cognitive</td>
<td>27.67 (6.47)</td>
<td>27.67 (6.47)</td>
<td>30.32 (5.71)</td>
</tr>
<tr>
<td>Reappraisal</td>
<td>-0.55 (0.72)</td>
<td>-0.51 (0.89)</td>
<td>-0.52 (0.79)</td>
</tr>
<tr>
<td>Expression</td>
<td>16.62 (5.24)</td>
<td>15.92 (5.05)</td>
<td>16.25 (5.05)</td>
</tr>
<tr>
<td>Suppression</td>
<td>-0.46 (0.72)</td>
<td>-0.54 (0.89)</td>
<td>-0.14 (0.86)</td>
</tr>
</tbody>
</table>

Note. Table 7 continues on next page.
<table>
<thead>
<tr>
<th>Survey</th>
<th>Subscale</th>
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<th></th>
<th>Initial</th>
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<th>Midpoint</th>
<th></th>
<th>Final</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean (SD)</td>
<td>Skewness (SE)</td>
<td>Kurtosis (SE)</td>
<td>α</td>
<td>Mean (SD)</td>
<td>Skewness (SE)</td>
<td>Kurtosis (SE)</td>
<td>α</td>
</tr>
<tr>
<td>MDES</td>
<td>Positive Affect Total</td>
<td>24.90 (9.69)</td>
<td>.16 (.37)</td>
<td>-.52</td>
<td>.92</td>
<td>25.12 (10.74)</td>
<td>.13 (.44)</td>
<td>-1.00</td>
<td>.94</td>
</tr>
<tr>
<td></td>
<td>Positive Affect Mean</td>
<td>2.27 (.88)</td>
<td>.16 (.37)</td>
<td>-.54</td>
<td></td>
<td>2.28 (.98)</td>
<td>.13 (.44)</td>
<td>-1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Negative Affect Total</td>
<td>12.19 (7.78)</td>
<td>.49 (.37)</td>
<td>-.82</td>
<td>.91</td>
<td>5.54 (5.56)</td>
<td>1.21 (.44)</td>
<td>.71 (.86)</td>
<td>.84</td>
</tr>
<tr>
<td>SWLS</td>
<td>Negative Affect Mean</td>
<td>1.22 (.78)</td>
<td>.49 (.37)</td>
<td>-.81</td>
<td></td>
<td>.55 (.56)</td>
<td>1.21 (.44)</td>
<td>.71 (.86)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>24.83 (5.77)</td>
<td>.73 (37)</td>
<td>.22 (.72)</td>
<td>.87</td>
<td>26.14 (5.10)</td>
<td>-.90 (.44)</td>
<td>1.04</td>
<td>.79</td>
</tr>
<tr>
<td>Thriving</td>
<td>Vitality</td>
<td>4.79 (1.43)</td>
<td>-.48 (.37)</td>
<td>-.14</td>
<td>.93</td>
<td>5.90 (1.77)</td>
<td>.22 (.43)</td>
<td>-.25</td>
<td>.51</td>
</tr>
<tr>
<td></td>
<td>Learning</td>
<td>5.63 (1.04)</td>
<td>-1.03 (.37)</td>
<td>1.75</td>
<td>.83</td>
<td>5.32 (1.82)</td>
<td>-.50 (.46)</td>
<td>-.08</td>
<td>.66</td>
</tr>
<tr>
<td></td>
<td>Physical Health</td>
<td>15.71 (2.53)</td>
<td>-.37 (.37)</td>
<td>-.58</td>
<td>.76</td>
<td>16.80 (2.53)</td>
<td>-.37 (.37)</td>
<td>-.58</td>
<td>.79</td>
</tr>
<tr>
<td>WHOQOL-BREF</td>
<td>Psychological Health</td>
<td>13.89 (3.17)</td>
<td>-.37 (.37)</td>
<td>-.27</td>
<td>.87</td>
<td>14.35 (3.00)</td>
<td>-.15 (.44)</td>
<td>-.96</td>
<td>.85</td>
</tr>
<tr>
<td></td>
<td>Social Relationships</td>
<td>14.38 (3.10)</td>
<td>-.43 (.37)</td>
<td>.56 (.72)</td>
<td>.68</td>
<td>15.09 (3.37)</td>
<td>-.59 (.44)</td>
<td>.19 (.86)</td>
<td>.82</td>
</tr>
<tr>
<td></td>
<td>Environment</td>
<td>15.67 (2.62)</td>
<td>-.56 (.37)</td>
<td>-.29 (.72)</td>
<td>.82</td>
<td>16.70 (2.33)</td>
<td>-.88 (.44)</td>
<td>1.77</td>
<td>.82</td>
</tr>
</tbody>
</table>

Note. Data is presented for participants who completed the initial (n = 41-42), midpoint (n = 26-30) or final (n = 28) survey.
Table 8. *Attitudes about BERT.*

<table>
<thead>
<tr>
<th>Statement</th>
<th>Min-Max</th>
<th>M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The orientation provided information that was new to me.</td>
<td>3 – 7</td>
<td>5.46 (0.79)</td>
</tr>
<tr>
<td>The information provided was unhelpful.</td>
<td>1 – 7</td>
<td>3.11 (1.85)</td>
</tr>
<tr>
<td>The orientation took an appropriate amount of time.</td>
<td>3 – 6</td>
<td>5.50 (0.88)</td>
</tr>
<tr>
<td>The weekly training would be acceptable without this orientation.</td>
<td>2 – 7</td>
<td>4.54 (1.26)</td>
</tr>
<tr>
<td>How difficult was it to complete this orientation?</td>
<td>3 – 7</td>
<td>5.46 (1.23)</td>
</tr>
<tr>
<td>Do you feel that the orientation was helpful?</td>
<td>3 – 7</td>
<td>5.29 (1.01)</td>
</tr>
<tr>
<td>How long would this orientation ideally take, provide your answer in minutes:</td>
<td>5 – 90</td>
<td>20.58 (15.58) to 22.31 (16.57)</td>
</tr>
<tr>
<td>ERT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How difficult was it to complete the daily activities?</td>
<td>3 – 7</td>
<td>5.86 (0.97)</td>
</tr>
<tr>
<td>How often would you like these activities to occur (in days/week)?</td>
<td>1 – 7</td>
<td>3.41 (1.61)</td>
</tr>
<tr>
<td>How long would these activities ideally take, provide your answer in minutes:</td>
<td>2 – 25</td>
<td>8.89 (4.40) to 10.88 (4.81)</td>
</tr>
<tr>
<td>Week 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How helpful did you find this week’s content to be?</td>
<td>4 – 7</td>
<td>5.46 (0.79)</td>
</tr>
<tr>
<td>Week 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How helpful did you find this week’s content to be?</td>
<td>2 – 7</td>
<td>5.43 (1.03)</td>
</tr>
<tr>
<td>Week 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How helpful did you find this week’s content to be?</td>
<td>4 – 7</td>
<td>5.64 (0.87)</td>
</tr>
<tr>
<td>The create your own adventure was helpful.</td>
<td>2 – 7</td>
<td>5.33 (1.30)</td>
</tr>
<tr>
<td>Week 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How helpful did you find this week’s content to be?</td>
<td>2 – 7</td>
<td>5.79 (1.13)</td>
</tr>
<tr>
<td>Week 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How helpful did you find this week’s content to be?</td>
<td>4 – 7</td>
<td>5.61 (0.79)</td>
</tr>
<tr>
<td>Self-Monitoring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I looked at the graphs on the BERT homepage.</td>
<td>1 – 7</td>
<td>4.89 (2.04)</td>
</tr>
<tr>
<td>Feedback provided from self-monitoring was useful.</td>
<td>2 – 7</td>
<td>5.18 (1.16)</td>
</tr>
<tr>
<td>I discussed the feedback I received from self-monitoring with other people.</td>
<td>1 – 6</td>
<td>2.39 (1.57)</td>
</tr>
<tr>
<td>How difficult was it to complete monitoring weekly?</td>
<td>2 – 7</td>
<td>5.54 (1.29)</td>
</tr>
<tr>
<td>Do you feel that self-monitoring was helpful?</td>
<td>4 – 7</td>
<td>5.64 (0.99)</td>
</tr>
<tr>
<td>How often would you like these measurements to occur (in days)?</td>
<td>1.5 – 17.5</td>
<td>6.56 (3.72)</td>
</tr>
<tr>
<td>How long would these activities ideally take, provide your answer in minutes:</td>
<td>1—30</td>
<td>10.68 (7.86) to 11.68 (7.96)</td>
</tr>
</tbody>
</table>

*Note.* Table 8 continues on next page.
### EMA

<table>
<thead>
<tr>
<th>Statement</th>
<th>Min-Max</th>
<th>M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How difficult was it to complete these measures daily?</td>
<td>2 – 7</td>
<td>5.75 (1.27)</td>
</tr>
<tr>
<td>Do you feel that daily measurement was helpful?</td>
<td>1– 7</td>
<td>5.23 (1.61)</td>
</tr>
<tr>
<td>How often would you like these measurements to occur (in days/week)?</td>
<td>1– 14</td>
<td>5.82 (2.91)</td>
</tr>
<tr>
<td>How long would this measurement ideally take, provide your answer in minutes</td>
<td>2 – 25</td>
<td>6.96 (5.64)</td>
</tr>
</tbody>
</table>

### Overall BERT

<table>
<thead>
<tr>
<th>Statement</th>
<th>Min-Max</th>
<th>M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel that BERT was helpful in improving my emotion regulation.</td>
<td>3 – 7</td>
<td>5.68 (0.98)</td>
</tr>
<tr>
<td>I feel that BERT helped me understand and identify my emotions.</td>
<td>4 – 7</td>
<td>5.68 (0.91)</td>
</tr>
<tr>
<td>I feel that BERT helped me better manage my mental health.</td>
<td>4 – 7</td>
<td>5.5 (0.92)</td>
</tr>
<tr>
<td>I feel that BERT helped me better understand my own mental health.</td>
<td>4 – 7</td>
<td>5.82 (0.72)</td>
</tr>
<tr>
<td>I dislike how brief this program is.</td>
<td>1– 6</td>
<td>5.82 (.72)</td>
</tr>
<tr>
<td>I dislike the intensive nature of this program.</td>
<td>1– 6</td>
<td>3.57 (1.26)</td>
</tr>
<tr>
<td>I feel the examples provided throughout the program were too cliché.</td>
<td>2 – 6</td>
<td>3.93 (1.36)</td>
</tr>
<tr>
<td>I found it easy to remember the concepts taught in this program.</td>
<td>1 – 7</td>
<td>4.61 (1.52)</td>
</tr>
<tr>
<td>I applied the skills learned in this program to my daily life.</td>
<td>3 – 7</td>
<td>4.89 (0.96)</td>
</tr>
<tr>
<td>I paid attention and was honest when completing the program content.</td>
<td>4 – 7</td>
<td>6.11 (0.79)</td>
</tr>
<tr>
<td>I found it difficult to keep up with the demands of this program.</td>
<td>1 – 6</td>
<td>3.36 (1.34)</td>
</tr>
<tr>
<td>The wording of this program was easy to understand.</td>
<td>4 – 7</td>
<td>6.04 (0.69)</td>
</tr>
<tr>
<td>How clear was this model of emotion regulation?</td>
<td>1 – 5</td>
<td>3.93 (.94)</td>
</tr>
<tr>
<td>I sought out support (e.g., friends, family, professionals) because of BERT.</td>
<td>1 – 6</td>
<td>3.00 (1.61)</td>
</tr>
<tr>
<td>Would you want to attend an in-person while taking this program (outside of a global pandemic)?</td>
<td>1 – 3</td>
<td>2.04 (.74)</td>
</tr>
<tr>
<td>Would you participate in an online discussion board while taking this program?</td>
<td>1 – 3</td>
<td>2.07 (0.86)</td>
</tr>
<tr>
<td>How likely are you to recommend BERT to someone else?</td>
<td>3 – 5</td>
<td>3.86 (0.59)</td>
</tr>
</tbody>
</table>
Table 9. (A) EMA Completion Rates. (B) ERT Completion Rates. (C) SM Completion Rates.

<table>
<thead>
<tr>
<th>A</th>
<th>EMA Completions</th>
<th>%</th>
<th>n</th>
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<tr>
<td></td>
<td>38</td>
<td>108.6</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>37</td>
<td>105.7</td>
<td>1</td>
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<tr>
<td></td>
<td>36</td>
<td>102.9</td>
<td>1</td>
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<tr>
<td></td>
<td>35</td>
<td>100</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>34</td>
<td>97.1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>33</td>
<td>94.3</td>
<td>2</td>
</tr>
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<td>32</td>
<td>91.4</td>
<td>4</td>
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<tr>
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<td>31</td>
<td>88.6</td>
<td>1</td>
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<tr>
<td></td>
<td>30</td>
<td>85.7</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>80</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>27</td>
<td>77.1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>26</td>
<td>74.3</td>
<td>1</td>
</tr>
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<td></td>
<td>22</td>
<td>62.9</td>
<td>1</td>
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<td></td>
<td>19</td>
<td>54.3</td>
<td>1</td>
</tr>
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<td></td>
<td>17</td>
<td>48.6</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>28.6</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>25.7</td>
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<td>8</td>
<td>22.9</td>
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<td>5.7</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>2</td>
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<table>
<thead>
<tr>
<th>B</th>
<th>ERT Completions</th>
<th>%</th>
<th>n</th>
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<tr>
<td></td>
<td>18</td>
<td>100</td>
<td>20</td>
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<tr>
<td></td>
<td>17</td>
<td>94.4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>88.9</td>
<td>2</td>
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<td></td>
<td>14</td>
<td>77.8</td>
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<tr>
<td></td>
<td>13</td>
<td>72.2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>66.7</td>
<td>1</td>
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<td>9</td>
<td>50</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>38.9</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>16.7</td>
<td>1</td>
</tr>
<tr>
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<td>1</td>
<td>5.6</td>
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</table>

<table>
<thead>
<tr>
<th>C</th>
<th>SM Completions</th>
<th>%</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>100</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>80</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>60</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>40</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
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</table>

\[N \, 34\]
Table 10. Descriptive statistics on the short CDC COVID-19 scales: Perceived Coronavirus Threat Questionnaire (PCTQ), Coronavirus Impacts Questionnaire (CIQ), Coronavirus Experiences Questionnaire (CEQ).

<table>
<thead>
<tr>
<th>Scale</th>
<th>Subscale</th>
<th>Range</th>
<th>Mean (SD)</th>
<th>Skewness (SE)</th>
<th>Kurtosis (SE)</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCTQ</td>
<td>Total</td>
<td>3 – 17</td>
<td>9.78 (4.35)</td>
<td>-.30 (.45)</td>
<td>-1.07 (.87)</td>
<td>0.82</td>
</tr>
<tr>
<td>CIQ</td>
<td>Total</td>
<td>6 – 33</td>
<td>15.67 (6.11)</td>
<td>.62 (.45)</td>
<td>0.99 (.87)</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td>Financial</td>
<td>2 – 14</td>
<td>5.04 (2.82)</td>
<td>1.34 (.45)</td>
<td>2.61 (.87)</td>
<td>0.54</td>
</tr>
<tr>
<td></td>
<td>Resources</td>
<td>2 – 10</td>
<td>4.22 (2.65)</td>
<td>1.09 (.45)</td>
<td>.01 (.87)</td>
<td>0.9</td>
</tr>
<tr>
<td></td>
<td>Psychological</td>
<td>2 – 12</td>
<td>6.41 (3.18)</td>
<td>.27 (.45)</td>
<td>-1.23 (.87)</td>
<td>0.83</td>
</tr>
<tr>
<td>CEQ</td>
<td>Total</td>
<td>7 – 47</td>
<td>20.37 (12.01)</td>
<td>.99 (.45)</td>
<td>.11 (.87)</td>
<td>0.69</td>
</tr>
<tr>
<td></td>
<td>Diagnoses/ Symptoms</td>
<td>3 – 20</td>
<td>7.81 (6.34)</td>
<td>1.04 (.45)</td>
<td>-.55 (.87)</td>
<td>0.55</td>
</tr>
<tr>
<td></td>
<td>Proximity</td>
<td>2 – 18</td>
<td>7.48 (6.39)</td>
<td>.77 (.45)</td>
<td>-1.04 (.87)</td>
<td>0.86</td>
</tr>
<tr>
<td></td>
<td>News</td>
<td>2 – 16</td>
<td>5.07 (3.68)</td>
<td>1.55 (.45)</td>
<td>2.15 (.87)</td>
<td>0.6</td>
</tr>
</tbody>
</table>

Note. Subscales for the CIQ include: Financial Scale, Resource Scale, Psychological Scale. Subscales for the CEQ include: Personal Diagnoses/Symptoms Scale (Diagnoses/Symptoms), Proximity to Others Scale (Proximity), News Scale.
Figure 1. Gross (2014) model of emotion regulation describing the emotion generative process and accompanying regulatory strategies at each stage.

Figure 2. Mobile version of the BERT homepage
Figure 3. Iterations of the Gross (2014) process model of emotion regulation adapted from the original Gross & Thompson (2007) process model of emotion regulation. (A) Draft and original versions of BERT model of emotion regulation. (B) Current iteration of BERT model of emotion regulation.
Figure 4. Synthetization of multiple models to represent the relationship between environment, stress, emotion, and disease. (A) An initial iteration of the combination of the transactional model of stress (Lazarus & Folkman, 1984) and the stage model of stress and disease (Cohen, et al., 2016) based on discussions between Ms. Gatto and Mr. Stamper. (B) The finalized version.
Figure 5. Design of the Qualtrics homepage. (A) Proposed design. (B) Updated design. C. Another design example of week 2: day 2 content.
Figure 6. Measurement plan for BERT.
Figure 7. Consort diagram to examine BERT completion rates and attrition.
Appendix A

Help-Seeking Resources

These resources will first be provided after the emotion regulation orientation. They will also be provided if participants are experiencing significant stress as reported during self-monitoring.

Cook Counseling Center at Virginia Tech provides free individual and group therapy to students.

The main office is located at:
McComas Hall, RM 240, Virginia Tech
895 Washington St. SW
Blacksburg, VA 24060

Hours of Operation:
- Monday-Friday, 8 a.m.-5 p.m.: 540-231-6557
- After hours/weekends: 540-231-6444
- Suicide prevention: 540-231-6557

More information can be found at: http://ucc.vt.edu/clinical_services_students.html

The Women’s Center at Virginia Tech provides individual services, counseling, and advocacy. It is particularly helpful for women’s issues and sexual violence against women.

It is located in the yellow house:
206 Washington Street (between Draper Road and Otey Street)
Blacksburg, VA 24060

Hours of Operation:
- 540-231-7806 or call the 24-hour crisis hotline operated by the Women's Resource Center of the New River Valley at 540-639-1123

More information can be found at: http://www.womenscenter.vt.edu/womenscenter.html

The Psychological Services Center at Virginia Tech provides individual, couple, family, and group therapies as well as assessment services for a fee.

It is located at:
3110 Prices Fork Rd
Blacksburg, VA 24060

Hours of Operation:
- Monday-Friday 8:30am- 4pm: 540-231-6914
More information can be found at: https://www.psyc.vt.edu/outreach/psc/services

The Services for Students with Disabilities office at Virginia Tech provides accommodations and services for students in need. Most often these are academic accommodations (e.g., extended time, quiet testing room).

It is located at:
310 Lavery Hall (0185)
430 Old Turner St
Blacksburg, VA 24060

Hours of Operation:
- Monday-Friday 8am-5pm: 540-231-3788

More information can be found at: https://www.ssd.vt.edu or via email at ssd@vt.edu

The Student Success Center at Virginia Tech provides holistic support services to support student academic achievement, as well as tutoring services.

It is located at:
110 Femoyer Hall
280 Stanger Street
Blacksburg, VA 24060

Hours of Operation:
- Monday-Friday 8am-5pm: 540-231-5499
- Tutoring Program Hours: Monday-Thursday 10am-6pm; Friday 10am-3pm

More information can be found at: https://studentsuccess.vt.edu or via email at studentsuccess@vt.edu
Appendix B

Self-Monitoring Survey

1. Did you meet your goal of ______ (goal repopulates from the previous week)?
2. How often did you apply what you’ve learned in this program in the past week?
   - Never
   - Rarely - once or twice
   - Sometimes – three or four times
   - Often – about once a day
   - Very often – multiple times a day
3. BASE-6: Thinking back on the week, tell us about how you have been feeling.
   - To what extent have you felt irritable, angry, and/or resentful this week?
   - To what extent have you felt tense, anxious, and/or afraid this week?
   - To what extent have you felt unhappy, discouraged, and/or depressed this week?
   - How much has emotional distress interfered with feeling good about yourself this week?
   - How much has emotional distress interfered with your relationships this week?
   - How much has emotional distress interfered with your ability to perform at work, school, etc., this week?
4. Vitality Scale: Please rate how much you agree with the following statements considering your experience over the past week.
   - I felt alive and vital
   - I had energy and spirit
   - I did not feel very energetic
   - I felt alert and awake
   - I looked forward to each new day
5. How many times have you used a substance (e.g., alcohol, marijuana, cocaine) in the past week? If answer is 1 or more the following questions will appear:
   - How many times have you blacked out from substance use in the past week?
   - How many times you have regretted your behavior while under the influence (e.g., unprotected sex, public urination, interpersonal conflicts) in the past week?
6. How many days have you exercised (for more than 30 minutes) in the past week?
   - 1, 2, 3, 4, 5, 6, 7 days
7. On average, how much have you slept per night in the past week?
   - 1-3 hours
   - 3-6
   - 6-7
   - 7-8
   - 8-9
   - 9-10
8. Has any extremely stressful event occurred in the past week? Y/N If answer is yes, the following question will appear:
   - Have you sought out additional support for this problem? Y/N If answer is yes the following question will appear:
     - From whom did you receive help, select all that apply:
       □ Friends
       □ Family
       □ Religious Group
       □ University Staff
       □ Counselor
       □ Medical Provider
       □ Other

9. What is your main goal for the upcoming week?

If participants report experiencing an extremely stressful event, the following email will be sent to them. Additionally, these participants will receive the resources listed in Appendix A.

Dear (insert name),

I am reaching out from BERT. I noticed that you reported having an extremely stressful event occur in the past week. I have provided a list of resources (attached) that may be helpful for dealing with the related stress. If you would like to have a brief phone discussion to talk about ways to connect with these resources, please email me back and we can schedule a 5 to 10-minute conversation. I wish you all the best during this difficult time.

Best,
Alyssa Gatto, M.S.
pronouns: she/her

NOTE: This communication may contain information that is legally protected from unauthorized disclosure. If you are not the intended recipient, please note that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this message in error, you should notify the sender immediately by telephone or by return email and delete this message from your computer.
Appendix C

Daily Ecological Momentary Assessment

modified Differential Emotions Scale (mDES; Fredrickson, Tugade, Waugh, & Larkin, 2003)

Please think about how you are feeling IN THIS MOMENT. Using the 0-4 scale below, indicate the amount that you’re experiencing each of the following feelings.

0 Not at all  
1 A little bit  
2 Moderately  
3 Quite a bit  
4 Extremely

1. What is the most amused, fun-loving, or silly you felt?  
2. What is the most angry, irritated, or annoyed you felt?  
3. What is the most ashamed, humiliated, or disgraced you felt?  
4. What is the most awe, wonder, or amazement you felt?  
5. What is the most contemptuous, scornful, or distainful you felt?  
6. What is the most disgust, distaste, or revulsion you felt?  
7. What is the most embarrassed, self-conscious, or blushing you felt?  
8. What is the most grateful, appreciative, or thankful you felt?  
9. What is the most guilty, repentant, or blameworthy you felt?  
10. What is the most hate, distrust, or suspicion you felt?  
11. What is the most hopeful, optimistic, or encouraged you felt?  
12. What is the most inspired, uplifted, or elevated you felt?  
13. What is the most interested, alert, or curious you felt?  
14. What is the most joyful, glad, or happy you felt?  
15. What is the most love, closeness, or trust you felt?  
16. What is the most proud, confident, or self-assured you felt?  
17. What is the most sad, downhearted, or unhappy you felt?  
18. What is the most scared, fearful, or afraid you felt?  
19. What is the most serene, content, or peaceful you felt?  
20. What is the most stressed, nervous, or overwhelmed you felt?

Rate your overall stress level with 0 being no stress and 10 being extremely stressed: ______
Appendix D

Undergraduate Focus Group GoogleDoc Template

**A Brief Emotion Regulation Training (BERT) Focus Group**

Facilitator: Alyssa Gatto
Research Assistant Support:

*Focus Group Outline*
- Introductions
- Focus Group Rules
- Program Summary
- Emotion Regulation Model
- Specific BERT Components
- Overall Feedback
- Survey

**Turn your cameras and mics on, so we can do quick introductions and troubleshoot for sound!**

**Focus Group Rules**
1. Be honest!
   1. There are no right or wrong answers
   2. The more you write the better our program can be
2. Ask questions!
   1. We want to make sure you really understand our program
   2. You can scroll through this Google document at any time to find important information you might have missed
3. Let’s create an atmosphere of mutual respect!
   1. What is shared stays here
   2. Turn your cell phone off or to silent
   3. Close or minimize other windows and tabs to focus on this document
4. Zoom Rules
   1. Feel free to turn on your mic, or camera, or write in the chat anytime you have questions or need clarification
   2. You can turn your camera off for the rest of the session if that makes you feel most comfortable

**How do we share ideas?**
All ideas will be shared in this google document
- Write your own ideas below the questions
- Share ideas by adding to others’ feedback
- After you write an idea, read everyone else’s ideas to see what you want to add to
  - Feel free to add similar (or different) ideas to each statement
Let’s try it out!

What foods do you like to eat as a snack?

What makes you nervous about participating in a focus group via Zoom?

Who is BERT?

• BERT is a 5-week Brief Emotion Regulation Training program to help all college students improve their emotional and psychological well-being
• In 5 weeks it is designed to teach about:
  o Stress
  o Emotions
  o Emotion Regulation
  o Mental Wellness
• Who’s it for?
  o Any college student, regardless of their emotional well-being

Let’s imagine BERT was a failure.
We’ll go through piece by piece to decide why it failed!

The entire program is based on the original Gross (2014) Model of Emotion Regulation.

We have adapted this model to make it more accessible.
Why will this model fail?

Why will the wording fail?

Emotion Regulation Orientation (ERO)
Goal: to educate participants on the basics of stress, mental health, mind-body connection, and emotion regulation
- Timing: 30 minutes
- Interface Interaction: visual and audio presentation combined with sporadic questions to test the participant’s comprehension
- Topics Covered:
  - Stress: physical & psychological
  - Health spectrum: Illness vs. Wellness
  - Emotions
  - Emotion Regulation Model

Why will the emotion regulation orientation fail?

Why will the ERO timing fail?

Why will the ERO interface fail?

Why will the ERO topics fail?

Emotion Regulation Training (ERT)
- Goal: to foster healthy emotion regulation through daily practice
• Timing: 4 days/week for 5 weeks, 5 to 10-minute exercises
• Interface Interaction: Monday through Thursday, email notification at 9am reminding you to complete program content
• Topics Covered: Gross (2014) model of emotion regulation
• Designed to mimic therapy sessions:
  o Day 1: Psychoeducation
  o Day 2: New skill
  o Days 3 & 4: Practicing skill

Why will the ERT fail?

Why will the ERT timing fail?

Why will the ERT interface fail?

Why will the ERT notifications fail?

Standard Activity Structure
Day 1:
• Psychoeducation will be presented both in visual and auditory formats
• Information will be presented with short quiz questions embedded in program content
Day 2:
• Emotion regulation model will be presented, and the activity will mirror the same format
• First, situation and stressors will be identified and then the following information will be specific to each week
Days 3 & 4:
• Structure will vary based on the unique program content

Why will the ERT weekly structure fail?

Week 1: To Do or NOT to DO
Goal: explain the emotion generative process, explain how to select situations that are less likely to produce negative stress
• Daily Exercises:
  o Day 1: Stress, decision-making, values
  o Day 2: Situation selection using ER Model
  o Day 3: Stress in the body
  o Day 4: Rating two stressful situations, and select the least stressful ones

Why will Week 1 fail?

Week 2: Change it up
Goal: to learn ways to modify stressful situations, and build effective problem-solving skills
• Daily Exercises:
  o Day 1: Problem solving under high stress
  o Day 2: Modifying a situation using ER model
BRIEF EMOTION REGULATION TRAINING

- Day 3: Modifying short scenarios
- Day 4: Create your own adventure to modify a stressful situation

**Why will Week 2 fail?**

**Week 3: Shift the Focus**
Goal: to build attentional deployment through mindfulness, and learning how to effectively shift attention
- Daily Exercises:
  - Day 1: Mindfulness, how to shift attention
  - Day 2: Shifting attention using ER model
  - Day 3: Focusing on the positive, shifting attention away from stressor
  - Day 4: Mindfulness exercise

**Why will Week 3 fail?**

**Week 4: Think again**
Goal: to learn that you can control your thinking and build cognitive coping strategies to deal with stress
- Daily Exercises:
  - Day 1: Cognitive triangle, functional behavior analysis
  - Day 2: Labeling the ABCs (antecedent, behavior, consequences) using ER model
  - Day 3: Moving a standard stressful situation onto the cognitive triangle
  - Day 4: Labeling the ABCs and changing the situation

**Why will Week 4 fail?**

**Week 5: Do Something**
Goal: to learn how to effectively use coping strategies to change an emotional response
- Daily Exercises:
  - Day 1: types of coping
  - Day 2: Modifying coping using ER model (incorporate cognitive triangle and coping strategies)
  - Day 3: Matching coping skills to emotional states
  - Day 4: Reporting favorite coping skills, implement and rate coping skill

**Why will Week 5 fail?**

**Self-Monitoring (SM)**
Goal: to keep track of how mental health changes week to week
- Timing: 1x/week on Monday, 3-8 minutes
- Interface Interaction: survey attached to Monday content, automatic feedback is provided via email
- Topics Covered: goals, overall mental health, vitality (feeling alive and energetic), sleep, substance use, exercise

Sample Questionnaire
Why will self-monitoring fail?

Why will the SM timing fail?

Why will the SM interface fail?

Why will the SM topics fail?

Ecological Momentary Assessment (EMA)
Goal: to increase emotional awareness and granularity to help people better identify their emotions
- Timing: Email notification every day at 12pm (survey will close at 6pm), 1 to 3 minutes
- Interface Interaction: Survey
- Topics Covered: Emotions

Sample EMA Measurement
Indicate the extent you feel each of these emotions right now from 1 (very slightly) to 5 (extremely) on the following scale:
1 Very slightly, or not at all  2 A little  3 Moderately  4 Quite a bit  5 Extremely
1. Interested
2. Distressed
3. Excited
4. Upset
5. Strong
6. Guilty
7. Scared
8. Hostile
9. Enthusiastic
10. Proud
11. Irritable
12. Alert
13. Ashamed
14. Inspired
15. Nervous
16. Determined
17. Attentive
18. Jittery
19. Active
20. Afraid

Rate your overall stress level with 0 being no stress and 10 being extremely stressed: ______

Why will the EMA fail?

Why will the EMA timing fail?

Why will the EMA interface fail?

Why will the EMA topic fail?

BERT Overall Feedback
Do any parts of the program seem unnecessary?

Taking into consideration all pieces of the program, why did it fail?

Is there anything we should consider when building the program to ensure it is successful for individuals who share your identity?

Please take a few minutes to complete the following Qualtrics survey: https://virginiatech.qualtrics.com/jfe/form/SV_9mncJjWgvX4UQKh
Clinician Focus Group Interview PowerPoint Presentation

Appendix E

Emotion Regulation Training (ERT)
- Goal: to foster healthy emotion regulation through daily practice
- Timing: 4 days/week for 5 weeks, 3-4 sessions/session
- Preparation: introduction to day through Thursday, response to Monday at
- Based on Gross’s model of emotion regulation
- Designed to reduce therapy resistance
- Goal: to reduce aggression

Week 1: To Do or NOT to Do
- Goal: regulate the emotion generation process, mediate how we act
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation

Why will Week 1 fail?
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation

Week 2: Change it up
- Goal: to become more effective with difficult situations, and build effective problem-solving skills
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation

Why will Week 2 fail?
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation

Week 3: Shift the focus
- Goal: to shift the focus of attentional engagement through mindfulness, and to identify ways to effectively shift attention
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation

Why will Week 3 fail?
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation

Week 4: Think Again
- Task: to explore new ways to engage in thinking and build effective problem-solving strategies to deal with emotions
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation

Why will Week 4 fail?
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation

Online Brief Emotion Regulation Training (BERT)
- Alison Knaus, Lauren Valling

Outline
- Program Synopsis
- What is Emotion Regulation?
- Strategies to Enhance Emotion Regulation
- How to Use the Program
- Additional Resources

Who is BERT?
- BERT is a 4-week Brief Emotion Regulation Training program to help students improve their emotional and psychological well-being.
- It includes techniques such as mindfulness and cognitive strategies.
- It is designed for students in various settings.

To break down BERT...
- Let’s imagine it was a failure. Why do we assume it’s a failure?
- The entire program is based on the original Gross (2014) Model of Emotion Regulation.

We have adapted this ER model to make it more accessible.

Emotion Regulation Orientation (ERO)
- Goal: to reduce intrusive thoughts and negative emotions
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation

Why will the emotion regulation orientation fail?
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation
- Task: to identify patterns of regulation

BRIEF EMOTION REGULATION TRAINING

Week 5: Do Something

- Goal: to learn how to effectively use coping strategies to change an emotional response
- Days (Monday):
  - Day 1: Choosing coping using the model (resources are cognitive change and
  - Day 2: Choosing coping skills to emotional states
  - Day 3: Reporting favorite coping skills, implement, and new coping skill

Why will Week 5 fail?

- Are there any unnecessary exercises?
- Are modifications that would improve existing exercises?

Sample Questionnaire

Why will self-monitoring fail?

- Is there more information needed?
- Are there more topics it should be covering?

EMA: Sample Measurement

[Scale with options: not at all, a little, a moderate amount, a lot, extremely]

Why will the EMA fail?

- Is it showing any important information?
- Are there more topics it should be covering?

Do any parts of the program seem unnecessary?

Taking into consideration all pieces of the program, why did it fail?

Please take a few minutes to complete the following Qualtrics survey:

[QR code image]
Appendix F

Undergraduate Focus Group Consent

Title of research study: Brief Emotion Regulation Training (BERT), IRB#20-018
Principal Investigator: Lee Cooper, ldcooper@vt.edu, 540-231-7709
Other study contact(s): Alyssa Gatto, agatto2@vt.edu, 540-231-8808

Key Information: The following is a short summary of this study to help you decide whether or not to be a part of this study. More detailed information is listed later on in this form. The purpose of this study is to get feedback on a new prevention program, Brief Emotion Regulation Training (BERT). This 5-week prevention program will be comprised of an orientation, weekly surveys, and daily emotion regulation training. In this phase of the study, the goal is to receive feedback through virtual focus groups with college students so we can improve the planned program design. You will be asked for your feedback on this program in one 1.5-hour online meeting, where you will share your feedback in a Google Doc. The results of this study may be published and will be used for a dissertation project.

Detailed Information: The following is more detailed information about this study in addition to the information listed above.

Who can I talk to?
If you have questions, concerns, or complaints, or think the research has hurt you, talk to the research team by notifying Alyssa Gatto, the study coordinator, at BERTstudyVT@gmail.com. This research has been reviewed and approved by the Virginia Tech Institutional Review Board (IRB). You may communicate with them at 540-231-3732 or irb@vt.edu if:

• You have questions about your rights as a research subject
• Your questions, concerns, or complaints are not being answered by the research team
• You cannot reach the research team
• You want to talk to someone besides the research team to provide feedback about this research

How many people will be studied?
We plan to include about 30 – 50 people in this phase of the research study.

What happens if I say yes, I want to be in this research?
If you agree to participate in this study, you will first be contacted about your schedule so we can find a good time for the online focus group to take place on Zoom. During the 1 ½ hour focus group, the facilitator will provide you with information about BERT, a brief emotion regulation training program for college students. Periodically the facilitator will pause to allow time for you to provide written feedback on a Google Doc about aspects of the program. A notetaker will also be attending by Zoom to record any verbal questions and comments. Your written feedback on the Google Doc will be anonymized by assigning each person a font color and identifying colors only by initials. The notetaker’s notes will also preserve individual anonymity. At the end of the focus group, you will complete a brief Qualtrics survey to provide any further feedback on the program as a whole and to provide demographic information so we can describe the group of
people who participated in this phase of the study. You will have the opportunity to sign up to receive information about how focus group responses were used to inform the design of BERT, and if you do choose to receive that follow-up information from us you’ll have another opportunity at that time to anonymously provide any additional feedback.

**What happens if I say yes, but I change my mind later?**
You can leave the research at any time, for any reason, and it will not be held against you. If you choose to withdraw from the study, anonymity of responses will prevent returning your data.

**Is there any way being in this study could be bad for me? (Detailed Risks)**
There are no known risks to participating in this study.

**What happens to the information collected for the research?**
We will make every effort to limit the use and disclosure of your personal information, including research study records, only to people who have a need to review this information. We cannot promise complete confidentiality. Organizations that may inspect and copy your information include the IRB, Human Research Protection Program, and other authorized representatives of Virginia Tech.

If identifiers are removed from your private information collected during this research, that information could be used for future research studies or distributed to another investigator for future research studies without your additional informed consent.

The results of this research study may be presented in summary form at conferences, in presentations, reports to the sponsor, academic papers, and as part of a dissertation. Results will be written up for submission to a scholarly peer-reviewed journal and data, code and codebooks will be archived with appropriate privacy protections at the Inter-university Consortium for Political and Social Research (ICPSR), the premier social science data archive. BERT program description and implementation information will be disseminated to interested colleges and universities.

**What else do I need to know?**
This research is being funded by the Thomas H. Ollendick Ph.D. and Mary Catherine Haley Ollendick Graduate Fellowship in Clinical Child Psychology and by a Mini-SEAD grant from the Virginia Tech Institute for Creativity, Arts, and Technology.

- If you agree to take part in this research study, you will receive $10 for your time and effort in the form of an Amazon electronic gift card that will be emailed to you.
- Your de-identified information might be used to create products or to deliver services, including some that may be sold and/or make money for others. If this happens, there are no plans to tell you, to pay you, or to give any compensation to you or your family.
- We will offer to share information about the final BERT program with you. You may accept or decline this offer.

We appreciate your input and thank you for your time and help in this study! By typing your initials below and continuing with the focus group, you will be providing your consent to participate in the BERT research study.
Appendix G

Clinician Focus Group Consent

Title of research study: Brief Emotion Regulation Training (BERT), IRB#20-018
Principal Investigator: Lee Cooper, lcooper@vt.edu, 540-231-7709
Other study contact(s): Alyssa Gatto, agatto2@vt.edu, 540-231-8808

Key Information: The following is a short summary of this study to help you decide whether or not to be a part of this study. More detailed information is listed later on in this form. The purpose of this study is to get feedback on a new prevention program, Brief Emotion Regulation Training (BERT). This 5-week prevention program will be comprised of an orientation, weekly surveys, and daily emotion regulation training. In this phase of the study, the goal is to receive feedback through interviews with experienced clinicians or counselors so we can improve the planned program design. You will receive a packet of information to review prior to a virtual interview (30-45 minutes), where you will provide your feedback on the program content. The results of this study may be published and will be used for a dissertation project.

Detailed Information: The following is more detailed information about this study in addition to the information listed above.

Who can I talk to?
If you have questions, concerns, or complaints, or think the research has hurt you, talk to the research team by notifying Alyssa Gatto, the study coordinator, at BERTstudyVT@gmail.com. This research has been reviewed and approved by the Virginia Tech Institutional Review Board (IRB). You may communicate with them at 540-231-3732 or irb@vt.edu if:

- You have questions about your rights as a research subject
- Your questions, concerns, or complaints are not being answered by the research team
- You cannot reach the research team
- You want to talk to someone besides the research team to provide feedback about this research

How many people will be studied?
We plan to include about 3 – 10 clinicians or counselors in interviews and about 25 – 40 undergraduates in focus groups, for a total of 30 – 50 people in this phase of the research study.

What happens if I say yes, I want to be in this research?
If you agree to participate in this study, you will participate in an online 45-minute interview by Zoom at the time of your choice. The interviewer will provide you with information about BERT, a brief emotion regulation training program for college students. Periodically the interviewer will pause to ask for your verbal feedback about aspects of the program. A trained research assistant will be listening by Zoom to take notes about your verbal questions and comments, in a way that preserves your individual anonymity. At the end of the interview, you will complete a brief Qualtrics survey to provide any further feedback on the program as a whole and to provide demographic information so we can describe the group of people who participated
in this phase of the study. You will have the opportunity to sign up to receive information about how interviews were used to inform the design of BERT, and if you do choose to receive that follow-up information from us you’ll have another opportunity at that time to anonymously provide any additional feedback.

**What happens if I say yes, but I change my mind later?**
You can leave the research at any time, for any reason, and it will not be held against you. If you choose to withdraw from the study, anonymity of responses will prevent returning your data.

**Is there any way being in this study could be bad for me? (Detailed Risks)**
There are no known risks to participating in this study.

**What happens to the information collected for the research?**
We will make every effort to limit the use and disclosure of your personal information, including research study records, only to people who have a need to review this information. We cannot promise complete confidentiality. Organizations that may inspect and copy your information include the IRB, Human Research Protection Program, and other authorized representatives of Virginia Tech.

If identifiers are removed from your private information collected during this research, that information could be used for future research studies or distributed to another investigator for future research studies without your additional informed consent.

The results of this research study may be presented in summary form at conferences, in presentations, reports to the sponsor, academic papers, and as part of a dissertation. Results will be written up for submission to a scholarly peer-reviewed journal and data, code and codebooks will be archived with appropriate privacy protections at the Inter-university Consortium for Political and Social Research (ICPSR), the premier social science data archive. BERT program description and implementation information will be disseminated to interested colleges and universities.

**What else do I need to know?**
This research is being funded by the Thomas H. Ollendick Ph.D. and Mary Catherine Haley Ollendick Graduate Fellowship in Clinical Child Psychology and by a Mini-SEAD grant from the Virginia Tech Institute for Creativity, Arts, and Technology.
- If you agree to take part in this research study, you will receive $10 for your time and effort in the form of an Amazon electronic gift card that will be emailed to you.
- Your de-identified information might be used to create products or to deliver services, including some that may be sold and/or make money for others. If this happens, there are no plans to tell you, or to pay you, or to give any compensation to you or your family.
- We will offer to share information about the final BERT program with you. You may accept or decline this offer.

We appreciate your input and thank you for your time and help in this study! By typing your initials below and continuing with the interview, you will be providing your consent to participate in the BERT research study.
Appendix H

Undergraduate Focus Group Survey

Please answer each of the following questions to the best of your ability.

1. What do you like about this program overall (e.g., favorite or most helpful parts)?
2. What do you dislike about this program overall?
3. How likely would you be to complete this program yourself?
   a. Extremely likely
   b. Likely
   c. Neutral
   d. Unlikely
   e. Extremely Unlikely
4. How likely would you be to recommend this program to others?
   a. Extremely likely
   b. Likely
   c. Neutral
   d. Unlikely
   e. Extremely Unlikely
5. What recommendations do you have for this program?

Please answer the following questions to help us better understand who you are:

6. What is your age?
7. What gender identification best describes you?
   a. Female
   b. Male
   c. Trans female
   d. Trans male
   e. Other identity (please specify) ______
   f. Prefer not to answer
8. Sexual Orientation
   a. Heterosexual
   b. Homosexual
   c. Bisexual
   d. Gay
   e. Lesbian
   f. Queer
   g. Other identity (please specify) ______
   h. Don’t Know
i. Prefer not to answer
9. Race (select all that apply)
   a. American Indian or Alaskan Native
   b. Asian
   c. Black or African American
   d. Native Hawaiian or Other Pacific Islander
   e. White
   f. Other (please specify) ______
10. Do you identify as Hispanic or Latino/a/x?

**The following questions will only be administered to students:**
11. Indicate total years of undergraduate classes completed (include time at Virginia Tech and other universities):
   a. Less than 1 year (freshman)
   b. 1 year (sophomore)
   c. 2 years (junior)
   d. 3 years (senior)
   e. 4 years
   f. 5 or more years
12. Are you a transfer student?
   a. If yes: how many years of college did you complete before transferring to Virginia Tech?
13. Please select your enrollment status for Spring 2020:
   a. Part-time
   b. Full-time

**The following questions will only be administered to clinicians:**
14. Please select the classifications that best describe you:
   a. Clinician
   b. Researcher
   c. Please specify:
15. How many years of experience do you have working as a researcher or clinician: ___
Appendix I

Clinician Focus Group Interview Survey

1. Please answer each of the following questions to the best of your ability:
2. What is your favorite thing about BERT?
3. What is your least favorite thing about BERT?
4. Which program components are most likely to succeed (check all that apply)?
   - Emotion regulation orientation
   - Week 1: Situation Selection
   - Week 2: Situation Modification
   - Week 3: Attentional Deployment
   - Week 4: Cognitive Change
   - Week 5: Response Modulation
   - Weekly monitoring
   - Ecological momentary assessment
5. How likely would you be to recommend this program to others?
   - Extremely likely
   - Somewhat likely
   - Neither likely nor unlikely
   - Somewhat unlikely
   - Extremely unlikely
6. Please list one thing we could change about this program that would make it more appealing.
7. Please answer the following questions to help us describe the group of clinicians who participated in interviews:
8. How old are you? (number of years)
9. What gender identification best describes you?
   - Male
   - Female
   - Trans female
   - Trans male
   - Other identity (please specify)
   - Prefer not to answer
10. Sexual Orientation
    - Heterosexual
    - Homosexual
    - Bisexual
    - Gay
    - Lesbian
    - Queer
    - Other identity (please specify)
    - Don't know
    - Prefer not to answer
11. Race (select all that apply)
    - American Indian or Alaskan Native
▪ Asian
▪ Black or African American
▪ Native Hawaiian or Other Pacific Islander
▪ White
▪ Other (please specify)
▪ Prefer not to answer

12. Do you identify as Latino/a/x?
   ▪ Yes
   ▪ No
   ▪ Prefer not to answer
Appendix J

BERT Phase 3 Recruitment Materials

*Recruitment Email*

**Subject line:** Invitation to participate in online brief emotion regulation training program for college students

**WHO:** The Social Development and I-SPI Labs at Virginia Tech are currently recruiting participants to help us test a 5-week prevention program aimed at improving college students’ adjustment and well-being! We are looking for students 18 years or older who are interested in testing an online emotion regulation program.

**WHAT:** BERT is an online brief emotion regulation training for college students. We are exploring a new approach to improving adjustment and well-being by targeting emotion regulation, or ways to manage emotions. You will learn more about your emotions, mental wellness, and overall well-being in the process of participating in this 5-week intervention. All activities will be completed online at your convenience.

**WHERE:** Online!

**WHEN:** Over the course of 5 weeks you will complete a series of program activities and surveys. Every Monday you will fill out a brief survey to keep track of how things are going for you. Monday through Thursday you will complete short activities about emotion regulation. We’ll do a brief emotion survey once a day to check-in on how your emotions are changing on a daily basis. You will fill out three long surveys (30 to 60 minutes) to keep track of any changes in adjustment and well-being as a result of this program, and you may also choose to complete a follow-up survey 3 months after completing the program.

**WHY:** To better understand your own emotions and psychological functioning while contributing to research on how to promote adjustment and well-being for college students.

**COMPENSATION:** A $10 Amazon Gift Card or 5 SONA credits

**CONTACT:** If you’re interested in participating you can fill out the following to determine if you are eligible: [URL TO BE ADDED] You can contact Alyssa Gatto at BERTstudyVT@gmail.com or sign up through SONA for more information!

The Building BERT project has been made possible in part by a grant from Virginia Tech’s Institute for Creativity, Arts, and Technology. It has been reviewed and approved by the Institutional Review Board: IRB #20-018.
Appendix K

BERT Phase 3 Consent Form

Title of research study: Brief Emotion Regulation Training (BERT), IRB#20-018
Principal Investigator: Lee Cooper, ldcooper@vt.edu, 540-231-7709
Other study contact(s): Alyssa Gatto, agatto2@vt.edu, 540-231-8808

Key Information: The following is a short summary of this study to help you decide whether or not to be a part of this study. As a participant, you will be enrolled in a 5-week online program that will involve watching videos, answering questions, and reading about emotion regulation. There will be short (5-10 minute) exercises to complete four days of every week. To better understand how well this program is working, we will ask you to complete longer surveys (about 15-60 minutes) at the beginning, middle, and end of the program, and three months after finishing the program. All told, study participation is expected to take about 7 to 8 ½ hours across all of these activities. More detailed information is listed later on in this form. The purpose of this research study is to develop and evaluate the feasibility of a new prevention program to promote adjustment and well-being in college students. Brief Emotion Regulation Training (BERT) is a 5-week prevention program comprised of an online orientation, daily information and activities to train emotion regulation, weekly psychological functioning assessments, and feedback. This program will be conducted entirely online. The results of this study may be published and will be used for a dissertation project.

Detailed Information: The following is more detailed information about this study in addition to the information listed above.

Who can I talk to?
If you have questions, concerns, or complaints, or think the research has hurt you, talk to the research team by notifying Alyssa Gatto, the study coordinator, at BERTstudyVT@gmail.com. This research has been reviewed and approved by the Virginia Tech Institutional Review Board (IRB). You may communicate with them at 540-231-3732 or irb@vt.edu if:

- You have questions about your rights as a research subject
- Your questions, concerns, or complaints are not being answered by the research team
- You cannot reach the research team
- You want to talk to someone besides the research team to provide feedback about this research
- How many people will be studied?
- We plan to include about 50 college students in this phase of the research study.

What happens if I say yes, I want to be in this research?
If you agree to participate in this research, you will be completing a program entirely online. With your consent, you will be contacted daily for 5 weeks, receiving notifications to your phone and via email to complete brief surveys and short activities. In order for us to best assess the effectiveness of this program, there will also be three main surveys that you will complete for us to assess any changes in emotion regulation. Additionally, we will contact you three months after the program is completed to see if you sustained these changes in emotion regulation.
<table>
<thead>
<tr>
<th>Component</th>
<th>Duration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Survey</td>
<td>30 – 60 minutes</td>
<td>At the start of the program you will complete a survey about emotion regulation and psychological functioning, so we can get a baseline for change in the program.</td>
</tr>
<tr>
<td>Emotion Regulation Orientation</td>
<td>30 minutes</td>
<td>After completing the initial survey, you will complete an interactive orientation online.</td>
</tr>
<tr>
<td>Daily Emotion Measurement</td>
<td>1-3 minutes</td>
<td>Each day of the week you will receive a notification at 12pm to report on your current emotional state.</td>
</tr>
<tr>
<td>Weekly Content</td>
<td>5-10 minutes</td>
<td>You will receive a notification to complete activities designed to build emotion regulation skills Monday through Thursday for 5 weeks.</td>
</tr>
<tr>
<td>Midpoint Survey</td>
<td>20 – 45 minutes</td>
<td>At the start of Week 3, you will complete a survey that contains some of the measures from the initial survey.</td>
</tr>
<tr>
<td>Final Survey</td>
<td>30 – 60 minutes</td>
<td>At the end of Week 5 you will complete a survey that contains the measures from the initial survey to assess any changes from baseline plus some questions asking your thoughts about BERT.</td>
</tr>
<tr>
<td>Follow-Up</td>
<td>15 – 45 minutes</td>
<td>3-months after program completion, you will be contacted to complete a survey to see if you maintained any changes in emotion regulation gained after completing BERT.</td>
</tr>
<tr>
<td>Total Time</td>
<td>7 – 8.5 hours</td>
<td>The anticipated amount of time it will take you to complete all of this.</td>
</tr>
</tbody>
</table>

**What happens if I say yes, but I change my mind later?**

You can leave the research at any time, for any reason, and it will not be held against you. If you decide to leave the research, you will only receive partial compensation, and your data will be retained unless you request that we delete it. If you decide to leave the research, contact the investigator so that the investigator can provide you with half of the allocated compensation through the next survey. At that time, the investigator will provide a link to an optional exit survey to better understand why you are leaving the study. This survey is not required to receive compensation, though it will help us ensure that BERT is the best it can be.

**Is there any way being in this study could be bad for me? (Detailed Risks)**

Participating in BERT will involve reporting on emotions, stressful experiences, and psychological functioning. Because of this, there is potential psychological risk due to reminders of stressful or difficult experiences or discomfort with questions. Any such reminders of difficult or stressful experiences would be no worse than viewing media, talking with coworkers/peers, or other daily experiences. If any questions are too distressing, you can stop the program at any time. All participants will be provided information regarding local psychological resources. Also,
this program is administered entirely online and can be completed anywhere. Though the Qualtrics platform keeps your information secure and private, if you do not complete the material in a confidential space (e.g., private room) we cannot ensure that the information will remain private. There is direct benefit to others for completing this survey because it will inform the implementation of a cost-effective mental health intervention. You are free to withdraw from this study at any time.

**What happens to the information collected for the research?**
We will make every effort to limit the use and disclosure of your personal information, including research study records, only to people who have a need to review this information. We cannot promise complete confidentiality. Organizations that may inspect and copy your information include the IRB, Human Research Protection Program, and other authorized representatives of Virginia Tech.

If identifiers are removed from your private information collected during this research, that information could be used for future research studies or distributed to another investigator for future research studies without your additional informed consent.

The results of this research study may be presented in summary form at conferences, in presentations, reports to the sponsor, academic papers, and as part of a dissertation. Results will be written up for submission to a scholarly peer-reviewed journal and data, code and codebooks will be archived with appropriate privacy protections at the Inter-university Consortium for Political and Social Research (ICPSR), the premier social science data archive. BERT program description and implementation information will be disseminated to interested colleges and universities.

**Can I be removed from the research without my OK?**
The person in charge of the research study can remove you from the research study without your approval. Possible reasons for removal include a survey response pattern indicating items are not being read or engagement in less than 20% of program content. If this occurs, the investigators will contact you to notify you of concerns about possible lack of engagement with survey items or program content. If responding continues in this way, you will then be removed from the study. We will tell you about any new information that might affect your health, welfare, or choice to stay in the research.

**What else do I need to know?**
This research is being funded by the Thomas H. Ollendick Ph.D. and Mary Catherine Haley Ollendick Graduate Fellowship in Clinical Child Psychology and by a Mini-SEAD grant from the Virginia Tech Institute for Creativity, Arts, and Technology.

If during the course of this study, we find that you are reporting significant psychological distress, we will provide you with a list of potential resources and will offer to meet with you to recommend further resources. Any expenses accrued for seeking or receiving medical or mental health treatment will be your responsibility and not that of the research project, research team, or Virginia Tech.
If you agree to take part in this research study, we will compensate you $10 for completing the program and the initial, midpoint, and final surveys. Compensation will be provided in the form of an Amazon electronic gift card that you will receive via email within two business weeks of completing the final survey. If you are enrolled in a class offering extra credit for research participation, you may instead choose to receive 5 SONA extra credit points. If you complete the follow-up survey, we will compensate you with an additional $5 Amazon electronic gift card that you will receive via email within two business weeks of completing the follow-up survey.

Your de-identified information might be used to create products or to deliver services, including some that may be sold and/or make money for others. If this happens, there are no plans to tell you, or to pay you, or to give any compensation to you or your family. We will offer to share information about the final BERT program with you. You may accept or decline this offer.

The following questions are to ensure that you understand what you are consenting to. Please provide your initials if you agree with the following statements.

- I understand that this is a 5-week program, and I will be contacted every day for 5 weeks.
- I understand that I can leave the study at any time by informing the study coordinator at BERTstudyVT@gmail.com.
- I understand that I will receive compensation in the form of a $10 Amazon gift card if I complete the initial, midpoint, and final surveys.
- I understand that I will be contacted 3 months after the study ends for a brief follow-up survey. I understand that participation in this survey will be optional, and that I will receive compensation in the form of an additional $5 Amazon gift card if I complete it.

We appreciate your input and thank you for your time and help in this study! By typing your initials below and continuing with the survey, you will be providing your consent to participate in the BERT research study.
Appendix L

Initial Survey

The following information will be used to provide personalized feedback throughout the program:

Email (required for program participation): ___________

First name (or nickname): _______
Preferred Gender pronouns:
  a. She/her/hers
  b. He/him/his
  c. They/them
  d. Other (please specify) ____

The following questions will ask you about how you are feeling, thinking, and interacting with the world around you. Try answer each question honestly and to the best of your ability.

Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004)

Please indicate how often the following statements apply to you by writing the appropriate number from the scale below on the line beside each item.

1. I am clear about my feelings.
2. I pay attention to how I feel.
3. I experience my emotions as overwhelming and out of control.
4. I have no idea how I am feeling.
5. I have difficulty making sense out of my feelings.
6. I am attentive to my feelings.
7. I know exactly how I am feeling.
8. I care about what I am feeling.
9. I am confused about how I feel.
10. When I’m upset, I acknowledge my emotions.
11. When I’m upset, I become angry with myself for feeling that way.
12. When I’m upset, I become embarrassed for feeling that way.
13. When I’m upset, I have difficulty getting work done.
14. When I’m upset, I become out of control.
15. When I’m upset, I believe that I will remain that way for a long time.
16. When I’m upset, I believe that I will end up feeling very depressed.
17. When I’m upset, I believe that my feelings are valid and important.
18. When I’m upset, I have difficulty focusing on other things.
19. When I’m upset, I feel out of control.
20. When I’m upset, I can still get things done.
21. When I’m upset, I feel ashamed at myself for feeling that way.
22. When I’m upset, I know that I can find a way to eventually feel better.
23. When I’m upset, I feel like I am weak.
24. When I’m upset, I feel like I can remain in control of my behaviors.
25. When I’m upset, I feel guilty for feeling that way.
26. When I’m upset, I have difficulty concentrating.
27. When I’m upset, I have difficulty controlling my behaviors.
28. When I’m upset, I believe there is nothing I can do to make myself feel better.
29. When I’m upset, I become irritated at myself for feeling that way.
30. When I’m upset, I start to feel very bad about myself.
31. When I’m upset, I believe that wallowing in it is all I can do.
32. When I’m upset, I lose control over my behavior.
33. When I’m upset, I have difficulty thinking about anything else.
34. When I’m upset I take time to figure out what I’m really feeling.
35. When I’m upset, it takes me a long time to feel better.
36. When I’m upset, my emotions feel overwhelming.

Emotion Regulation Questionnaire (ERQ; Gross & John, 2003)

We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer using the following scale:

Measured on a 7-point Likert scale

1 Strongly Agree
4 Neutral
7 Strongly Agree

1. When I want to feel more positive emotion (such as joy or amusement), I change what I’m thinking about.
2. I keep my emotions to myself.
3. When I want to feel less negative emotion (such as sadness or anger), I change what I’m thinking about.
4. When I am feeling positive emotions, I am careful not to express them.
5. When I’m faced with a stressful situation, I make myself think about it in a way that helps me stay calm.
6. I control my emotions by not expressing them.
7. When I want to feel more positive emotion, I change the way I’m thinking about the situation.
8. I control my emotions by changing the way I think about the situation I’m in.
9. When I am feeling negative emotions, I make sure not to express them.
10. When I want to feel less negative emotion, I change the way I’m thinking about the situation.

Depression Anxiety and Stress Scale-21 (DASS-21; Lovibond & Lovibond, 1995)

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement. The rating scale is as follows:

0 Did not apply to me at all - NEVER
1 Applied to me to some degree, or some of the me - SOMETIMES
2 Applied to me to a considerable degree, or a good part of me - OFTEN
3 Applied to me very much, or most of the me - ALMOST ALWAYS

1. I found it hard to wind down.
2. I was aware of dryness of my mouth.
3. I couldn’t seem to experience any positive feeling at all.
4. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion).
5. I found it difficult to work up the initiative to do things.
6. I tended to over-react to situations.
7. I experienced trembling (e.g., in the hands).
8. I felt that I was using a lot of nervous energy.
9. I was worried about situations in which I might panic and make a fool of myself.
10. I felt that I had nothing to look forward to.
11. I found myself getting agitated.
12. I found it difficult to relax.
13. I felt down-hearted and blue.
14. I was intolerant of anything that kept me from getting on with what I was doing.
15. I felt I was close to panic.
16. I was unable to become enthusiastic about anything.
17. I felt I wasn’t worth much as a person.
18. I felt that I was rather touchy.

19. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat)

20. I felt scared without any good reason.

21. I felt that life was meaningless.

Weekly Brief Adjustment Scale-6 (BASE-6; Cruz, Peterson, Fagan, Black, & Cooper, 2019)

Thinking back on the week, tell us about how you have been feeling.

Items are rated on a 7-point Likert scale
   1 Not at all
   4 Somewhat
   7 Extremely

1. To what extent have you felt irritable, angry, and/or resentful this week?
2. To what extent have you felt tense, anxious, and/or afraid this week?
3. To what extent have you felt unhappy, discouraged, and/or depressed this week?
4. How much has emotional distress interfered with feeling good about yourself this week?
5. How much has emotional distress interfered with your relationships this week?
6. How much has emotional distress interfered with your ability to perform at work, school, etc., this week?

World Health Organization Quality of Life-Brief (WHOQOL-BREF; WHO, 1998)

This assessment asks how you feel about your quality of life, health, or other areas of your life. Please answer all the questions. If you are unsure about which response to give to a question, please choose the one that appears most appropriate. This can often be your first response. Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life in the last five weeks.

1. How would you rate your quality of life?
   1. Very poor
   2. Poor
   3. Neither poor nor good
   4. Good
   5. Very good
2. How satisfied are you with your health?
   1. Very dissatisfied
The following questions ask about how much you have experienced certain things in the last five weeks.

3. To what extent do you feel that physical pain prevents you from doing what you need to do?
   5. Not at all
   4. A little
   3. A moderate amount
   2. Very much
   1. An extreme amount

4. How much do you need any medical treatment to function in your daily life?
   5. Not at all
   4. A little
   3. A moderate amount
   2. Very much
   1. An extreme amount

5. How much do you enjoy life?
   1. Not at all
   2. A little
   3. A moderate amount
   4. Very much
   5. An extreme amount

6. To what extent do you feel your life to be meaningful?
   1. Not at all
   2. A little
   3. A moderate amount
   4. Very much
   5. An extreme amount

7. How well are you able to concentrate?
   1. Not at all
   2. A little
   3. A moderate amount
   4. Very much
   5. Extremely

8. How safe do you feel in your daily life?
   1. Not at all
   2. A little
   3. A moderate amount
   4. Very much
   5. Extremely

9. How healthy is your physical environment?
1. Not at all
2. A little
3. A moderate amount
4. Very much
5. Extremely

The following questions ask about how completely you experience or were able to do certain things in the last five weeks.

10. Do you have enough energy for everyday life?
   1. Not at all
   2. A little
   3. Moderately
   4. Mostly
   5. Completely

11. Are you able to accept your bodily appearance?
   1. Not at all
   2. A little
   3. Moderately
   4. Mostly
   5. Completely

12. Have you enough money to meet your needs?
   1. Not at all
   2. A little
   3. Moderately
   4. Mostly
   5. Completely

13. How available to you is the information that you need in your day-to-day life?
   1. Not at all
   2. A little
   3. Moderately
   4. Mostly
   5. Completely

14. To what extent do you have the opportunity for leisure activities?
   1. Not at all
   2. A little
   3. Moderately
   4. Mostly
   5. Completely

15. How well are you able to get around?
   1. Very poor
   2. Poor
   3. Neither poor nor good
   4. Good
   5. Very good

16. How satisfied are you with your sleep?
   1. Very dissatisfied
2. Dissatisfied
3. Neither satisfied nor dissatisfied
4. Satisfied
5. Very satisfied

17. How satisfied are you with your ability to perform your daily living activities?
   1. Very dissatisfied
   2. Dissatisfied
   3. Neither satisfied nor dissatisfied
   4. Satisfied
   5. Very satisfied

18. How satisfied are you with your capacity for work?
   1. Very dissatisfied
   2. Dissatisfied
   3. Neither satisfied nor dissatisfied
   4. Satisfied
   5. Very satisfied

19. How satisfied are you with yourself?
   1. Very dissatisfied
   2. Dissatisfied
   3. Neither satisfied nor dissatisfied
   4. Satisfied
   5. Very satisfied

20. How satisfied are you with your personal relationships?
   1. Very dissatisfied
   2. Dissatisfied
   3. Neither satisfied nor dissatisfied
   4. Satisfied
   5. Very satisfied

21. How satisfied are you with your sex life?
   1. Very dissatisfied
   2. Dissatisfied
   3. Neither satisfied nor dissatisfied
   4. Satisfied
   5. Very satisfied

22. How satisfied are you with the support you get from your friends?
   1. Very dissatisfied
   2. Dissatisfied
   3. Neither satisfied nor dissatisfied
   4. Satisfied
   5. Very satisfied

23. How satisfied are you with the conditions of your living place?
   1. Very dissatisfied
   2. Dissatisfied
   3. Neither satisfied nor dissatisfied
   4. Satisfied
   5. Very satisfied
24. How satisfied are you with your access to health services?
   1. Very dissatisfied
   2. Dissatisfied
   3. Neither satisfied nor dissatisfied
   4. Satisfied
   5. Very satisfied

25. How satisfied are you with your transport?
   1. Very dissatisfied
   2. Dissatisfied
   3. Neither satisfied nor dissatisfied
   4. Satisfied
   5. Very satisfied

The following question refers to how often you have felt or experienced certain things in the last five weeks.

26. How often do you have negative feeling such as blue mood, despair, anxiety, depression?
   5. Never
   4. Seldom
   3. Quite often
   2. Very often
   1. Always

Thriving Scale (Porath, Spreitzer, Gibson, & Garnett, 2012)
Please rate how much you agree with the following statements considering your experience over the past week:
   7 - Strongly agree
   6 - Agree
   5 - Slightly agree
   4 - Neither agree nor disagree
   3 - Slightly disagree
   2 - Disagree
   1 - Strongly disagree

(Learning)
   1. I find myself learning often
   2. I continue to learn more and more as time goes by
   3. I see myself continually improving
   4. I am not learning
   5. I have developed a lot as a person

(Vitality)
   6. I feel alive and vital
   7. I have energy and spirit
   8. I do not feel very energetic
   9. I feel alert and awake
   10. I am looking forward to each day
Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985)

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

7 - Strongly agree
6 - Agree
5 - Slightly agree
4 - Neither agree nor disagree
3 - Slightly disagree
2 - Disagree
1 - Strongly disagree

1. In most ways my life is close to my ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far I have gotten the important things I want in life.
5. If I could live my life over, I would change almost nothing.

modified Differential Emotions Scale (mDES; Fredrickson, Tugade, Waugh, & Larkin, 2003)

Please think about how you are feeling IN THIS MOMENT. Using the 0-4 scale below, indicate the amount that you’re experiencing each of the following feelings.

0 = Not at all
1 = A little bit
2 = Moderately
3 = Quite a bit
4 = Extremely

1. Amused/fun-loving/silly
2. Angry/irritated/annoyed
3. Ashamed/humiliated/disgraced
4. Awe/wonder/amazement
5. Contemptuous/scornful/disdainful
6. Disgust/distaste/revulsion
7. Embarrassed/self-conscious/blushing
8. Grateful/appreciative/thankful
9. Guilty/repentant/blameworthy
10. Hate/distrust/suspicion
11. Hopeful/optimistic/encouraged
12. Inspired/uplifted/elevated
13. Interested/alert/curious
14. Joyful/glad/happy
15. Love/closeness/trust
16. Proud/confident/self-assured
17. Sad/downhearted/unhappy
18. Scared/fearful/afraid
19. Serene/content/peaceful
20. Stressed/nervous/overwhelmed

Rate your overall stress level with 0 being no stress and 10 being extremely stressed: ______

Risky Behavior Questions

1. Last semester, have you experienced the following when drinking alcohol:
   - Did something you later regretted
   - Forgot where you were or what you did
   - Got in legal trouble
   - Had unprotected sex
   - Were in a risky sexual situation
   - Got into a physical fight
   - Got into a verbal fight
   - Seriously contemplated suicide

2. Last semester, with how many different sexual partners have you had oral sex, vaginal intercourse, or anal intercourse: (Enter 0 if you have not had a sex partner within the last 12 months)
   - Screen out for following questions if score is 0

3. Last month, how often did you or your partner use a condom or other protective barrier (e.g., male condom, female condom, dam) during:
   - Oral Sex
   - Vaginal Sex
   - Anal Sex

4. Last semester, have you or your partner(s) used emergency contraception ("morning after pill")
   - No
   - Yes
   - Don’t know

5. Last semester, have you or your partner(s) become pregnant?
   - No
   - Yes, unintentionally
   - Yes, intentionally
   - Don’t know

Psychological History

1. Have you ever received psychological or mental health services from any of the following? (Select all that apply)
   - Counselor/Therapist/Psychologist/Psychiatrist
1. Have you ever been diagnosed or treated by a professional for any of the following (select all that apply):
   - Anxiety disorders (e.g., generalized anxiety, social anxiety, panic attacks, phobias)
   - ADHD
   - OCD
   - Eating disorders (e.g., bulimia, anorexia)
   - Depression
   - Sleep disorder (e.g., insomnia)
   - PTSD
   - Substance abuse or addiction
   - Other mental health condition (please specify) __________

2. Are you currently being treated by a professional for any of the following (select all that apply):
   - Anxiety disorders (e.g., generalized anxiety, social anxiety, panic attacks, phobias)
   - ADHD
   - OCD
   - Eating disorders (e.g., bulimia, anorexia)
   - Depression
   - Sleep disorder (e.g., insomnia)
   - PTSD
   - Substance abuse or addiction
   - Other mental health condition (please specify) __________

General Help Seeking Question

If you were having a personal or emotional problem, how likely is it that you would seek help from the following people? Please indicate your response by selecting the number that best describes your intention to seek help from each help source that is listed.

1 = Extremely Unlikely 3 = Unlikely 5 = Likely 7 = Extremely Likely

a. Intimate partner (e.g., partner, girlfriend, boyfriend, husband, wife, de’ facto)
   - 
   - 
   - 
   - 
   - 
   - 

b. Friend (not related to you)
   - 
   - 
   - 
   - 
   - 
   - 

c. Parent
   - 
   - 
   - 
   - 
   - 
   - 

d. Other relative/family member
   - 
   - 
   - 
   - 
   - 
   - 

e. Mental health professional (e.g. psychologist, social worker, counsellor)
   - 
   - 
   - 
   - 
   - 
   - 

f. Phone helpline (e.g. Lifeline)
g. Doctor/GP

h. Minister or religious leader (e.g. Priest, Rabbi, Chaplain)

i. I would not seek help from anyone

j. I would seek help from another not listed above (please list in the space provided, (e.g., work colleague. If no, leave blank) ________________________________

Please answer the following questions to help us better understand who you are:

1. What is your age?
2. What gender identification best describes you?
   a. Female
   b. Male
   c. Trans female
   d. Trans male
   e. Other identity (please specify) ______
   f. Prefer not to answer

3. Sexual Orientation
   a. Heterosexual
   b. Homosexual
   c. Bisexual
   d. Gay
   e. Lesbian
   f. Queer
   g. Other identity
   h. Don’t Know
   i. Prefer not to answer

4. Race (select all that apply)
   a. American Indian or Alaskan Native
   b. Asian
   c. Black or African American
   d. Native Hawaiian or Other Pacific Islander
   e. White
   f. Other (please specify) ______

5. Do you identify as Hispanic or Latino/a/x?

6. Indicate total years of undergraduate classes completed (include time at Virginia Tech and other universities):
   a. Less than 1 year (freshman)
   b. 1 year (sophomore)
   c. 2 years
d. 3 years  
e. 4 years  
f. 5 or more years  

7. Are you a transfer student?  
a. If yes: how many years of college did you complete before transferring to Virginia Tech?  

8. Please select your enrollment status for Spring 2020:  
a. Part-time  
b. Full-time  

9. Think of a ladder with 10 steps representing where people stand in the United States. At step 10 are people who are the best off – those who have the most money, the most education, and the most respected jobs. At step 1 are the people who are worst off – those who have the least money, least education, and the least respected jobs or no job. Where would you place yourself on this ladder?  

10. Are you currently employed?  
a. If Yes, how many hours do you work per week?  
   i. 0-9  
   ii. 10-19  
   iii. 20-29  
   iv. 29-30  
   v. 30-39  
   vi. 40+  

11. Who is responsible for paying for college?  
a. You  
b. Parents  
c. Other family member (please specify) ______  
d. Other (please specify) _______  

12. Do you receive financial aid?  
a. Yes  
b. No  

13. On average, how often do you exercise in a week  
a. Never  
b. Once a week  
c. 2-3 times  
d. 4-5 times  
e. 6 or more times  

14. What kind of exercise do you engage in? Please describe: _______  

15. Would you say that you are physically more active, less active, or about as active as other persons your age?  
a. More active  
b. Less active  
c. Same  
d. Other (specify) _____  

16. How much control do you think YOU have over your future health?  
a. A great deal of control
b. Some control
    c. Very little control
    d. None at all

17. How do you describe your weight?
    a. Very underweight
    b. Slightly underweight
    c. About the right weight
    d. Slightly overweight
    e. Very overweight

18. Are you trying to do any of the following about your weight?
    a. I am not trying to do anything about my weight
    b. Stay the same weight
    c. Lose weight
    d. Gain weight

19. Do you have any chronic medical conditions (e.g., asthma, migraines, high cholesterol)?
    Please list: ______________
BRIEF EMOTION REGULATION TRAINING

Appendix M

Midpoint Survey

The following questions will ask you about how you are feeling, thinking, and interacting with the world around you. Try answer each question honestly and to the best of your ability.

Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004)

Please indicate how often the following statements apply to you by writing the appropriate number from the scale below on the line beside each item.

6  Almost never (0-10%)
7  Sometimes (11-35%)
8  About half the time (36-65%)
9  Most of the time (66-90%)
10 Almost always (91-100%)

1. I am clear about my feelings.
2. I pay attention to how I feel.
3. I experience my emotions as overwhelming and out of control.
4. I have no idea how I am feeling.
5. I have difficulty making sense out of my feelings.
6. I am attentive to my feelings.
7. I know exactly how I am feeling.
8. I care about what I am feeling.
9. I am confused about how I feel.
10. When I’m upset, I acknowledge my emotions.
11. When I’m upset, I become angry with myself for feeling that way.
12. When I’m upset, I become embarrassed for feeling that way.
13. When I’m upset, I have difficulty getting work done.
14. When I’m upset, I become out of control.
15. When I’m upset, I believe that I will remain that way for a long time.
16. When I’m upset, I believe that I will end up feeling very depressed.
17. When I’m upset, I believe that my feelings are valid and important.
18. When I’m upset, I have difficulty focusing on other things.
19. When I’m upset, I feel out of control.
20. When I’m upset, I can still get things done.
21. When I’m upset, I feel ashamed at myself for feeling that way.
22. When I’m upset, I know that I can find a way to eventually feel better.
23. When I’m upset, I feel like I am weak.
24. When I’m upset, I feel like I can remain in control of my behaviors.
25. When I’m upset, I feel guilty for feeling that way.
26. When I’m upset, I have difficulty concentrating.
27. When I’m upset, I have difficulty controlling my behaviors.
28. When I’m upset, I believe there is nothing I can do to make myself feel better.
29. When I’m upset, I become irritated at myself for feeling that way.
30. When I’m upset, I start to feel very bad about myself.
31. When I’m upset, I believe that wallowing in it is all I can do.
32. When I’m upset, I lose control over my behavior.
33. When I’m upset, I have difficulty thinking about anything else.
34. When I’m upset I take time to figure out what I’m really feeling.
35. When I’m upset, it takes me a long time to feel better.
36. When I’m upset, my emotions feel overwhelming.

Emotion Regulation Questionnaire (ERQ; Gross & John, 2003)

We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer using the following scale:

Measured on a 7-point Likert scale
1 Strongly Agree
4 Neutral
7 Strongly Agree

1. When I want to feel more positive emotion (such as joy or amusement), I change what I’m thinking about.
2. I keep my emotions to myself.
3. When I want to feel less negative emotion (such as sadness or anger), I change what I’m thinking about.
4. When I am feeling positive emotions, I am careful not to express them.
5. When I’m faced with a stressful situation, I make myself think about it in a way that helps me stay calm.
6. I control my emotions by not expressing them.
7. When I want to feel more positive emotion, I change the way I’m thinking about the situation.
8. I control my emotions by changing the way I think about the situation I’m in.
9. When I am feeling negative emotions, I make sure not to express them.
10. When I want to feel less negative emotion, I change the way I’m thinking about the situation.

Depression Anxiety and Stress Scale-21 (DASS-21; Lovibond & Lovibond, 1995)

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much me on any statement. The rating scale is as follows:

0 Did not apply to me at all - NEVER
1 Applied to me to some degree, or some of the me - SOMETIMES
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2 Applied to me to a considerable degree, or a good part of me - OFTEN
3 Applied to me very much, or most of the me - ALMOST ALWAYS

1. I found it hard to wind down.
2. I was aware of dryness of my mouth.
3. I couldn’t seem to experience any positive feeling at all.
4. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion).
5. I found it difficult to work up the initiative to do things.
6. I tended to over-react to situations.
7. I experienced trembling (e.g., in the hands).
8. I felt that I was using a lot of nervous energy.
9. I was worried about situations in which I might panic and make a fool of myself.
10. I felt that I had nothing to look forward to.
11. I found myself getting agitated.
12. I found it difficult to relax.
13. I felt down-hearted and blue.
14. I was intolerant of anything that kept me from getting on with what I was doing.
15. I felt I was close to panic.
16. I was unable to become enthusiastic about anything.
17. I felt I wasn’t worth much as a person.
18. I felt that I was rather touchy.
19. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat)
20. I felt scared without any good reason.
21. I felt that life was meaningless.

Weekly Brief Adjustment Scale-6 (BASE-6; Cruz, Peterson, Fagan, Black, & Cooper, 2019)
Thinking back on the week, tell us about how you have been feeling.

Items are rated on a 7-point Likert scale
1. Not at all
4. Somewhat
7. Extremely

1. To what extent have you felt irritable, angry, and/or resentful this week?
2. To what extent have you felt tense, anxious, and/or afraid this week?
3. To what extent have you felt unhappy, discouraged, and/or depressed this week?
4. How much has emotional distress interfered with feeling good about yourself this week?
5. How much has emotional distress interfered with your relationships this week?
6. How much has emotional distress interfered with your ability to perform at work, school, etc., this week?

Thriving Scale (Porath, Spreitzer, Gibson, & Garnett, 2012)
Please rate how much you agree with the following statements considering your experience over the past week:

(Learning)
1. I find myself learning often
2. I continue to learn more and more as time goes by
3. I see myself continually improving
4. I am not learning
5. I have developed a lot as a person

(Vitality)
6. I feel alive and vital
7. I have energy and spirit
8. I do not feel very energetic
9. I feel alert and awake
10. I am looking forward to each day

Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985)
Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

7 - Strongly agree
6 - Agree
5 - Slightly agree
4 - Neither agree nor disagree
3 - Slightly disagree
2 - Disagree
1 - Strongly disagree

1. In most ways my life is close to my ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far, I have gotten the important things I want in life.
5. If I could live my life over, I would change almost nothing.

Self-Monitoring Questions
1. Did you meet your goal of ______ (goal repopulates from the previous week)?
2. How often did you apply what you’ve learned in this program in the past week?
   - Never
   - Rarely - once or twice
   - Sometimes – three or four times
   - Often – about once a day
   - Very often – multiple times a day
3. BASE-6: Thinking back on the week, tell us about how you have been feeling.
   - To what extent have you felt irritable, angry, and/or resentful this week?
   - To what extent have you felt tense, anxious, and/or afraid this week?
   - To what extent have you felt unhappy, discouraged, and/or depressed this week?
   - How much has emotional distress interfered with feeling good about yourself this week?
   - How much has emotional distress interfered with your relationships this week?
   - How much has emotional distress interfered with your ability to perform at work, school, etc., this week?
4. Vitality Scale: Please rate how much you agree with the following statements considering your experience over the past week.
   - I felt alive and vital
   - I had energy and spirit
   - I did not feel very energetic
   - I felt alert and awake
   - I looked forward to each new day
5. How many times have you used a substance (e.g., alcohol, marijuana, cocaine) in the past week? If answer is 1 or more the following questions will appear:
   - How many times have you blacked out from substance use in the past week?
   - How many times you have regretted your behavior while under the influence (e.g., unprotected sex, public urination, interpersonal conflicts) in the past week?
6. How many days have you exercised (for more than 30 minutes) in the past week?
   - 1, 2, 3, 4, 5, 6, 7 days
7. On average, how much have you slept per night in the past week?
1-3 hours
3-6
6-7
7-8
8-9
9-10
10+

8. Has any extremely stressful event occurred in the past week? Y/N If answer is yes, the following question will appear:
   ▪ Have you sought out additional support for this problem? Y/N If answer is yes the following question will appear:
     ▪ From whom did you receive help, select all that apply:
       □ Friends
       □ Family
       □ Religious Group
       □ University Staff
       □ Counselor
       □ Medical Provider
       □ Other

9. What is your main goal for the upcoming week?
Final Survey

The following includes the COVID-19 scales and BERT attitudes questionnaire that will be added to the initial survey to complete the final survey. *Items that were added as a result of the focus group feedback.


**Perceived Coronavirus Threat Questionnaire (Short)**
1. Thinking about the coronavirus (COVID-19) makes me feel threatened.
2. I am afraid of the coronavirus (COVID-19).
3. I am stressed around other people because I worry I’ll catch the coronavirus (COVID-19).

**Coronavirus Impacts Questionnaire (Short)**

**Financial Scale**
1. The Coronavirus (COVID-19) has impacted me negatively from a financial point of view.
2. I have lost job-related income due to the Coronavirus (COVID-19).

**Resource Scale**
1. I have had a hard time getting needed resources (food, toilet paper) due to the Coronavirus (COVID-19).
2. It has been difficult for me to get the things I need due to the Coronavirus (COVID-19).

**Psychological Scale**
1. I have become depressed because of the Coronavirus (COVID-19).
2. The Coronavirus (COVID-19) outbreak has impacted my psychological health negatively.

**Coronavirus Experiences Questionnaire (Short)**

**Personal Diagnoses/Symptoms Scale**
1. I have been diagnosed with coronavirus (COVID-19).
2. I have had coronavirus-like symptoms at some point in the last two months.
3. I have been sick with something other than the coronavirus in the last two months.

**Proximity to Others Scale**
1. I have been in close proximity with someone who has been diagnosed with coronavirus (COVID-19).
2. I have been in close proximity with someone who has had coronavirus-like symptoms in the last two months.

**News Scale**
1. I watch a lot of news about the Coronavirus (COVID-19).
2. I spend a huge percentage of my time trying to find updates online or on TV about Coronavirus (COVID-19).
Follow-Up Attitudes Questions

The following questions refer to the 30-minute orientation you completed at the start of the program:

1. The orientation provided information that was new to me.
   a. Completely Agree
   b. Agree
   c. Somewhat Agree
   d. Neutral
   e. Somewhat Disagree
   f. Disagree
   g. Completely Disagree

2. The information provided was unhelpful.
   a. Completely Agree
   b. Agree
   c. Somewhat Agree
   d. Neutral
   e. Somewhat Disagree
   f. Disagree
   g. Completely Disagree

3. The orientation took an appropriate amount of time.
   a. Completely Agree
   b. Agree
   c. Somewhat Agree
   d. Neutral
   e. Somewhat Disagree
   f. Disagree
   g. Completely Disagree

4. The weekly training would be acceptable without this orientation.
   a. Completely Agree
   b. Agree
   c. Somewhat Agree
   d. Neutral
   e. Somewhat Disagree
   f. Disagree
   g. Completely Disagree

5. How difficult was it to complete this orientation?
   a. Very Difficult
   b. Difficult
   c. Somewhat Difficult
   d. Neutral
   e. Somewhat Easy
   f. Easy
   g. Very Easy
6. Do you feel that the orientation was helpful?
   a. Very Helpful
   b. Helpful
   c. Somewhat Helpful
   d. Neutral
   e. Somewhat Unhelpful
   f. Unhelpful

7. How long would this orientation ideally take, provide your answer in minutes: ________

The following questions refer to the daily activities you completed at the start of the program:

1. How difficult was it to complete the daily activities?
   a. Very Difficult
   b. Difficult
   c. Somewhat Difficult
   d. Neutral
   e. Somewhat Easy
   f. Easy
   g. Very Easy

2. Week 1 “To do or not to do” focused on selecting situations that are less stressful.
   a. How helpful did you find this week’s content to be?
      i. Very Helpful
      ii. Helpful
      iii. Somewhat Helpful
      iv. Neutral
      v. Somewhat Unhelpful
      vi. Unhelpful
      vii. Very Unhelpful
   b. What was most helpful from this week?
   c. What was unhelpful from this week? _______

3. Week 2 “Play it back” focused on changing a stressful situation.
   a. How helpful did you find this week’s content to be?
      i. Very Helpful
      ii. Helpful
      iii. Somewhat Helpful
      iv. Neutral
      v. Somewhat Unhelpful
      vi. Unhelpful
      vii. Very Unhelpful
   b. What was most helpful from this week?
   c. What was unhelpful from this week? _______

4. Week 3 “Seriously Pick” focused on shifting your attention away from stressful situations.
   a. How helpful did you find this week’s content to be?
      i. Very Helpful
      ii. Helpful
b. The create your own adventure activity was helpful.*
   i. Complete Agree
   ii. Agree
   iii. Somewhat Agree
   iv. Neutral
   v. Somewhat Disagree
   vi. Disagree
   vii. Completely Disagree

c. What was most helpful from this week?

d. What was unhelpful from this week? _______

5. Week 4 “Think Again” focused on changing your thoughts surrounding a stressful situation.
   a. How helpful did you find this week’s content to be?
      i. Very Helpful
      ii. Helpful
      iii. Somewhat Helpful
      iv. Neutral
      v. Somewhat Unhelpful
      vi. Unhelpful
      vii. Very Unhelpful
   b. What was most helpful from this week?
   c. What was unhelpful from this week? _______

6. Week 5 “Do Something” focused on changing your responses to a stressful situation.
   a. How helpful did you find this week’s content to be?
      i. Very Helpful
      ii. Helpful
      iii. Somewhat Helpful
      iv. Neutral
      v. Somewhat Unhelpful
      vi. Unhelpful
      vii. Very Unhelpful
   b. What was most helpful from this week?
   c. What was unhelpful from this week? _______

7. Considering the 5-weeks of activities, which one was your favorite to complete? _______

8. Did you like completing these exercises 4-days per week? Please explain: _________

9. How often would you like completing these exercises 4-days per week? Please explain: _______

10. How long would these activities ideally take, provide your answer in minutes: _________

The following questions refer to the measures you completed weekly:

1. I looked at the graphs on the BERT homepage.*
   a. Completely Agree
b. Agree
c. Somewhat Agree
d. Neutral
e. Somewhat Disagree
f. Disagree
g. Completely Disagree

2. Feedback provided from self-monitoring was useful.
   a. Completely Agree
   b. Agree
   c. Somewhat Agree
   d. Neutral
   e. Somewhat Disagree
   f. Disagree
   g. Completely Disagree

3. I discussed the feedback I received from self-monitoring with other people.
   a. Completely Agree
   b. Agree
   c. Somewhat Agree
   d. Neutral
   e. Somewhat Disagree
   f. Disagree
   g. Completely Disagree

4. How difficult was it to complete monitoring weekly?
   a. Very Difficult
   b. Difficult
   c. Somewhat Difficult
   d. Neutral
   e. Somewhat Easy
   f. Easy
   g. Very Easy

5. Do you feel that self-monitoring was helpful?
   a. Very Helpful
   b. Helpful
   c. Somewhat Helpful
   d. Neutral
   e. Somewhat Unhelpful
   f. Unhelpful
   g. Very Unhelpful

6. Did you like completing these exercises weekly? Please explain: __________

7. How often would you like these measurements to occur?

8. How long would these activities ideally take, provide your answer in minutes: __________

The following question refers to the measure you completed daily:

1. How difficult was it to complete these measures daily?
   a. Very Difficult
   b. Difficult
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c. Somewhat Difficult
d. Neutral
e. Somewhat Easy
f. Easy
g. Very Easy

2. Do you feel that daily measurement was helpful?
   a. Very Helpful
   b. Helpful
c. Somewhat Helpful
d. Neutral
e. Somewhat Unhelpful
f. Unhelpful

3. Please select any of the following that you would like to check on during the Daily Check-In:*
   a. Thoughts
   b. Behaviors

4. Did you like completing these exercises weekly? Please explain: ________

5. How often would you like these measurements to occur?

6. How long would this measurement ideally take, provide your answer in minutes: ______

The following question refers to your overall opinions about BERT:

1. I feel that BERT was helpful in improving my emotion regulation.
   a. Completely Agree
   b. Agree
c. Somewhat Agree
d. Neutral
e. Somewhat Disagree
f. Disagree
g. Completely Disagree

2. I feel that BERT helped me understand and identify my emotions.
   a. Completely Agree
   b. Agree
c. Somewhat Agree
d. Neutral
e. Somewhat Disagree
f. Disagree
g. Completely Disagree

3. I feel that BERT helped me better manage my mental health.
   a. Completely Agree
   b. Agree
c. Somewhat Agree
d. Neutral
e. Somewhat Disagree
f. Disagree
g. Completely Disagree

4. I feel that BERT helped me better understand my own mental health.
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5. I dislike how brief this program is.*
   a. Completely Agree
   b. Agree
   c. Somewhat Agree
   d. Neutral
   e. Somewhat Disagree
   f. Disagree
   g. Completely Disagree

6. I dislike the intensive nature of this program.*
   a. Completely Agree
   b. Agree
   c. Somewhat Agree
   d. Neutral
   e. Somewhat Disagree
   f. Disagree
   g. Completely Disagree

7. I feel the examples provided throughout the program were too cliché.*
   a. Completely Agree
   b. Agree
   c. Somewhat Agree
   d. Neutral
   e. Somewhat Disagree
   f. Disagree
   g. Completely Disagree

8. I found it easy to remember the concepts taught in this program.*
   a. Completely Agree
   b. Agree
   c. Somewhat Agree
   d. Neutral
   e. Somewhat Disagree
   f. Disagree
   g. Completely Disagree

9. I applied the skills learned in this program to my daily life.*
   a. Completely Agree
   b. Agree
   c. Somewhat Agree
   d. Neutral
   e. Somewhat Disagree
   f. Disagree
g. Completely Disagree
10. I paid attention and was honest when completing the program content.*
   a. Completely Agree
   b. Agree
   c. Somewhat Agree
   d. Neutral
   e. Somewhat Disagree
   f. Disagree
   g. Completely Disagree
11. I found it difficult to keep up with the demands of this program.*
   a. Completely Agree
   b. Agree
   c. Somewhat Agree
   d. Neutral
   e. Somewhat Disagree
   f. Disagree
   g. Completely Disagree
12. The wording of this program was easy to understand.*
   a. Completely Agree
   b. Agree
   c. Somewhat Agree
   d. Neutral
   e. Somewhat Disagree
   f. Disagree
   g. Completely Disagree
13. How clear was this model of emotion regulation?*
   a. Very clear
   b. Clear
   c. Neither clear nor unclear
   d. Unclear
   e. Very Unclear
14. I sought out support (e.g., friends, family, professionals) because of BERT.
   a. Completely Agree
   b. Agree
   c. Somewhat Agree
   d. Neutral
   e. Somewhat Disagree
   f. Disagree
   g. Completely Disagree
15. Would you want to attend in-person while taking this program (outside of a global pandemic)?*
   a. Yes
   b. Maybe
   c. No
16. Would you participate in an online discussion board while taking this program?*
   a. Yes
b. Maybe
   c. No
17. How likely are you to recommend BERT to someone else?
   a. Very Likely
   b. Likely
   c. Neither likely nor unlikely
   d. Unlikely
   e. Very Unlikely
18. What did you like about BERT?
19. What did you dislike about BERT?
20. Was there anything redundant or unhelpful in this program?
21. Are there any specific changes you would suggest to the program?
22. Rank each component of BERT in order of helpfulness with 1 being most helpful and 4 being least helpful:
   a. Daily Emotion Check-In
   b. Weekly Check-In
   c. Daily Exercises (Monday-Friday)
   d. Emotion Regulation Orientation (videos at start)
23. Please select each how necessary you felt each component of BERT to be.
   a. Definitely Necessary
   b. Necessary
   c. Unnecessary
   d. Definitely Unnecessary
24. Is there anything else you would like us to know?