12-1-2022

Acceptability and Feasibility of Telehealth Delivered Written Exposure Therapy with College Students

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ACCEPTABILITY AND FEASIBILITY OF TELEHEALTH DELIVERED WRITTEN EXPOSURE THERAPY WITH COLLEGE STUDENTS

by

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A Thesis Submitted in

Partial Fulfillment of the

Requirements for the degree of

Master of Science

in Psychology

at

The University of Wisconsin-Milwaukee

December 2022

ABSTRACT

ACCEPTABILITY AND FEASIBILITY OF TELEHEALTH DELIVERED WRITTEN EXPOSURE THERAPY WITH COLLEGE STUDENTS

by

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The University of Wisconsin-Milwaukee, 2022
Under the Supervision of Shawn Cahill, PhD

Full and subthreshold presentations of posttraumatic stress disorder (PTSD) are both functionally impairing and chronic. Therefore, development of feasible and acceptable treatments for both is imperative. Written Exposure Therapy (WET), a brief five-session in-person PTSD treatment, has the potential to be successfully administered accessibly via a telehealth format due to minimal therapist contact and short duration of treatment. This study explored the feasibility and acceptability of WET delivered via a telehealth format to college students experiencing posttraumatic stress symptoms.

Participants (N = 4) were college students who were impacted by at least one traumatic event and had associated posttraumatic stress symptoms and functional impairment. All participants received five sessions of telehealth delivered WET. Participants also completed interviews and/or self-report measures at baseline, interim (after the 3rd therapy session), posttreatment, and at one-month follow up. The assessments measured trauma-specific and related symptoms as well as acceptability and feasibility ratings of the program.

Data were analyzed using descriptive statistics to explore recruitment and retention, satisfaction with the treatment, technology, and working alliance. Reliable change scores were calculated to explore clinically significant changes in psychiatric symptoms.

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ACKNOWLEDGMENTS

I would like to thank my research mentor, Dr. Shawn Cahill for his help in development, implementation, and revisions of this research project. I would also like to thank him for his time in serving as the clinical supervisor and providing training on assessment of PTSD symptoms as well as exposure-based treatment principles. I would also like to thank the rest of my committee members: Dr. Christine Larson and Dr. Han Joo Lee for their time and feedback throughout the project.

Also, I am very grateful to Benjamin W. Katz, MS for serving as study therapist. Observing Ben's excellent clinical skills as they gently guided participants towards healing helped me grow as a clinician myself. I am also grateful to Joseph Censor, MS and Kathryn A. Balistreri, MS for serving as wonderful study assessors who I learned a lot from as well.

Thank you to my family and friends who encouraged me throughout this process.

Last but not least, thank you to all the individuals who took the time to participate in the study. The study would not have been possible without their time and efforts.

Acceptability and Feasibility of Telehealth Delivered Written Exposure Therapy with College Students

Both Posttraumatic Stress Disorder (PTSD) as well as subthreshold presentations of PTSD cause significant suffering and impairment. The Diagnostic and Statistical Manual of Mental Disorders (DSM-5; APA, 2013) defines a traumatic event as direct or indirect exposure to actual or threatened death, serious injury, or sexual violence (APA, 2013). There have been some modifications to the definition of a trauma from DSM-IV to DSM-5. Firstly, the DSM-5 excludes non-violent events (e.g., sudden nonviolent death of a loved one) from being classified as traumas. Secondly, DSM-5 no longer requires the presence of immediate emotional reactions to traumatic events, such as fear, helplessness, or horror, to acknowledge the diversity of reactions people may experience that fall outside of the fear category (e.g., anger, numbness). Although a variety of psychological difficulties may emerge after exposure to trauma, PTSD and acute stress disorder (ASD) are the only disorders that directly require a history of traumatic exposure as one of its diagnostic criteria.

Posttraumatic Stress Disorder (PTSD): Definition, Prevalence and Consequences

In addition to changes in the operational definition of trauma, there have been several other modifications to PTSD criteria from DSM-IV to DSM-5. An additional symptom cluster (negative alterations in cognitions and mood) was added to the three clusters present in DSM-IV. In addition, there were minor changes and expansion of some of the other clusters. The resulting DSM-5 definition of PTSD requires individuals to experience at least one event that meets criteria for a trauma as described above (criterion A). Following the traumatic event(s), individuals must experience at least one reexperiencing symptom (criterion B), at least one avoidance symptom (criterion C), at least two symptoms related to negative alterations in cognitions and mood (criterion D), and at least two symptoms related to marked alterations in arousal and reactivity (criterion E). The symptoms must be present for at least a month and cause clinically significant distress or impairment in social, occupational, or other areas of functioning (APA, 2013).

The national lifetime prevalence estimates for individuals who would meet criteria for PTSD according to DSM-IV and DSM-5 are 9.8% and 8.3% respectively, with statistically fewer individuals

meeting past year criteria for DSM-5 vs. DSM-IV PTSD (4.7% vs. 6.3%) (Kilpatrick et al., 2013). Boals et al. (2020) found that prevalence and consequences of PTSD are comparable in national and college student samples.

Full threshold PTSD is strongly linked to poor physical and psychological health outcomes. For example, PTSD is associated with mood, anxiety, substance use, and eating disorders in addition to suicidal thoughts and behaviors (APA, 2013; LeBouthillier et al., 2015). Furthermore, individuals with PTSD are more likely to experience numerous medical conditions and physical symptoms such as cardio-respiratory symptoms, gastrointestinal complaints, pain, and poor quality of sleep (Pacella, Hruska, & Delahanty, 2013). Individuals with PTSD often experience functional impairment in multiple domains of life and these impairments do not significantly differ between non-college and college samples (Boals et al., 2020).

Subthreshold PTSD: Definitions, Prevalence and Consequences

There is growing evidence that subthreshold presentations of PTSD are also functionally impairing and chronic (Zlotnick et al., 2002) and yet a uniform operational definition of subthreshold PTSD does not exist. Although the DSM-5 introduced the diagnosis, Other- Unspecified Trauma and Stressor-Related Disorders to capture subthreshold symptoms of PTSD, it does not outline specific symptoms, leaving diagnostic decision making subjective (APA, 2013). Prevalence estimates of subthreshold definitions vary depending on definitions used but are typically comparable or higher than PTSD fullthreshold rates (Brancu et al, 2016; Mota et al., 2016). Some common definitions that have been proposed are the a) *five symptom* definition, requiring at least one symptom in each category; b) *definition-1,* requiring criterion B and C as well as E OR D; c) *six plus* definition*,* requiring at least six symptoms regardless of symptom cluster; d) *majority* definition, requiring three out of the four clusters; e) *1-cluster* definition, in which full symptoms must be met for at least one cluster; and finally f) *2-cluster* definition requiring full symptoms to be met from at least two clusters (Franklin et al. 2018; McLaughlin et al. 2015).

The data is mixed regarding the optimum definition for subthreshold PTSD; however, it appears that across studies, the *majority, two-cluster, and six-plus* definitions are all associated with significantly worse outcomes than trauma-exposed controls who do not meet any subthreshold definitions. As the *two cluster* is the most liberal definition associated with impairments, it may be the most appropriate for screening purposes to ensure that all who are suffering receive care. Since PTSD impairment is marked by cognitive and behavioral avoidance of reminders of trauma, it might be most appropriate to operationalize subthreshold PTSD as the *two-cluster* definition with one of the clusters being avoidance. Overall, since both full threshold and subthreshold versions of PTSD are disabling, development of effective, acceptable treatments that cater to both is imperative.

Empirically Supported Treatments for PTSD

Two treatments that have demonstrated efficacy in treating PTSD are Prolonged Exposure (PE; Rothbaum, Foa, & Hembree., 2007) and Cognitive Processing Therapy (CPT; Resick & Schnicke, 1993). Both PE and CPT are classified as having strong research support by the APA task force (Sloan & Greenfield, 2019; Sloan & Greenfield, 2019).

PE is an exposure-based treatment which typically spans 8-15, once or twice weekly ninety-minute sessions. The first session typically begins with psychoeducation about common reactions to trauma and breathing retraining exercises. Subsequent sessions consist of in vivo exposures, which involve repeated exposure to trauma-related stimuli, as well as prolonged imaginal exposures, which involve repeatedly recounting a traumatic memory. In vivo exposures are typically assigned as homework assignments to complete between sessions, starting with the least fearful situations and working up to more fearful ones. Imaginal exposures are audio recorded during sessions and clients are assigned to listen to the recounting of the trauma each day between sessions. Following in-session imaginal exposures, therapists engage clients in unstructured processing of the exposure with the goal of cognitive and emotional meaning-making. Repeated exposure to trauma related emotions, thoughts, and situations are proposed to enable emotional processing to occur and PTSD symptoms to subside.

CPT is typically about twelve, sixty-minute sessions and places emphasis on cognitive restructuring of faulty beliefs about the self, others, the world, and why the trauma occurred. As with PE, CPT begins with psychoeducation about common reactions to trauma and PTSD symptoms. In CPT, clients are taught to examine their cognitions and emotions related to the traumatic event and to challenge maladaptive beliefs in five areas: safety, trust, power, esteem, and intimacy. Clients are also taught to identify 'stuck points', which are core beliefs that help maintain PTSD and involve cognitive distortions and replace those with balanced cognitions. Cognitive restructuring takes place through various worksheets throughout therapy and through written impact statements at the beginning and end of therapy. Therapists help clients identify and challenge stuck points through Socratic dialogue. The original version of CPT also includes elements of exposure via two written trauma accounts. Written exposure is assigned for homework in which clients are asked to write a handwritten account detailing the traumatic event in past tense. In addition to reading the accounts between sessions, clients are instructed to read the written account out loud to their therapist, who listens for stuck points. A version of CPT has been developed that omits the written trauma accounts without any evidence of decreased efficacy (Resick et al., 2008).

Substantial research has documented the efficacy of both PE and CPT in a variety of trauma samples (Watkins, Sprang, & Rothbaum, 2018), and the limited evidence on relative efficacy (Resick et al. 2012) suggests the treatments are comparable.

Application of Telehealth to Established PTSD Treatments

In the last decade, and particularly since the COVID-19 pandemic, there has been an increase in demand for telemedicine to help address common barriers to treatment (Koonin et al., 2020). Within the umbrella of telemedicine, telehealth refers to "real-time remote care via video or telephone" (Morland et al., 2017), which can be differentiated from eHealth, which is care facilitated by computers or mobile applications (Morland et al., 2017). The eHealth tools are typically used as self-management resources or adjunctive support between therapy sessions. Telehealth on the other hand involves clinician delivered psychotherapy and assessment. With the emergence of the COVID-19 pandemic, many health care

systems and private therapists shifted to telehealth formats. As a result, clinicians had the opportunity to increase their competence in delivering telehealth treatments and patients who otherwise may not have sought out telehealth treatments got exposure to this modality. Demand for telehealth treatments will likely continue.

One common telehealth modality that has been used to translate CPT and PE to telehealth formats is clinical video teleconferencing (CVT). There are two types of CVT delivery: office-based and home-based. In office-based CVT, providers and patients meet via video teleconferencing from separate health-care facilities, with the client ideally located at a clinic conveniently close to their home. In home-based CVT, the client participates in video teleconferencing from their home. Office-based CVT addresses some common barriers to accessing care such as decreasing travel time and cost. However, home-based CVT can further address barriers such as concerns about being seen in a mental health clinic, travel time, and parking barriers. Furthermore, home-based CVT offers additional benefits such as enabling clients to receive therapy in the comfort of their home, increases potential flexibility of scheduling, and facilitates family involvement in care when applicable. Overall, telehealth, particularly home-based CVT, is a potentially useful modality to increase the accessibility of psychotherapy.

Gold standard PTSD assessment (Litwack et al., 2014) and treatment protocols have been successfully adapted to CVT formats. For instance, Yuen and colleagues (2015) and Acierno and colleagues (2017) both conducted independent RCTs to examine the effectiveness of PE delivered in person compared to PE delivered via home-based CVT and observed reductions in PTSD symptoms (via both CAPS and PCL-M) from pre to post treatment timepoints, indicating that home-based CVT is non-inferior to standard in-person PE. However, while Yuen and colleagues (2015) observed comparable dropout rates between conditions (CVT: 36%; IP: 24%), Acierno and colleagues (2017) observed higher dropout rates in the home-based CVT group (33%) compared to the in-person group (19%). Morland et al. (2020) investigated the effectiveness of PE in three conditions: home-based CVT, office-based CVT and in-home-in-person PE. Similar to the prior studies, they found that reductions in PE did not differ across treatment groups, but that home-based CVT (38%) and office-based (54%) groups experienced

significantly higher dropout rates than in-person-in-home PE group (21%). Although it appears that exposure-based PTSD treatment can be effectively translated to home-based CVT formats, retention may be impacted by the change in modality.

Narrative Writing Paradigms

Over the last three decades, Narrative Writing Paradigms have been developed to help individuals efficiently process stressful events. Originally studied in samples of healthy college students (Pennebaker and Beall, 1986), successful outcomes prompted researchers to explore the potential of applying narrative writing protocols with populations experiencing clinically significant PTSD symptoms. The three most studied narrative writing protocols that require the least amount of therapeutic contact are Written Disclosure, Interapy, and Written Exposure Therapy. With brief formats and lack of between session assignments, Narrative Writing Paradigms are a potential solution to telehealth retention problems in PTSD treatments.

Written Disclosure

Written Disclosure (WD; Pennebaker and Beall, 1986), otherwise known as Expressive Writing or Structured Writing Therapy, was the first narrative writing protocol developed. Pennebaker and Beall (1986) randomly assigned 46 introductory healthy psychology students to one of four groups – three writing groups and one control group. All writing groups were instructed to write for 15 minutes on 4 separate occasions about the most distressing event they had ever experienced. Participants could write about the same or different event each session. The trauma-emotion group was instructed to focus on the feelings that came up for them in their writing, the trauma-fact group was asked to describe the upsetting experience without emotions, and the trauma-combination group wrote about both the event and the associated feelings. The control group wrote about different trivial events each session. Results indicated that those in the trauma-emotion group and trauma-combination condition experienced reductions in the number of visits to the student health center for both physical and psychological problems compared to those in the trauma-fact and control group. This study was the first to demonstrate the benefits of

narrative writing and hinted at the importance of including instructions emphasizing emotional expression.

Pennebaker's initial project inspired numerous other investigators to study and apply WD paradigms to various populations such as individuals with depression (Robertson et al., 2019; Krpan et al., 2013) and those with rheumatoid arthritis (Broderick et al., 2004; Danoff-Burg et al., 2006). Various researchers have used different doses of WD across studies, ranging from 3-5 sessions for 15-20 minutes per session, with most using the 3-session, 20-minute format. The typical writing instructions used in WD research studies ask participants to write a detailed account that includes their deepest thoughts and feelings about the stressor. As there has been considerable variability in arbitrary alterations made to the protocol across WD studies, comparisons across studies are difficult. Some researchers have attempted to investigate moderators that optimize WD outcomes and can serve as suggestions to unify protocols.

Some WD moderators that have been investigated are alterations in writing instructions, spacing of sessions, writing medium, therapist involvement, and therapeutic dose. Consistent with findings from Pennebaker and Beall (1986), Sloan et al. (2007) found that emphasizing emotional expression in WD instructions improved college student's psychological health more than when instructions emphasized insight and cognitive assimilation. Regarding writing instructions, Peñate and Bethencourt (2019) found that consistently writing about the same trauma each writing timepoint was associated with improvements in posttraumatic stress symptoms and physical health outcomes compared to writing about different traumas or a trivial topic at each timepoint. Regarding WD format, one study suggested that distributing WD sessions over 1 hour, 3 hours, or 3 days are comparably effective (Chung et al., 2008), and there appears to be no difference between handwritten and typed version outcomes (D'Ambrosio et al., 2016). Overall, research has accumulated over the years to offer guidelines on how to best set up the writing and sessions to enhance results.

Inspired by the promising findings suggesting WD's effectiveness in facilitating processing of stressful events, researchers began to focus on applying the WD paradigm to help individuals who experience clinically significant PTSD symptoms. Gidron et al. (1996) conducted the first study to test a

modified version of in-home written disclosure (WD) in a population of trauma survivors in Israel who presented with 'probable PTSD' from predominantly traffic accidents. Subjects (n = 14) were randomly assigned to either written disclosure or casual writing. Results revealed a 0% dropout rate. However, disclosure participants experienced larger increases in health care visits and avoidance symptoms (within subject ES = -0.47) than controls (within subject ES = 0.30) 5 weeks after baseline. This study suggested that the WD protocol is potentially harmful for trauma survivors, specifically regarding avoidance symptoms. This study called for larger studies to investigate the efficacy of WD with trauma survivors.

In the Netherlands, Schoutrop et al. (2002) examined structured writing (or WD) with participants who experienced PTSD symptoms. Subjects were 48 undergraduate students who had experienced a 'trauma' that still bothered them (according to the Impact of Event Scale [IES]). Participants were randomly assigned to a writing condition or a waitlist condition. In the writing group, participants wrote 5 times over 2 weeks for 45 minutes each session. Three of the writing sessions were administered at the university lab and two of the sessions were administered in the participant's home. Results indicated that at posttreatment, both groups had less reexperiencing (within subject ES = 0.22) and avoidance symptoms (within subject EF = 0.44). However, only the writing group maintained these positive effects at the 6-week follow up. Participants were divided into a 'low-severe' (IES mean score = 25.9, SD = 7.1) trauma group and a 'high severe' trauma group (IES mean = 36.5, SD = 15.5). Analyses revealed that those with 'high-severe' trauma had decreases in depression posttreatment that were maintained through follow up. Those with higher IES scores benefited more from the treatment regarding depression. However, difference in IES score changes between trauma severity groups was not explored. In self-reports, participants reported socially sharing traumatic experiences more than prior to writing. Overall, this study suggests that WD with extended number of sessions is promising for individuals with PTSD symptoms.

Smyth et al. (2008) was one of the first who explored the feasibility, safety, and efficacy of WD with individuals who meet full criteria for PTSD. The 25 enrolled participants were recruited from local trauma care agencies. All men had experienced wartime trauma whereas all women had PTSD resulting from sexual assault. Participants were randomized to WD or control (writing about a neutral topic). All

three, 20-minute writing sessions took place on one day with 15 minutes in between each session. The sessions took place in private rooms on a university campus. Mood ratings were taken before and after writing. Self-reported PTSD symptoms, mood states and posttraumatic growth were assessed. Assessments were conducted at baseline, posttreatment and three-month follow up timepoints. There were no significant group differences in PTSD symptom changes, but both groups had non-significant decreases in reexperiencing, avoidance, and hyperarousal from baseline to follow up (within group ES of PSS-I = 0.58; between groups ES = 0.22). However, those in the WD condition showed greater reductions in tension and anger and improved scores on posttraumatic growth. Although these findings are impressive given that all writing sessions took place in one day, results suggest that this version of WD is no better than a control at alleviating PTSD symptoms.

Sloan et al. (2011) examined the efficacy of WD in a sample of undergraduate students who met criteria for PTSD (via the PTSD Symptom Scale-Interview; PSSI). Participants were randomized to a 3-day WD condition or a control condition where they wrote about how they spent their time each day. The dropout rate for both the WD participants and control group was 4% but results revealed that there were no group differences in PTSD and depressive symptoms at one-month follow up (the PSSI within group ES = 0.07). The results further supported the idea that WD alone is no better at treating trauma-related symptoms than control conditions.

Overall, it appears that although WD seems acceptable and feasible to administer to participants, the standard dose of WD is insufficient to alleviate PTSD symptoms beyond what control conditions offer. In addition to increased dose of writing sessions, therapeutic involvement may be important to help individuals follow instructions properly and help prevent cognitive avoidance.

Interapy

In the Netherlands, Interapy (Lange et al., 2000) was developed as the first narrative writing intervention designed to be administered via a telehealth format. The protocol consists of 10 writing sessions, 45 minutes each over five weeks. The treatment involves three separate phases. During the first phase, *self-confrontation*, individuals are exposed to memories and associated thoughts and emotions they

have been avoiding, by writing a trauma account in first-person and describing thoughts and emotions they experienced at the time of the event. During the second phase, *cognitive reappraisal*, individuals are asked to write encouraging advice to a hypothetical friend who experienced the same traumatic event to develop new perspectives on the traumatic event and regain a sense of control. The final phase, *sharing and farewell ritual*, is designed to enable individuals to move forward by writing a letter to a significant other, a person who was involved in the trauma, or to themselves (individuals can decide if they want to send the letter). Before each phase begins, individuals receive on-screen psychoeducation and rationale for each phase. Both the first and second phases comprise four writing sessions each, whereas the last phase involves two writing sessions. During the middle of each phase, therapists provide written feedback about the writings.

Although a handful of studies have investigated the efficacy of Interapy in processing stress and grief, two studies have looked specifically at how well Interapy is able to help individuals with confirmed or probable PTSD. Knaevelsrud et al. (2007) examined Interapy in a German population with PTSD who had experienced sudden death of a loved one or sexual abuse. Ninety-six participants were randomized to receive either Interapy or were placed on a waitlist. Results yielded significantly greater improvements in the treatment group (Impact of Events Scale - Revised; IES-R within group ES = 1.40) compared to waitlist (IES-R within group ES = 0.31) at posttreatment and a three-month follow up period. Seventy four percent of the treatment group no longer met criteria for PTSD at the end of the study, with 21% losing the diagnosis in the waitlist condition and participants assigned to Interapy reported significantly improved working alliance ratings from start to finish of treatment. However, the Interapy dropout rate (16%) was much higher than that of the waitlist control (2%). Overall, except for the high dropout rates, the study supports the use of Interapy to treat individuals with PTSD.

Van Emmerik et al. (2008) evaluated the efficacy of Interapy to treat ASD and PTSD in an outpatient setting in the Netherlands. Participants were randomized to either an in-person form of Interapy, cognitive behavior therapy (CBT), or a waitlist control. The Interapy protocol differed from the Lange et al. (2000) protocol as participants wrote their essays as homework and received feedback in-

person with a therapist. The CBT treatment consisted of psychoeducation, prolonged imaginal exposure, in vivo exposures to feared stimuli, and cognitive restructuring. Participates who received Interapy and CBT showed greater reductions in intrusions (Interapy IES intrusions within subject ES = 0.92; CBT = 0.74; WL = 0.01) and depression compared to those in the control condition. A trend was noted for avoidance symptoms, with medium within group effect sizes for Interapy (0.47). Dissociation and state anxiety did not improve in any group. Those who received treatment (either Interapy or CBT) also showed significantly fewer PTSD diagnoses than those in the control condition. The dropout rates did not significantly differ between any specific group but was related to the type of trauma experienced. Those with histories of interpersonal violence were more likely to drop out than those who had experienced other traumas such as traffic accidents.

Overall, Knaevelsrud et al. (2007) and Emmerik et al. (2008) both suggest that Interapy has promise for alleviating PTSD symptoms. However, differences in modality (online vs. in-person) make it difficult to compare results across studies. Emmerik et al. (2008) highlights that an in-person version of Interapy can impressively compete with a CBT treatment that resembles gold-standard PTSD treatment. Furthermore, Knaevelsrud et al. (2007) suggests that online therapy can successfully treat PTSD symptoms. However, it is still unclear whether online Interapy is comparable to in-person Interapy for PTSD as dropout rates are concerning.

Written Exposure Therapy

Written Exposure Therapy (WET; Sloan & Marx, 2019) is an emerging brief exposure-based writing intervention that was developed by altering Pennebaker's WD protocol to specifically treat PTSD. WET comprises 5 sessions each 40-60 minutes long. The first session lasts 60 minutes, during which psychoeducation about common reactions to trauma are presented along with a rationale for exposure as a method to treat PTSD. Subsequently, clients are left alone in the room to hand-write for 30 minutes about a single traumatic event in past tense, focusing on emotions and details of the trauma. After the 30 minutes, the therapist re-enters the room and briefly checks in with the client. There is no between session homework assigned but clients are encouraged to allow, rather than push away any feelings or trauma

memories that come up between sessions. Therapists read the written narratives between sessions to see if the clients properly followed the directions (e.g., making sure the client is only writing about a single event and not multiple traumas). Sessions two through five all take 40 minutes each and follow a similar format except for some changes to the writing instructions. The first part of each session is spent providing the client with brief feedback regarding their written narrative from the prior session and reminding them to follow the writing directions carefully. For session two, clients are then asked to pick up where they left off from their narrative from session one or to write about the trauma again. The writing instructions for sessions three and four are to select the part of the trauma that is most upsetting to the client and focus on that specific part of the experience during their writing. Clients are also instructed to write about how the trauma changed the meaning of their life and their views of themselves, others, and the world. During session five, clients are asked to wrap up their writing and describe how the traumatic event relates to their current life and their future. Clients are permitted to keep copies of any of their writings throughout the program. Furthermore, clients may also keep writing instructions for each session and are encouraged to engage in writing and re-reading of writing as needed independently after therapy concludes (Sloan & Marx, 2019).

All writing instructions are read verbatim from a script. As this is a scripted therapy, the time commitment and cost for clinicians to become trained in WET is much less than for PE or CPT. The only modification clinicians are permitted to make to the script is to substitute the word ‘trauma’ for the specific event the client is writing about. During the writing sessions, clients are instructed to turn off their phones and write for the full 30 minutes. The protocol recommends that clients hand write their trauma narratives rather than typing. Subjective Units of Distress (SUDS) are recorded before and after writing to assess habituation and treatment progress. The five writing sessions typically take place once or twice weekly (Sloan & Marx, 2019).

Sloan et al. (2012) conducted the first randomized controlled trial examining the efficacy of WET. Participants were 46 adults with a diagnosis of PTSD related to a motor vehicle accident (MVA). Participants were randomly assigned to WET or to a waitlist (WL). Assessments were completed at

baseline, 6 weeks, 18 weeks, and 30 weeks (WET only). The main outcome measured was PTSD symptoms. Also investigated were changes in affect and arousal from the first writing session to the last, treatment dropout, and treatment credibility and satisfaction ratings. Results yielded large between group effect sizes, with participants in the WET condition showing significant reductions in PTSD symptom severity (via CAPS scores) at 6 week and 18-week time points compared to the WL condition. Furthermore, significantly fewer WET participants met criteria for PTSD at both 6- and 18-week follow-ups relative to WL. The WET group showed significant reductions in affect and arousal from first to last writing sessions. Participants also rated WET as credible and reported high satisfaction with the program. Drop-out rates were low for WET (9%, $n = 2$), with 100% of participants completing all follow up assessments, supporting the idea that WET has the potential to solve the issue of high dropout rates in PTSD treatments. Some limitations to the study were that a WL control was used. Also, the study sample was limited to a single specific trauma population, therefore the results might not generalize to other trauma populations.

In another study, Sloan et al. (2018) were the first to directly compare a gold standard PTSD treatment to WET. Because the goal of WET is to improve outcomes in terms of patient acceptability and feasibility, rather than to improve PTSD outcomes compared to existing first-line treatments, a noninferiority trial[1] was conducted to investigate whether treatment outcome of WET is noninferior to CPT for patients with PTSD. Participants ($n = 126$) were randomized to receive either WET or CPT (version that includes written accounts). The primary outcome measured was PTSD symptoms. Assessments were conducted at baseline, 6-, 12-, 24- and 34-weeks post-treatment. Results supported the noninferiority hypothesis (<10 points difference in CAPS scores between groups). Within-condition

[1] Non-inferiority trials are used to test if a treatment is not significantly worse than an active treatment control by a pre-specified amount, called the non-inferiority margin. Sloan et al. (2018) calculated the non-inferiority margin using the pooled SD for the CAPS-5 at baseline for their study along with the published test-retest value for the CAPS-5. Their calculation yielded 13, but they decided to use a more conservative margin of 10 (which was the calculated NI margin for the CAPS-IV). See Snapinn (2000) for information on some limitations of non-inferiority trials.

effect sizes were large for both conditions. Between-condition effects were small at all timepoints except week 24, in which CPT showed larger effects than WET. Furthermore, though groups did not differ based on treatment expectations and satisfaction, there were significantly higher drop-out rates in the CPT group (39.7%) than in the WET group (6.4%). Of note, drop-outs in CPT typically occurred during the first couple session when the written narrative was prescribed for homework. Findings suggest that clients may prefer to complete narrative writing in the context of therapy rather than between sessions. Results of the study support the idea that WET is an acceptable alternative to CPT.

Thompson-Hollands et al. (2018) examined whether WET treatment gains could be maintained over time and whether WET is effective in reducing depressive symptoms. The study used the same sample as the Sloan et al. (2018; described above) RCT. An additional assessment timepoint was added 60 weeks after the first writing session to capture potential longitudinal gains. Results showed that WET remained noninferior to CPT through the 60-week timepoint. Of note, between weeks 36 and 60, both conditions showed a decrease of 13% in PTSD symptoms, indicating that both interventions continue to be associated with additional improvement well after the conclusion of treatment. Furthermore, although the CPT group showed more rapid decreases of depressive symptoms, between group effect sizes were small at 60-weeks, with both groups significantly showing reduction in depressive symptoms. Overall, the study provides evidence to support that WET treatment gains can be maintained longitudinally and that WET impacts not only PTSD symptoms, but also comorbid depressive symptoms.

More recently, studies have explored WET's effectiveness in various settings and its acceptability with various cultural groups and clinical presentations with promising results. For example, studies have demonstrated that WET has potential when applied to VA naturalistic settings (LoSavio et al., 2021) as well as college counseling settings (Morissette et al., 2021). WET has also been adapted (Tyler et al., 2021) for treatment with individuals who present with suicide risk in inpatient settings, successfully modified to a group format to help Afghan adolescents recover from PTSD in the aftermath of terrorist attacks (Ahmadi et al., 2022), and appears acceptable when administered in Spanish with Latinx immigrants impacted by PTSD (Andrews et al, 2022).

With the emergence of the COVID-19 pandemic and need for telehealth options for mental healthcare, studies began exploring the acceptability, feasibility, and preliminary efficacy of telehealth delivered WET. Casas (2021) found that telehealth delivered WET was feasible and acceptable with community participants who primarily identified as Latinx who experienced PTSD with predominantly Intimate Partner Violence (IPV) as index traumas (n = 15). Preliminary results indicate that telehealth delivered WET yields significant reductions in PTSD symptoms via the PCL-5 (within person ES = 1.30), but there was a higher dropout rate (33.3%) than typically seen in in-person WET studies. Participants reported high treatment satisfaction, working alliance, comfort with the technological modality, and good feasibility. However, therapists experienced some difficulty collecting the hand-written narratives (e.g., poor-quality of screen shot pictures) which made between session review of narratives challenging. Overall, the study provided preliminary evidence that WET can be successfully translated to telehealth modality, with a call for creative alternative ways of collecting and/or administering narratives as well as figuring out ways to improve retention rates in telehealth formats.

Haft (2022) recruited 26 college and community participants to examine telehealth delivered WET for individuals with both subthreshold and fullthreshold PTSD symptoms who experienced a wide range of index traumas. The WET protocol was slightly altered to facilitate inhibitory learning by adding in recommended questions from Craske and colleagues (2014) to ask before and after written exposures. Clinically significant PTSD symptoms were operationalized as a PCL-5 score of 15 or above. Clinically significant changes in PTSD symptoms (via the PCL-5), depressive symptoms (via the Patient Health Questionnaire; PHQ-9), and Insomnia (via the Insomnia Severity Rating Scale; ISI) were achieved and maintained at the 2-month follow-up time point. Furthermore, the dropout rate was low (10%), contrasting the higher dropout rate in Casas (2021). As Casas (2021) found that participants with more severe PTSD symptoms were more likely to drop out of treatment, Haft (2022)'s lower dropout rate could possibly be explained by the inclusion of individuals with lower severity PTSD symptoms. It is possible that telehealth delivered WET may be most helpful and tolerable for individuals with lower to moderate PTSD symptoms.

Overall, it appears that there is emerging support that WET is efficacious in treating PTSD and performs comparably to a Gold Standard PTSD treatment. Furthermore, preliminary evidence suggests that telehealth delivered WET may be a feasible and acceptable option to disseminate quality evidence-based PTSD treatment efficiently. More research is needed to understand how to effectively fine-tune the telehealth-delivered WET to optimize acceptability, feasibility, and efficacy.

Present Study

There are several gold-standard PTSD treatments available that are all equally efficacious, however, WET has the lowest dropout rates and is the most efficient. Ever since telehealth delivery of psychotherapy became necessary during the COVID-19 pandemic to reduce spread of the virus, there has been continued need and interest in telehealth psychotherapy. WET's brief duration and scripted format make it ideal to translate into a telehealth format and thereby has the potential to fill this growing need for telehealth PTSD treatments.

The purpose of the current study was to test the feasibility and acceptability of a modified version of WET to be delivered in a telehealth format with college students who meet criteria for subthreshold or full threshold PTSD. The primary aims and hypotheses are outlined below:

Specific Aim 1: To explore the feasibility of administering a telehealth version of WET to college students with subthreshold or full threshold PTSD.

Hypothesis 1a: *We hypothesized that in two semesters and a summer (seven months), we would be able to recruit and run at least 10 eligible participants through the entire protocol with a predicted dropout rate of less than 10%.*

Hypothesis 1b. *We hypothesized that the telehealth modality would not interfere with treatment delivery.*

Hypothesis 1c. *We hypothesized that navigating safety concerns via the online modality would be feasible and that there would be no adverse events during the intervention.*

Specific Aim 2: To explore the acceptability of a telehealth version of WET with college students with subthreshold or full threshold PTSD.

Hypothesis 2a. *We hypothesized that participants would report satisfaction with the program.*

Hypothesis 2b. *We hypothesized that participants would report satisfaction with the telehealth modality.*

Hypothesis 2b. *We hypothesized that participants would report positive working alliance with their therapist.*

Specific Aim 3: To explore whether participants experienced decreases in posttraumatic stress symptoms, negative posttraumatic cognitions, and symptoms of depression throughout and after the program.

Hypothesis 3a. *We hypothesized that at posttreatment, participants would have a change in diagnostic status. If at baseline they had met criteria for subthreshold PTSD, we hypothesized that at posttreatment, they would shift to no longer meeting subthreshold criteria. If at baseline, the participant met criteria for full threshold PTSD, we hypothesized that at follow up, they would either meet criteria for subthreshold PTSD or no PTSD.*

Hypothesis 3b. *We hypothesized that at posttreatment, participants would have significant reductions in posttraumatic stress symptom severity, symptoms of depression, and negative posttraumatic cognitions, relative to baseline.*

Hypothesis 3c. *We hypothesized that at follow up, participants would demonstrate reductions in PTSD severity, negative posttraumatic cognitions, and symptoms of depression relative to baseline.*

Methods

All study procedures and materials described were approval by the University of Wisconsin-Milwaukee (UWM) Institutional Review Board (IRB).

Participants

Fifty-two individuals were screened from UWM's psychology research subject pool for potential participation in the current study between February 2nd and September 14th, 2022. To be eligible for the study, inclusion criteria were: (a) be at least 18 years of age, (b) have access to a computer with internet connection in a private space, (c) be enrolled in a UWM psychology course that offers credit or extra credit for participation in research, (c) endorse a lifetime history of at least one traumatic event, and (d)

experience subthreshold or full threshold PTSD. Full threshold was defined as meeting criteria per DSM-5 for all symptoms clusters. Subthreshold was defined as meeting criteria for the avoidance cluster and at least one other symptom cluster. Individuals were excluded if they: (a) had experienced a suicide attempt in the past year and/or were at current moderate or higher suicide risk as defined by a rating of 2 or higher on QIDS-SR question 12 (b) engaged in self-harming behaviors more than once within the past 3 months, (c) were currently enrolled in psychotherapy, (d) started medication for anxiety or depression in the past 12 weeks, or (e) engaged in heavy drinking as defined by having 5 or more drinks more than 2 times a month. Four individuals met all inclusion and exclusion criteria and chose to enroll as participants in the study.

Participant demographic and clinical characteristics at baseline are presented in Table 1. All participants identified as non-Hispanic cisgender women. Two identified as white, one as Asian, and one as biracial. Regarding sexual orientation, one identified as lesbian, two as heterosexual, and one was questioning/unsure. All participants experienced at least one traumatic event, with the events contributing to PTSD symptoms reported as Intimate Partner Violence (IPV), Motor Vehicle Accident (MVA), Childhood Emotional Abuse (CEA), and Witnessing a Life-Threatening Illness (WLTI). Three participants met full criteria for PTSD while one met subthreshold PTSD as she did not report marked alterations in arousal and reactivity. Two of the participants reported moderate depression at baseline, while one reported mild and another severe levels of depression. Two participants reported that they never engage in drinking behaviors while two reported very infrequent alcohol use.

Table 1. Demographic and clinical information

Demographic Characteristics	
Gender	Cisgender Female: 4/4 (100%)
Age	Young Adult (20s and 30s)
Sexual Orientation	Questioning/unsure: 1/4 (25%)
	Lesbian: 1/4 (25%)
	Heterosexual: 2/4 (50%)
Race	Asian: 1/4 (25%)
	White: 2/4 (50%)
	Two or more races: 1/4 (25%)
Ethnicity	Non-Hispanic: 4/4 (100%)
Clinical Characteristics	
Trauma Type	CEA: 1/4 (25%)
	IPV: 1/4 (25%)
	MVA: 1/4 (25%)
	WLTI: 1/4 (25%)
PTSD Diagnostic Status	Subthreshold: 1/4 (25%)
	Full threshold: 3/4 (75%)
Symptoms of Depression	Mild: 1/4 (25%)
	Moderate: 2/4 (50%)
	Severe: 1/4 (25%)
Alcohol Use	None or infrequent use 4/4 (100%)

1. IPV = Intimate Partner Violence; MVA = Motor Vehicle Accident, CEA = Childhood Emotional Abuse, WLTI = Witnessing Life-Threatening Illness

Measures

Demographics

The demographics questionnaire assessed age, gender, sexual orientation, race, ethnicity, relationship status, year in school, and living situation.

Risk Assessments

Suicidal Thoughts and Behaviors. Suicide risk was assessed using an item from the Quick Inventory of Depressive Symptomatology Self-Report scale (QIDS-SR; Rush et al., 2003), which is a 16-

item self-report questionnaire that assesses depressive symptoms. The thoughts of death or suicide item that was used in the screener has 4 answer choices ranging from "I do not think of suicide or death" to "I have made specific plans for suicide or have actually tried to take my life". Suicide risk was further assessed with a question inquiring whether the potential participant had attempted suicide in the past year.

Self-Harm Behaviors. Risk of self-harm was assessed using an abbreviated section of the Functional Assessment of Self-Mutilation (FASM; Lloyd-Richardson, et al., 2007). The FASM assesses frequency, methods, and descriptive characteristics of self-injurious thoughts and behaviors. A modified version of part A of the FASM was used in the screener to assess recent self-harming behaviors. Although the original FASM lists multiple methods, we inquired only about "cutting or carving skin" and "burning skin", as these are the most common methods of self-harm. If the potential participant had engaged in self-harm in the past 3 months, they were asked whether they engaged in the behavior more than one time during that timeframe.

Alcohol Use. The Alcohol Use Disorder Identification Test (AUDIT; Babor, Higgins-Biddle, Saunders, & Monteiro, 2001) is a 10-item self-report measure that assesses potential alcohol dependence and experiences of alcohol-related harm. The first 8 items are measured on a 5-point scale ranging from 0-4, and the last 2 items are on a 3-point scale with values of 0, 2, and 4. Total scores range from 0-40, with higher scores indicating greater severity. A score of 0-7 suggests low risk, whereas scores ranging from 8-14 suggest harmful levels of alcohol consumption and scores of 15 or above indicate likely dependence (Saunders, nd). The recommended cut-off score for the AUDIT is 8 (Conigrave, 1995). The measure has demonstrated good internal consistency in college samples (α = 0.80) (Allen et al., 1997), very good test-retest reliability (r = 0.87) (Garcia et al., 2016), and excellent concurrent validity (Kallmen et al., 2019).

Trauma-Related Experiences, Symptoms and Diagnostic Assessments

Depression. Symptoms of depression were assessed using the QIDS-SR. All items are rated on a 4-point scale ranging from 0-3, measuring the following domains: sleep disturbance, sad mood, changes in appetite/weight, concentration, self-criticism, suicide ideation, interest, energy/fatigue, and psychomotor changes. Total scores range from 0-27 with the following score ranges: 5 or lower (no depression), 6 (mild depression), 11 (moderate depression), 16 (severe depression), 21 or higher (very severe depression). In a study with military veterans with PTSD (Suris et al., 2016), the cutoff score to detect a probable current major depressive episode was 13. The measure demonstrated solid psychometric properties with Cronbach's α ranging from 0.69 to 0.89 and correlates moderate to high with several depression severity scales (Reilly et al., 2015).

Experience of Traumatic Event(s). The Life Events Checklist for DSM-5 (LEC-5; Weathers et al., 2013) is a 17-item self-report questionnaire that assesses lifetime experience of traumatic events. Specifically, the measure outlines 16 events known to potentially result in PTSD or distress and has an extra fill-in item to capture an event not included in the existing items. For each item, the response choices are: "Happened to me", "Witnessed it", "Learned about it", "Part of my job", "Unsure", or "Doesn't apply". The measure has three clusters of trauma types: accidental/injury traumas, victimization traumas, and predominant death threat traumas (Contractor, et al., 2020). The LEC-5 can be used to identify an index trauma for the CAPS-5. Psychometrics are currently not available for the LEC-5. However, the changes in the LEC-5 from the original measure were minimal, thus psychometrics are expected to be similar to the previous version. The original measure demonstrated adequate temporal stability and good convergence with recognized measures of trauma history (Gray et al., 2004).

Posttraumatic Stress Symptoms. The PTSD Checklist for DSM-5 (PCL-5; Weathers et al., 2013) is a 20-item self-report questionnaire that assesses posttraumatic stress symptoms. The measure takes about 5 to 10 minutes to complete and can be used to screen individuals for PTSD, make provisional PTSD diagnoses and/or monitor symptom change in the context of treatment. The items are measured on a 5-point scale ranging from 0-4 which correspond to "Not at all", "A little bit", "Moderately", "Quite a bit", and "Extremely". Total scores range from 0-80 and are calculated by

summing all items. DSM-5 symptom cluster scores can be obtained by summing items within a given cluster. Furthermore, a provisional PTSD diagnosis can be obtained by treating each item rated a 2 or higher as a symptom endorsed and subsequently use DSM-5 rules in diagnosing PTSD. Initial research suggests that a PCL-5 cutoff score between 31 and 33 indicates probable PTSD. The PCL-5 has strong internal consistency ($\alpha = 0.94$), test-retest reliability ($r = 0.82$), and strong convergent (rs = 0.74 to 0.85) and discriminant (rs = .31 to .60) validity (Blevins et al., 2015).

Negative Posttraumatic Cognitions. The Posttraumatic Cognitions Inventory (PTCI; Foa et al., 1999) is a 36-item measure designed to assess maladaptive trauma-related cognitions. Items are measured on a 7-point scale ranging from 1-7, with answer choices ranging from "totally disagree" (1) to "totally agree" (7). The questions fall into three subscale categories: negative thoughts about the self (e.g., "I have permanently changed for the worst"), negative thoughts about the world (e.g., "the world is a dangerous place") , and self-blame thoughts (e.g., "the event happened because of the way I acted"). Although the measure has 36 items, only 33 are scored as 3 are experimental. The total score is calculated by taking the sum of all 33 items; thus, total scores range from 33 to 231. The three subscales are computed as sums of the selected items. The measure demonstrated strong psychometrics including Cronbach's $\alpha = 0.97$, and one-week test-retest reliability of $r = 0.74$ (Foa et al., 1999).

Posttraumatic Stress Disorder Diagnostic Status. The Clinician-Administered Scale for DSM-5 (CAPS-5; Weathers et al., 2013) is a 30-item structured interview that is used to assess PTSD symptoms over the past week and/or make current or lifetime diagnoses of PTSD. The measure assesses the presence and duration of posttraumatic stress symptoms as well as associated subjective distress and functional impairment. The assessment takes about 45 to 60 minutes to complete. The measure requires identification of an index traumatic event for which the symptoms are assessed. Each item is rated with a severity score that combines information about the frequency and intensity of the symptom. The severity scores are measured on a 5-point

scale ranging from 0-4 and correspond to “Absent”, “Mild/subthreshold”, “Moderate/threshold”, “Severe/markedly elevated”, and “Extreme/incapacitating”. A total score is calculated by summing all 20 severity rating scores of the DSM-5 PTSD symptoms. Cluster scores can be calculated by summing the severity scores for items corresponding to the DSM-5 cluster of interest (U.S Department of Veterans Affairs, n.d.). The CAPS-5 diagnosis demonstrated strong interrater reliability (k = 0.78 to 1.00) and test-retest reliability (k = 0.83). The CAPS-5 also demonstrated strong correspondence with diagnoses from the CAPS-IV (k = 0.84). The CAPS-5 severity score demonstrated high internal consistency (α = 0.88) and interrater reliability (ICC = 0.91) and good test-retest reliability (ICC = 0.78) and convergent validity with CAPS-IV (r = 0.83) and the PCL-5 (r = 0.66). The CAPS-5 severity scores also demonstrated good discriminant validity with measures of anxiety, depression, somatization, functional impairment, psychopathy, and alcohol abuse (rs = 0.02 to 0.54) (Weathers et al., 2018).

Program Satisfaction Assessments

Treatment Satisfaction. The Client Satisfaction Questionnaire (CSQ-8; Larsen et al., 1979) is an 8-item self-report scale that measures satisfaction with health services. The overall score is calculated by summing all items. Scores range from 8 to 32, with higher scores indicting higher satisfaction with treatment services. The CSQ-8 has demonstrated strong internal consistency (α = 0.83 - 0.93) (Attkisson, 2020) and high concurrent validity with the Treatment Perceptions Questionnaire (TPQ) (Kelly et al., 2018).

Videoteleconferencing Satisfaction. The VTC Participant Satisfaction Questionnaire (VTC-PSQ; Wong., 2002) is an 8-item self-report questionnaire that measures satisfaction with a videoteleconferencing modality of care. The questionnaire assesses that comfortability of videoteleconferencing, lack of in person care, and interview material, as well as concern about confidentiality, and preference of videoteleconferencing vs. in-person care. The final question is open ended for participants to voice additional comments. Total scores range from 7 to 35 with higher scores indicating higher overall satisfaction with videoteleconferencing format; a neutral score being 24. The measure demonstrates good internal consistency (α = 0.65 to 0.78) (Wong, 2002).

Working Alliance. The Working Alliance Inventory – Short Revised (WAI-SR; Hatcher & Gillaspy, 2006) is a 12-item self-report questionnaire that assesses working alliance between therapist and client, with items such as, "My therapist and I agree on what is important for me to work on". The items are measured on a 5-point scale which correspond to "Seldom", "Sometimes", "Fairly often", "Very Often", "Always". The measure has three subscales to reflect the different components of alliance: Goal scale, Task scale, and Bond scale. Each scale score can be calculated by adding the corresponding items for the scale. Higher scores indicate better alliance. The measure demonstrated very good internal consistency ($\alpha > 0.80$) and good convergent validity with the Helping Alliance Questionnaire ($r > 0.64$) (Munder et al., 2010).

Figure 1. Study Flow

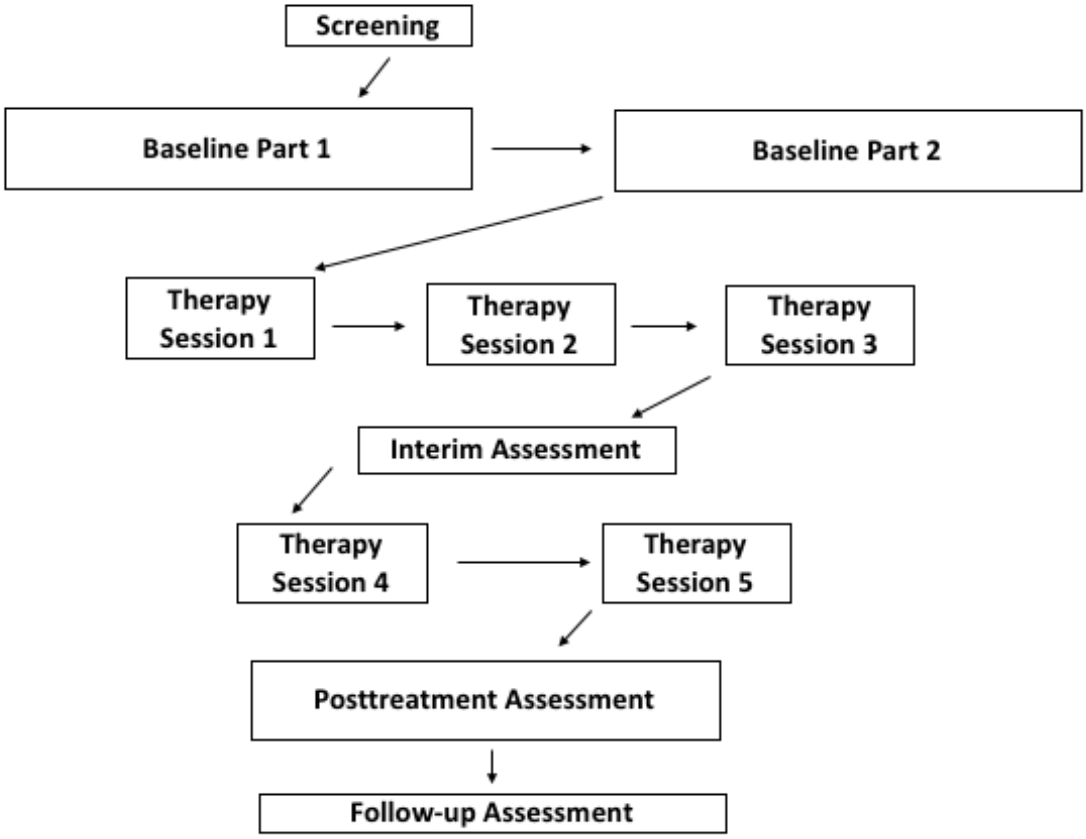


Table 2. Assessment Schedule

Measure	Screening	Baseline Part 1	Baseline Part 2	Interim	Posttreatment	Follow up
LEC-5	X		X			
PCL-5	X		X	X	X	X
FASM	X					
Demographics		X				
QIDS-SR	X	X		X	X	X
AUDIT	X	X				
CAPS-5			X		X	
PTCI			X	X	X	X
WAI-SR				X	X	
VTC-PSQ					X	
CSQ-8					X	

Procedures

See Figure 1 and Table 2 for an overview of the study flow and the assessment schedule.

Recruitment

Participants learned about the study by browsing the UWM psychology department's SONA website, which is an online portal system for research study participation. Undergraduate students who were enrolled in psychology courses at UWM could earn extra credit by participating in research through SONA, which presented a description of the study. Furthermore, potential participants could learn about the study through flyers posted (with permission from professors) on psychology course websites. To mitigate risk of unwanted dual relationships, study flyers included photos and names of study personnel as well as associated courses for which study staff served as teaching assistants/instructors.

Screening

Interested participants accessed the screening questionnaire by clicking on the relevant links located on the SONA website and were directed to a brief consent form (see Appendix A1) on Qualtrics that provided a description of the screening questionnaire. Participants were informed that they could skip any question they were uncomfortable answering and/or discontinue the questionnaire at any time. If

participants were still interested in continuing after reading the consent document, they were directed to the screening questionnaire (see Appendix A1). The self-report survey included a modified version of the LEC-5 that assessed if they ever experienced a traumatic event, the PCL-5 assessed trauma-specific symptoms, a question from the QIDS-SR assessed suicidality, and other questions to assess the remaining exclusion criteria. The screening survey took about 15 minutes to complete, and no identifying information was collected. If participants endorsed suicidal thoughts, they were provided with a message that encouraged them to seek help and a suicide hotline number was provided. The message also included a reminder that their responses were *not* monitored in real time and that there was no direct way for the researchers to link their answers back to them. Furthermore, after completing the screening questionnaire, regardless of eligibility status, all received a mental health resource sheet. Eligible participants also received an invitation code and instructions on how to sign up for their baseline time slots on SONA.

Baseline Assessment Part 1

Five to ten minutes before their scheduled appointment, participants received an email with instructions of how to join a Microsoft Teams video call. At the start of the call, participants were asked to verify that they were in a private location, were not recording the call, and had turned off unnecessary apps and notifications on their devices. For safety reasons, participants were asked to provide their phone number, address at the time of call, an emergency contact phone number, and nearest emergency room (see Appendix B1). Participants' primary and secondary email were also collected so that they could easily be accessed during subsequent appointments.

Next, the researcher shared a Qualtrics survey that contained the informed consent form (see Appendix B2). The researcher verbally reviewed the consent form with the participant. The researcher emphasized that there was a possibility that the participant may be deemed ineligible after completing the baseline appointments. Furthermore, participants were asked to verify whether they were enrolled in any classes for which any study personnel served as teaching assistants/instructors (they were provided with

all study staff names, headshots, and list of courses taught). If so, the participant was asked to decide if they were comfortable signing the consent form and were provided with the following options: a) decline participation in the study b) participate in the study given the TA/professor would not be their therapist or have access to their study data, or c) decide that they are okay with having the TA as their therapist in which case the TA would arrange with the course faculty member not to be in charge of grading the participant's work while making sure not to breach the participant's confidentiality in the process. Participants were given the opportunity to ask any remaining questions they had before deciding to sign the consent form.

Participants who signed the consent form were asked to complete a subject ID calculation form (see Appendix B3) and schedule their therapy sessions. Specifically, participants were asked to schedule two sessions per week but were allowed up to one month after baseline to complete all therapy sessions. Participants had the option to receive reminder emails for their appointments and could choose a pseudonym to use during video-recorded assessments and therapy sessions if desired. Participants were reminded that there was a chance that after completing the baseline assessments, that they do not qualify to participate in the study.

Participants were then oriented to the self-report questionnaires (see Appendix B4) on Qualtrics. Participants completed the demographics form, QIDS-SR, and AUDIT. The questionnaires took about 30 minutes to complete. Regardless of eligibility status, all participants who completed Baseline Assessment Part 1 received 1.5 hours of extra credit within one business day of the appointment.

Baseline Assessment Part 2

Participants who remained both eligible and interested in the study received an invitation to join a Microsoft Teams meeting approximately 5 – 10 minutes before the scheduled appointment and the call was video recorded. A study assessor administered the LEC-5 in an interview format and subsequently the CAPS-5. After the interviews (see Appendix C1), the participant received a link to a Qualtrics survey (see Appendix C2) that included the PCL-5 and PTCI.

After the assessment, the study assessors consulted with the faculty PI and student PI to confirm participant eligibility. All participants who attended the Baseline Assessment Part 2 received 1.5 hours of extra credit within a day of the appointment.

Written Exposure Therapy Sessions

Participants received 5 bi-weekly sessions of WET. The first session was 60 minutes, during which, the therapists presented participants with their PTSD diagnostic results and provided psychoeducation about common reactions to trauma. Next, participants received a Qualtrics survey into which they typed their trauma narrative. Specifically, participants were asked to write about a single traumatic event in past tense, focusing on the details of the trauma. Before the participant began writing, the therapist asked for their Subjective Units of Distress (SUDs), a rating of current moment distress on a scale of 0-10 with 0 being the most relaxed a participant has ever felt and 10 being the most distressed they have ever felt. When the participant was finished writing, the therapist asked for their SUDs and briefly guided a discussion about inquiring how the writing process went. The trauma narrative writing took 30 minutes and participants were given the option to keep their writing. Therapists reviewed the written narratives between sessions. The subsequent 40-minute sessions shared a similar structure. At the start of each session, therapists provided brief feedback regarding the writing from the previous session. Then, therapists provided the writing instructions for the session and when the participant was finished writing, briefly discussed how the writing process went. Although there was no formal homework, in between sessions, therapists encouraged participants to allow, rather than push away feelings that might emerge between sessions. Sessions closed with verifying the appointment time for the next session. All sessions were video recorded. After each session, therapists completed a session note using the associated session note template (see Appendix D3); the student therapist as well as faculty PI signed each session note and the notes were saved as PDF files on Microsoft Teams. Upon competition of the 3rd session, participants were reminded to expect an email with a link to complete the interim assessments.

Interim Assessment

Participants completed the interim self-report assessment (see Appendix E1) between the 3rd and 4th therapy sessions. The survey included the PCL-5, PTCI, the QIDS-SR, and the WAI-SF. Participants received 0.5 hours of extra credit within one business day of completing the survey.

Posttreatment Assessment

The posttreatment assessment took place one week after the last therapy session. Participants were sent a link to the Microsoft Teams call. The call was video recorded, and participants were administered the CAPS-5 interview (see Appendix F1). Next, participants completed the self-report questionnaire packet (see Appendix F2) which included the PCL-5, QIDS-SR, PTCI, WAI-SR, a question regarding whether they had received therapy or made changes to their psychiatric medication since the start of the study, the CSQ-8, and the VTC-PSQ. After participants completed the self-report questionnaires, they were presented with their updated diagnostic information. Participants received their 1 hour of extra credit within a week of the appointment.

Follow up Assessment

Participants completed the follow up assessment (see Appendix G1) one month after their last therapy session. If participants did not complete the questionnaire within one week of receiving the email link, they were sent a second email with a reminder to complete the questionnaire. The questionnaires included the PCL-5, QIDS-SR, and PTCI. Participates received a $10 amazon gift card within a week after completing the questionnaire.

Participant Safety

If participants experienced distress during the assessments and/or therapy sessions, the plan was for study staff to check in with the participant and help them cope with the distress. If safety issues were to occur, the UWM Psychology Clinic's Suicide Prevention Protocol was to be administered. Furthermore, if the participant were to endorse suicide intent, the study staff member was to contact Dr. Cahill or another clinical faculty supervisor who was on-call to seek guidance on how to proceed. All study staff were trained in the suicide risk assessment procedures. However, as no participant indicated

risk during the study, no risk assessments were needed. Regardless of expressed risk, participants all received a psychological resource sheet (see Appendix H2) after each assessment and therapy session that they could use between appointments if needed.

Supervision of Assessments and Therapy Sessions

The faculty PI conducted supervision meetings for study assessors and therapists. The meetings took place on Microsoft Teams. The supervision meetings included discussions related to administering assessments and conducting therapy, such as determining whether a participant met criteria for PTSD, general case conceptualization, handling difficult situations, and ensuring adherence to study protocols. Meeting notes were recorded each session.

Data Analysis

Specific Aim 1: To explore the feasibility of a telehealth version of WET with college students who experience subthreshold or full threshold PTSD.

Hypothesis 1a. *We hypothesized that in two semesters and a summer (seven months), we would be able to recruit and run at least 10 eligible participants through the entire protocol with a predicted dropout rate of less than 10%.* Descriptive statistics were used to compute screening, eligibility, enrollment, and dropout rates.

Hypothesis 1b. *We hypothesized that the telehealth modality would not interfere with treatment delivery.* Therapist and assessor reports of technological problems during session were collected and documented.

Hypothesis 1c. *We hypothesized that navigating safety concerns via the online modality would be feasible and that there would be no adverse events during the intervention.* Client and therapist report were used to determine number of adverse events.

Specific Aim 2: To explore the acceptability of a telehealth version of WET with college students who experience subthreshold or full threshold PTSD.

Hypothesis 2a. *We hypothesized that participants would report satisfaction with the program as operationalized by all participants rating all CSQ-8 items positively (3 or above – which would yield total*

scores of 24 or above). CSQ-8 scores for each participant were computed and individual scores and descriptive statistics were calculated to characterize degree of satisfaction.

Hypothesis 2b. *We hypothesized that participants would report satisfaction with the telehealth modality as operationalized by obtaining a score of 24 (neutral) or above on the VTC-PSQ.* VTC-PSQ scores for each participant were computed and descriptive statistics were calculated to explore degree of satisfaction with the telehealth modality.

Hypothesis 2c. *We hypothesized that participants would report positive working alliance with their therapist.* Participants' WAI-SR total scores and subscale scores were calculated to examine trends in working alliance satisfaction.

Specific Aim 3: To explore whether participants experienced decreases in posttraumatic stress and depressive symptoms throughout and after the program.

Hypothesis 3a. *We hypothesized that at posttreatment, participants would have a change in diagnostic status. If at baseline they had met criteria for subthreshold PTSD, we hypothesized that at posttreatment, they would shift to no longer meeting subthreshold criteria. If at baseline, the participant met criteria for full threshold PTSD, we hypothesized that at follow up, they would either meet criteria for subthreshold PTSD or no PTSD.* CAPS-5 scores were examined to determine diagnostic status at baseline and posttreatment timepoints.

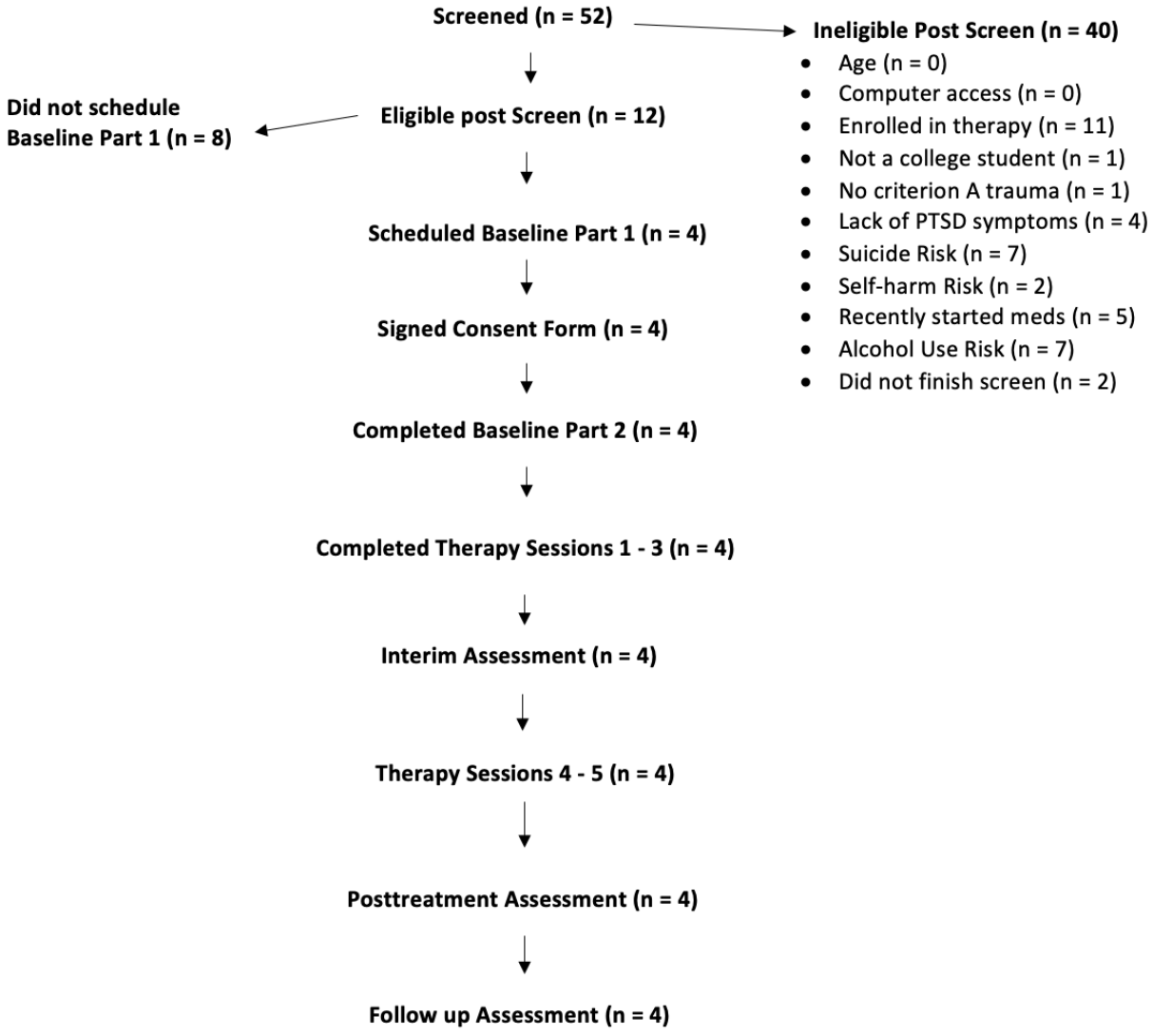
Hypothesis 3b. *We hypothesized that at posttreatment, participants would have significant reductions in PTSD severity (as measured by the CAPS-5 and PCL-5 total scores), symptoms of depression (as measured by the QIDS-SR total score), and negative posttraumatic cognitions (as measured by the PTCI total score), relative to baseline.* We computed the Reliable Change Index (RCI; Jacobson & Truax, 1991) for the CAPS-5, PCL-5, QIDS-SR, and PTCI total scores to determine whether participants had achieved clinically significant reductions in their symptoms.

Hypothesis 3c. *We hypothesized that at follow up, participants would demonstrate reductions in PTSD severity (as measured by the CAPS-5 and PCL-5 total scores), negative posttraumatic cognitions (as measured by the PTCI total scores), and symptoms of depression (as measured by the QIDS-SR total*

scores) relative to baseline. The same method as for hypothesis 3b was used to determine whether participants achieved clinically significant reductions in symptoms from baseline to follow up on each measure.

Results

Figure 2. Participant Flow



Feasibility

Recruitment and Retention

Figure 2 outlines the participant flow through all stages of the study. Fifty-two interested college students completed the screening questionnaire between February 2nd and September 14th, 2022. Out of all screened, 40 (76.9%) were deemed ineligible with the three most common reasons for ineligibility: being enrolled in therapy (27.5%), excessive alcohol use (17.5%), and suicide risk (17.5%). Of the 12 eligible participants, four signed up for the baseline appointment after completing the anonymous self-report screen. Of the 8 who did not schedule the baseline or sign the consent form, one contacted the student PI and reported that they changed their mind due to potential dual relationships. There is no data on the other 7 potential participants who did not follow through scheduling their baseline.

Of the four participants who scheduled their first baseline appointment, all four decided to sign the consent form and proceeded to complete all other stages of the study. Right before the baseline part 2, one of the study staff members learned that one participant was a student in a lecture class for which they were serving as grader. The participant was notified and decided to continue with the study. The study staff member excused themselves from further meetings when the participant's case was discussed. The study dropout rate was 0%. Overall, Hypothesis 1a was only partially supported as we were only able to recruit four rather than ten participants but witnessed a dropout rate of less than 10%.

Telehealth Feasibility

Participants 1, 2, and 3 all completed study sessions and activities via a computer. However, Participant 4 completed study sessions and activities via her smartphone.

A small number of minor technical difficulties were experienced during telehealth sessions. Participant 3 had difficulties with internet connection to the degree that having a conversation between therapist and participant was difficult during two sessions. Furthermore, due to technological difficulties, one of Participant 3's writing narratives was lost. Thus, out of the 20 planned therapy sessions and 8 planned assessment sessions, notable technology difficulties occurred in 2 (7.1%). Of the 20 times self-report measures were collected via Qualtrics, no technology difficulties were experienced. Overall, Hypothesis 1b was fully supported as it appears the telehealth modality did not significantly interfere with treatment delivery.

Safety Protocols

None of the participants reported suicidal thoughts and/or behaviors or other safety concerns during or after the exposure sessions or between sessions; therefore, no safety protocols were implemented. No adverse events were reported. Overall, Hypothesis 1c was fully supported as there were no safety concerns or adverse events during the study.

Table 3. Participant Satisfaction Ratings

Quality of Services	**Excellent (N = 4; 100%)**	Good (N = 0)	Fair (N = 0)	Poor (N = 0)
Received Desired Services	**Yes, definitely (N = 3; 75%)**	Yes, generally (N = 1; 25%)	No, not really (N = 0)	No, definitely not (N = 0)
Extent Needs Met	Almost all needs met (N = 1; 25%)	**Most needs met (N = 2; 50%)**	Only few needs met (N = 1; 25%)	No needs met (N = 0)
Recommend to Friend	**Yes, definitely (N = 2; 50%)**	**Yes, I think so (N = 2; 50%)**	No, I don't think so (N = 0)	No, definitely not (N = 0)
Satisfaction with Help Received	**Very satisfied (N = 3; 75%)**	Mostly satisfied (N = 1; 25%)	Indifferent or mildly dissatisfied (N = 0)	Quite dissatisfied (N = 0)
Helpfulness in Treating Trauma	**Yes, it helped a great deal (N = 2; 50%)**	**Yes, it helped somewhat (N = 2; 50%)**	No, it really didn't help (N = 0)	No, it made things worse (N = 0)
Overall Satisfaction	**Very satisfied (N = 2; 50%)**	**Mostly satisfied (N = 2; 50%)**	Indifferent or mildly dissatisfied (N = 0)	Quite dissatisfied (N = 0)
Come Back/Seek Help Again	**Yes, definitely (N = 2; 50%)**	**Yes, I think so (N = 2; 50%)**	No, I don't think so (N = 0)	No, definitely not (N = 0)

Acceptability

Treatment Satisfaction

Table 3 summarizes results for each of the CSQ-8 items. All participants rated the quality of services they received as 'excellent'. The lowest rated item on the measure was whether the treatment met all their needs. One participant reported they felt all their needs were met, two participants reported that

almost all their needs were met, and one participant reported that only a few needs were met. All participants rated all other items positively and summed scores for Participants 1 (32), 2 (25), 3 (31), and 4 (26) were consistent with satisfaction ratings seen in other studies administering the CSQ-8 in samples of college students receiving WET (Casas, 2021; Morissette et al., 2022). Overall, Hypothesis 2a was partially supported: all participants achieved total CSQ-8 scores above 24, but not all items were rated positively by all participants, with one participant reporting that only few of her needs were met.

Table 4. Subjective Units of Distress Ratings

Participant	**Session 1** (Pre/Post)	**Session 2** (Pre/Post)	**Session 3** (Pre/Post)	**Session 4** (Pre/Post)	**Session 5** (Pre/Post)
Participant 1	75 / 95	40 / 70	45 / 100	25 / 55	15 / 25
Participant 2	45 / 45	60 / 70	30 / 35	30 / 30	50 / 50
Participant 3	50 / 40	40 / 20	25 / 15	25 / 30	40 / 10
Participant 4	25 / 35	25 / 35	25 / 40	25 / 40	30 / 35

Table 5. Telehealth Modality Satisfaction Ratings

Comfort level using telehealth	**Very Comfortable (N = 3; 75%)**	Comfortable (N = 1; 25%)	Neither (N = 0)	Uncomfortable (N = 0)	Very Uncomfortable (N = 0)
Lack of in-person contact with clinician	**Very Comfortable (N = 3; 75%)**	Comfortable (N = 0)	Neither (N = 1; 25%)	Uncomfortable (N = 0)	Very Uncomfortable (N = 0)
Comfort with interview material	**Very Comfortable (N = 3; 75%)**	Comfortable (N = 0)	Neither (N = 1; 25%)	Uncomfortable (N = 0)	Very Uncomfortable (N = 0)
Concern with confidentiality	**Low (N = 3; 75%)**	Mild (N = 1; 25%)	Moderate (N = 0)	Severe (N = 0)	Extreme (N = 0)
Willingness to engage in telehealth in future	**Strong (N = 3; 75%)**	Moderate (N = 1; 25%)	Neutral (N = 0)	Weak (N = 0)	Very Weak (N = 0)
Preference for in-person vs. telehealth	**Strongly prefer telehealth (N = 3; 75%)**	Prefer in-person (N = 0)	Neutral (N = 1; 25%)	Prefer telehealth (N = 0)	Strongly prefer in-person (N = 0)
Convenience of telehealth	**Very convenient (N = 4; 100%)**	Convenient (N = 0)	Neutral (N = 0)	Inconvenient (N = 0)	Very inconvenient (N = 0)

Treatment Tolerability

Distress experienced during the writing was used as an indicator of treatment tolerability. Table 4 presents participants' Subjective Units of Distress (SUDs) ratings before and after the writing narratives. The pattern of SUDs for Participant 3 was closest to reflecting a pattern of within-session and between-session distress reduction or "habituation" (Foa & Kozak, 1986). For this participant, the post-writing SUDs were lower than the pre-writing SUDs for all sessions except for Session 4, a pattern suggesting within-session habituation. Moreover, both pre- and post-writing SUDs were lower in Session 5 than they had been in Session 1, suggestive of between-session habituation. By contrast, Participants 1, 2, and 4 consistently had post-writing SUDs that were equal to or higher than the corresponding pre-writing SUDs. The three participants differed, however, in terms of their SUDs patterns across sessions. For Participant 1, both pre- and post-writing SUDs were substantially lower at Session 5 compared to Session 1. This was not the case for Participants 2 or 4. Participant 2's pre- and post- writing SUDs in Session 5 were both slightly higher than had been reported in all previous sessions except for Session 2. Participant 4's pre- writing SUDs in session 5 was slightly higher than had been in all previous sessions, and the post- writing SUDs in session 5 was equal to or slightly smaller than all post- writing SUDs in previous sessions. Despite the variability in patterns of SUDs changes within and between sessions across participants, all four willingly returned for the scheduled sessions and actively participated in the treatment sessions. This is particularly notable for Participant 1, who had experienced post- writing SUDs of 95 and 100 in Sessions 1 and 3, respectively, yet returned for Sessions 2, 4 and 5.

Technology Satisfaction

Table 5 presents participants' ratings of their satisfaction with the telehealth modality. Three out of the four participants had total scores of 35 (highest score possible) on the VTC-PSQ. Participant 2 had a total score of 26 which is above the neutral (24) score. All participants rated the modality as acceptable as every item was either answered positively or neutrally by every participant. All participants agreed that telehealth was 'very convenient', comfortable to some degree, and reported willingness to engage in telehealth in the future, with three out of the four expressing preferences for telehealth over in-person

care. However, one participant reported mild concerns with confidentiality. Overall, Hypothesis 2b was fully supported as all participants rated all aspects of the telehealth modality as neutral or positive.

Table 6. Working Alliance Inventory Ratings

Participant	**Total Score** (Interim/ Post Tx)	**Goal Scale** (Interim/ Post Tx)	**Task Scale** (Interim/ Post Tx)	**Bond Scale** (Interim/ Post Tx)
Participant 1	4.8 / 5	5 / 5	4.8 / 5	4.8 / 5
Participant 2	3.1 / 3.8	3 / 4	3.3 / 4	3 / 3.5
Participant 3	4.9 / 5	5 / 5	4.8 / 5	5 / 5
Participant 4	4.1 / 4.8	4.3 / 5	3.0 / 4.5	5 / 5

Note. Average item scores are presented with possible ranges from 1-5, with higher scores representing stronger alliance.

Working Alliance

Working alliance was investigated with the WAI-SR (see table 6). As the creators of the measure caution against using norms to analyze results, general trends in the data were examined. Three of the participants demonstrated very strong alliance at interim and posttreatment. Participant 2 demonstrated solid alliance throughout. All participants demonstrated subjective increases in alliance in all domains from interim to posttreatment. Overall, Hypothesis 2c was fully supported as all participants were able to develop and grow solid working alliance.

Table 7. Changes in Diagnostic Status

Participant	Diagnostic Status	Reexperiencing (# Symptoms) threshold = at least 1	Avoidance (# Symptoms) threshold = at least 1	Negative alterations in cognitions and mood (# Symptoms) threshold = at least 2	Marked alterations in arousal and reactivity(# Symptoms) threshold = at least 2
Participant 1					
Baseline	Subthreshold	**Present 3/5**	**Present 1/2**	**Present 2/7**	Absent 1/6
Post Tx	No PTSD	Absent 0/5	Absent 0/2	Absent 0/7	Absent 0/6
Participant 2					
Baseline	Full threshold	**Present 3/5**	**Present 2/2**	**Present 4/7**	**Present 4/6**
Post Tx	No PTSD	**Present 1/5**	Absent 0/2	**Present 4/7**	**Present 2/6**
Participant 3					
Baseline	Full threshold	**Present 5/5**	**Present 2/2**	**Present 4/7**	**Present 4/6**
Post Tx	Subthreshold	**Present 4/5**	**Present 2/2**	Absent 1/7	**Present 3/6**
Participant 4					
Baseline	Full threshold	**Present 2/5**	**Present 2/2**	**Present 5/7**	**Present 3/6**
Post Tx	Subthreshold	**Present 2/5**	**Present 2/2**	Absent 1/7	**Present 2/6**

[n]Number of symptoms needed for *full threshold diagnosis*: meet threshold criteria for all clusters.
[n]Number of symptoms needed for *subthreshold diagnosis*: meet threshold criteria for avoidance cluster and at least one other cluster.

Exploratory Analysis of Treatment Outcomes

Changes in PTSD Diagnostic Status. The CAPS-5 items were examined to determine diagnostic status at baseline and posttreatment (see Table 7). At baseline, Participants 2, 3, and 4 met full criteria for PTSD and Participant 1 met subthreshold PTSD without the marked alterations in arousal and reactivity cluster being met. As hypothesized, all four participants changed diagnostic status from baseline to posttreatment. Participant 1 no longer met criteria for any PTSD clusters or symptoms at posttreatment. Participants 2 showed some improvements in reexperiencing (reduction of 2 symptoms) and marked alterations in arousal and reactivity (reduction of 2 symptoms) symptoms at posttreatment. Furthermore, she no longer endorsed any

avoidance symptoms and thus no longer met criteria for full threshold or subthreshold PTSD. Both Participants 3 and 4 did not experience reduction in the number of avoidance symptoms met at posttreatment but did experience some reductions in marked alterations in arousal and reactivity (reduction of 1 symptom each). Furthermore, both participants no longer met criteria for the negative alterations in cognitions and mood cluster at posttreatment and therefore changed diagnostic status from fullthreshold to subthreshold PTSD. Participant 3 experienced some reductions in reexperiencing symptoms (reduction of 1 symptom), while Participant 4 did not. Overall, Hypothesis 3a was fully supported as all participants achieved change in diagnostic status from baseline to posttreatment.

Table 8. Changes is Posttraumatic Stress Symptoms

	Baseline (CAPS-5/PCL-5)	Interim (CAPS-5*/PCL-5)	Posttreatment (CAPS-5/PCL-5)	Follow up (CAPS-5*/PCL-5)
Total Scores				
Participant 1	17[2] / 16[2]	-- / 22[2]	5[2] / 3[2]	-- / 1[2]
Participant 2	37 / 38	-- / 20[1,2]	14[1,2] / 17[1,2]	-- / 17[1,2]
Participant 3	43 / 49	-- / 27[1,2]	26[1,2] / 18[1,2]	-- / 10[1,2]
Participant 4	34 / 36	-- / --[3]	21[1,2] / 21[2]	-- / 17[1,2]
Reexperiencing				
Participant 1	7 / 4	-- / 4	0[1] / 0	-- / 1
Participant 2	10 / 8	-- / 6	2[1] / 3	-- / 2[1]
Participant 3	15 / 17	-- / 9[1]	9[1] / 6[1]	-- / 5[1]
Participant 4	6 / 6	-- / 3	5 / 4	-- / 5
Avoidance				
Participant 1	2 / 2	-- / 2	0 / 1	-- / 0
Participant 2	5 / 6	-- / 1[1]	0[1] / 3[1]	-- / 2[1]
Participant 3	6 / 8	-- / 6	6 / 3[1]	-- / 1[1]
Participant 4	6 / 7	-- / 4[1]	4 / 3[1]	-- / 2[1]
ACM				
Participant 1	5 / 5	-- / 7	3 / 2	-- / 0
Participant 2	12 / 14	-- / 9	8 / 8	-- / 10
Participant 3	10 / 13	-- / 5[1]	4 / 3[1]	-- / 1[1]
Participant 4	12 / 12	-- / --[3]	6 / 10	-- / 5
AAR				
Participant 1	3 / 5	-- / 9	2 / 0	-- / 0
Participant 2	10 / 10	-- / 4[1]	4[1] / 3[1]	-- / 3[1]
Participant 3	12 / 11	-- / 7	7[1] / 6	-- / 3[1]
Participant 4	10 / 11	-- / --[3]	6 / 4[1]	-- / 5[1]

[1]Clinically significant change relative to baseline. [2]Below clinical cutoff point for probable PTSD (33).[3]Unable to calculate score due to incomplete data.
*The CAPS-5 was not administered at the interim and follow up assessments and the CAPS-5/PCL-5 cluster subscale scores do not have published clinical cutoff score guidelines.
ACM = negative Alterations in Cognitions and Mood; AAR = marked Alterations in Arousal and Reactivity.

Clinically Significant Changes in PTS Symptoms. To further examine the changes in PTSD symptom severity across timepoints, we calculated the Reliable Change Indexes (RCIs) for the CAPS-5 and PCL-5 total scores and cluster subscales using the approach proposed by Jacobson and Truax (1991). Our calculations for the CAPS-5 total score yielded a value of 12.3 by using the pooled standard deviation of pretreatment CAPS-5 total scores (9.47) from Thompson-Hollands et al. (2018) and the published test-retest reliability for the CAPS-5 (ICC = 0.78; Weathers et al., 2018). To calculate the RCIs for the CAPS-

5 cluster subscales, we used standard deviations from Kramer (2019). The calculated RCIs were as follows: reexperiencing (4.26), avoidance (2.17), alterations in cognitions and mood (ACM; 7.06), alterations in arousal and reactivity (AAR; 4.71). Our calculated RCI for the PCL-5 total score was 17.31, using the standard deviation (14.72) and test-retest reliability (r = 0.82) from Blevins et al. (2015). We used standard deviations from Kramer (2019) to calculate the PCL-5 cluster subscale RCIs, which yielded: reexperiencing (5.39), avoidance (2.59), ACM (7.55) and AAR (5.46). The results are summarized with superscript notations in Table 8.

Clinically Significant Changes in Total Scores. Consistent with our hypothesis, Participants 2, 3, and 4 reached reliable change in PTSD symptoms via the CAPS-5 total scores from baseline to posttreatment. However only Participants 2 and 3 reached reliable change at that timepoint via the PCL-5; Participant 4 approached reliable change (change of 15 points rather than the required 17.3). Also consistent with our hypothesis, Participants 2, 3, and 4 reached reliable change from baseline to follow up timepoints via the PCL-5 and CAPS-5 total scores. Unexpectedly, both Participants 2 and 3 also reached reliable change in PTSD symptoms via the PCL-5 from baseline to the interim. All participants exhibited scores below the CAPS-5 and PCL-5 clinical cutoff score (33) at interim, posttreatment, and follow up. Note that Participant 4's PCL-5 score was not calculated at interim as she left some items blank.

Participant 1 had subthreshold PTSD symptoms at baseline and therefore due to floor effects, it was exceedingly difficult for this participant to demonstrate reliable change on the CAPS-5 and impossible on the PCL-5, as the pretreatment scores on these measures were similar to (CAPS-5) or smaller in value (PCL-5) than the calculated RCIs. However, Participant 1's change scores for both measures approached the computed RCI value and the posttreatment and follow up scores were in the range of scores we would expect from someone who does not have any significant PTSD symptoms. Thus, functionally speaking, this participant appears to have achieved clinically significant change. As this same issue was observed on several indexes of PTSD symptoms, the term *functionally significant change* will be used to represent when a person is observed to show a) change from baseline and b) achieve very low symptom levels, but c) do not show reliable change because the required RCI score was

very close to or larger than the baseline score (the floor effect). Moreover, the term is viewed as being in the same spirit as the concept of clinically significant change and will be discussed as such. Thus, overall, all participants reached clinically significant change via the CAPS-5 and most (all but Participant 4) also via the PCL-5 at posttreatment, and all participants reached clinically significant change at follow up.

Clinically Significant Changes in Symptom Clusters. Regarding reexperiencing symptoms, three out of the four participants reached clinically significant change via the CAPS-5 reexperiencing subscale scores from baseline to posttreatment. Examining the PCL-5 reexperiencing scores, Participant 3 achieved reliable change from baseline to interim, posttreatment, and follow up timepoints. Participant 2 approached reliable change from baseline to post treatment (a change of 5 rather than the required 5.3 points) and reached reliable change at follow up. Participant 1 demonstrated functionally significant change from baseline to posttreatment and follow up timepoints. Participant 4 did not demonstrate clinically significant change at any timepoint; however, her baseline scores were low to begin with on this subscale on both the CAPS-5 and PCL-5. Overall, three out of the four participants demonstrated clinically significant changes in reexperiencing symptoms across the PCL-5 and/or CAPS-5 at posttreatment and follow up with Participant 3 experiencing even earlier changes at interim.

Regarding avoidance symptoms, Participant 1 achieved functional change and Participant 2 reached reliable change at posttreatment via the CAPS-5 avoidance subscale. Participant 4 approached reliable change (change of 2 points rather than the required 2.2 points) and Participant 3's score remained the same at baseline and posttreatment. When examining PCL-5 avoidance scores, all participants reached clinically significant change at posttreatment and follow up, with Participants 2, 3, and 4 reaching reliable change and Participant 1 achieving functionally significant change. Thus, all participants demonstrated clinically significant changes in avoidance symptoms (both avoidance of internal and external reminders) at posttreatment and follow up timepoints via the CAPS-5 and/or PCL-5 avoidance subscales. Participants 2 and 4 reaching early change at interim via self-report. Participant 3 demonstrated inconsistency in CAPS-5 and PCL-5 avoidance subscales at posttreatment, only demonstrating clinically significant change via the PCL-5.

None of the participants reached reliable change in the ACM cluster via the CAPS-5 subscale from baseline to posttreatment, though Participants 3 and 4 were approaching reliable change (change of 6 points rather than the required 7.1 points), and Participant 1 demonstrated functionally significant change. Via the PCL-5 ACM subscale, Participant 3 reached reliable change from baseline to all subsequent timepoints. Participant 1 reached functionally significant change at posttreatment and follow up, while Participant 4 approached reliable change at follow up (change of 7 points rather than the required 7.5 points). Participant 2 did not reach reliable change at any timepoints. Overall, over half of the participants demonstrated clinically significant changes in the ACM cluster from baseline to posttreatment and follow up, with Participant 3 self-reporting early changes at interim. Note that Participant 4's PCL-5 ACM cluster subscore was not calculated at interim as the participant left some questions on the subscale blank.

Participants 2 and 3 reached reliable change on the CAPS-5 AAR subscale at posttreatment with Participant 1 reaching functional change and Participant 4 approaching reliable change (change of 4 points rather than the required 4.7 points). Via the PCL-5 AAR subscale, Participant 2 reached reliable change from baseline to all timepoints, Participant 4 reached reliable change from baseline to posttreatment and follow up, and Participant 3 approached reliable change at posttreatment (a change of 5 points rather than the required 5.5 points) and reached reliable change at follow up. Participant 1 achieved functionally significant change at both posttreatment and follow up. Overall, all participants achieved clinically significant changes at posttreatment and follow up via the CAPS-5 and PCL-5, with Participant 2 reporting early change at interim via self-report. Note that Participant 4's PCL-5 AAR cluster subscore was not calculated at interim as the participant left some questions on the subscale blank.

Table 9. Changes in Negative Posttraumatic Cognitions

	Baseline	Interim	Post Treatment	Follow up
PTCI: Total				
Participant 1	47	67[1]	36	35[1]
Participant 2	131	125	112[1]	103[1]
Participant 3	114	110	96[1]	85[1]
Participant 4	128	-- [2]	129	114[1]
PTCI: NCS				
Participant 1	1.19	1.71	1.05	1.00
Participant 2	3.76	3.52	3.24	2.81[1]
Participant 3	2.62	2.71	2.00	1.86
Participant 4	3.74	4.04	3.96	3.26
PTCI: NCW				
Participant 1	1.43	2.72[1]	1.29	1.29
Participant 2	3.71	4.57	3.14	3.71
Participant 3	5.14	5.14	5.57	5.43
Participant 4	5.43	5.29	5.14	4.86
PTCI: SB				
Participant 1	2.40	2.40	1.00	1.00
Participant 2	5.20	3.80[1]	4.40	3.60[1]
Participant 3	4.60	3.40[1]	3.00[1]	1.60[1]
Participant 4	2.00	-- [2]	1.60	1.40

[1]Clinically significant change relative to baseline. [2]Unable to calculate score due to incomplete data.
[*]The PTCI total and subscale scores do not have published clinical cutoff score guidelines.

Changes in Negative Posttraumatic Cognitions. To examine changes in posttraumatic cognitions across timepoints, we calculated the RCI for the total score and three subscale scores. As test-retest reliabilities were available for both 1-week and 3-week timeframes, we used 1-week test-retest reliabilities to calculate RCIs used to examine changes in scores from baseline to interim and used 3-week test-retest reliabilities to calculate RCIs used to examine changes from baseline to posttreatment and follow up. The results are summarized with superscript notations in Table 9.

For the PTCI total score, the RCIs of 15.96 (1 week) and 12.12 (3 week) were calculated with the pooled standard deviation (11.29) from Lee et al. (2021) and the published test-retest reliabilities (Foa et al., 1999) for 1-week ($r = 0.74$) and 3-weeks ($r = 0.85$). To calculate the RCIs

for the PTCI sub scores, standard deviations from Moser et al (2008) were used with the reported 1- and 3-week test-retest reliabilities (Foa et al., 1999). The calculated RCIs to examine changes from baseline to interim were as follows: 1.18 (NCS), 1.24 (NCW), and 1.13 (SB). The calculated RCIs from the 3-week test-retest reliabilities used to examine changes from baseline to posttreatment and follow up were: 0.88 (NCS), 1.63 (NCW), and 1.52 (SB).

Counter to our hypothesis, not all participants reached reliable change in total PTCI scores at posttreatment, with only Participants 2 and 3 reaching reliable change. Unexpectedly, Participant 1's total PTCI score significantly increased from baseline to interim. However, she experienced reliable change from interim to posttreatment and approached reliable change from baseline to posttreatment (decrease in 11 rather than the required 12 points). Participant 4 did not reach reliable change at posttreatment. Consistent with our hypothesis, all participants reached reliable change in PTCI total scores from baseline to follow up.

For the negative cognitions about the self (NCS) subscale, none of the participants reached reliable change at posttreatment and only Participant 2 reached reliable change at follow up. However, Participant 1 reached functionally significant change at posttreatment and follow up. Although Participant 3 did not reach reliable change, she experienced changes approaching significance at follow up (decrease of 0.76 rather than the required 0.88 points). Therefore, one participant reached clinically significant change at posttreatment and three reached clinically significant change at follow up.

For the negative cognitions about the world (NCW) subscale, Participant 1's baseline scores were very low before her symptoms unexpectedly significantly worsened from baseline to interim; however, her scores went back down to non-clinical levels at posttreatment and follow up. None of the participants experienced reliable changes in either direction from baseline to posttreatment or follow up. Participant 2 experienced some improvement approaching significance at interim, but these gains were not evidenced at posttreatment or follow up.

For the self-blame (SB) subscale, Participants 2 and 3 unexpectedly achieved reliable change in cognitions from baseline to interim. At posttreatment, only Participant 3 achieved reliable change from

baseline. Participants 2 and 3 achieved reliable change from baseline to follow up. Participants 1 and 4 both had low scores to begin with and achieved functionally significant change at posttreatment and follow up. Overall, all participants reached clinically significant changes by follow up with two participants reaching early change at interim.

Table 10. Changes in Symptoms of Depression

	Baseline	Interim	Posttreatment	Follow up
QIDS-SR				
Participant 1	8[2]	7[2]	2[2]	2[2]
Participant 2	16	15	11[2]	15
Participant 3	12[2]	6[2]	4[1,2]	3[1,2]
Participant 4	15	13	12[2]	10[2]

[1]Clinically significant change relative to baseline. [2]Below clinical cutoff point for probable MDD (13).

Clinically Significant Changes in Symptoms of Depression. To examine changes in symptoms of depression across timepoints, we calculated the RCI for the QIDS-SR using the standard deviation (3.76) from Mergen et al. (2011) and the published test-retest reliability (r = 0.56; Geschwind et al., 2021). The QIDS-SR RCI calculations yielded 6.91. The results are summarized with superscript notations in Table 10.

Only Participant 3 demonstrated reliable change in depressive symptoms at posttreatment and follow up. Of the participants who did not show reliable change, Participant 1 had very mild symptoms of depression to begin with and her scores went down by 75% of the baseline score at posttreatment and follow up, functionally indicating significant changes. Participant 2 reached a score below the clinical cutoff for MDD at posttreatment, but this gain was not maintained in the follow up time-period. Participant 4 did not demonstrate reliable change but reached scores below the clinical cutoff at both posttreatment and follow up. Overall, two participants reached clinically significant change and/or symptoms below the clinical cutoff at interim, with all four reaching or maintaining those changes at posttreatment and three maintaining through the follow up timepoint.

Overall, hypothesis 3a was fully supported while hypotheses 3b and 3c were partially supported.

Discussion

Written Exposure Therapy has emerged as potentially noninferior and more efficient than traditional gold standard PTSD treatments and has yielded promising results across various populations (e.g., veteran, community, college samples) and trauma types. Preliminary data also indicates that WET can be successfully administered via a telehealth format rather than the traditional face-to face format. The present study sought to explore the acceptability and feasibility of a telehealth delivered WET protocol with college students meeting criteria for subthreshold or full threshold PTSD. Specifically, we examined effectiveness of recruitment strategies in a college setting, feasibility and satisfaction with the treatment approach, alliance with the therapist, and exploratory treatment outcomes, including impact on PTSD diagnostic status, PTS symptoms, negative posttraumatic cognitions, and symptoms of depression.

Feasibility

Recruitment Challenges

During the active 7 months of recruitment, we posted fliers around campus, contacted psychology professors to post flyers on their class websites, and advertised the study on the official psychology subject pool website. During this time, after noticing a high number of students excluded due to alcohol use, we broadened our alcohol use exclusion criterion from 4 drinks to 5 or more drinks more than two times a month. Furthermore, in another effort to broaden our recruitment reach, we expanded our inclusion criteria from only including undergraduate psychology students enrolled in psychology courses offering extra credit, to allowing all undergraduate students regardless of whether they were enrolled in psychology classes. Yet despite our efforts to improve our recruitment reach, we failed to meet our recruitment goal of 10 participants in 7 months and were only able to recruit 4.

One major recruitment barrier was that almost 80% of screened participants reported current enrollment in psychotherapy (an exclusion criteria). As our study involved administration of a psychological treatment, this was not an exclusion criterion we could alter without the risk of producing confounding variables. Perhaps we could have included a follow-up question in the screen for participants

enrolled in psychotherapy to indicate whether they were willing to halt their participation in psychotherapy for a brief treatment. It is possible that certain students would have been willing to pause their current therapy, especially if they were not currently receiving PTSD-specific care.

Another likely significant barrier to recruitment was the fact that most study staff had potential dual relationships with many prospectively eligible students. This was because most study staff were clinical psychology graduate students, some of whom served as teaching assistants for undergraduate psychology courses with more than 100 students enrolled. Their role as TAs increased the potential of dual relationships and possibly decreased the subsequent comfort-level of potential participants seeking out study participation given the sensitive nature of the study subject matter. Furthermore, the faculty PI not only served as a clinical psychology mentor/director of a psychology lab, but also an undergraduate psychology instructor, which impacted not only dual relationships with current undergraduate students, but also reluctance of students to enroll who anticipated wanting future professional relationships with the faculty. Expanding recruitment to non-psychology students did not appear to solve this problem. This was likely due to our recruitment method of posting study flyers on campus bulletin boards. This recruitment method has many limitations including not reaching individuals who were primarily enrolled in online classes (an increased number since COVID-19 began) and those who do not read bulletin boards. Future treatment studies conducted on college campuses should consider using more varied recruitment methods such as online/social media advertisements, potentially expand recruitment to include graduate students and community members, and/or include staff who are less affiliated with undergraduate students.

Although our study recruitment procedures failed at recruiting adequate numbers of participants, the screening procedures succeeded in enrolling participants at baseline who met inclusion/ exclusion criteria and who were clinically appropriate for the treatment; specifically, all enrolled participants were able to tolerate the exposure protocol without any adverse events and were treatment-motivated, with 100% completion of treatment as intended and completion of assessments.

Telehealth Feasibility

WET was originally designed as an in-person treatment with handwritten (rather than typed) trauma narratives. With the increased demand for telehealth treatments to address common barriers to in-person treatment modalities, we were interested in evaluating the feasibility of delivering WET sessions in a telehealth format with typed trauma narratives. Consistent with studies administering WET and other PTSD treatments via telehealth, we found that home-based telehealth services were feasible to administer to participants using a computer or smartphone, with occasional WIFI issues presenting as challenges. Thus, feasibility was strong, especially for a time-limited treatment being administered according to a study protocol with strict limits on the number of weeks allowed in which to complete the protocol. Furthermore, administering trauma narratives via a 'typed' (via smartphone or computer) format turned out to be an efficient, HIPAA compliant way to administer and collect narratives. As one narrative was lost due to a technological error, we began asking participants to save the trauma narratives to their computer until the therapist checked in session whether the narrative was saved to Qualtrics to be able to troubleshoot technology difficulties if needed. To address WIFI difficulties, we could have offered an office-based telehealth option for those with spotty WIFI and/or lack of privacy in their homes/dorms.

Acceptability

Treatment and Technology Satisfaction

The participants reported high treatment satisfaction (CSQ-8 scores ranging from 25-32), with all participants rating the quality of services they received as excellent. It is unsurprising that Participant 4 reported that only a few of her needs were met as she presented with health anxiety concerns in addition to PTSD, and thereby our treatment was not able to address her health anxiety concerns.

Participants also rated high satisfaction with the telehealth delivery method (VTC-PSQ scores ranging from 26-35), with all participants rating telehealth as very convenient. Our findings are consistent with the literature indicating telehealth delivered WET is feasible to deliver and is experienced as helpful when participants use their own computers (Casas, 2021; Haft, 2022). Our study extends these findings and indicates that WET can be successfully administered to participants using smartphones, which has

potential to increase access of care to those who may not have access to a computer and/or a computer located in a confidential space, and who prefer home-based over office-based treatment.

Treatment Tolerability

Emotional processing theory (EPT; Foa & Kozak, 1986) posits that prolonged exposure to feared stimuli leads to emotional processing, that in turn leads to symptom reduction. Emotional processing has been measured indirectly through changes in subjective distress between and within exposure sessions. Empirical results are mixed regarding whether between and/or within session habituation predicts positive treatment outcomes with PTSD, with generally larger support for between session habituations (Reger et al., 2019; Wisco et al., 2016; Bluett et al., 2014; Gallagher et al., 2012; Rauch et al., 2018). However, Hoeboer et al. (2022) pointed out that many of these studies used averaged analyses of within and between session change rather than temporal analyses per session to analyze the relationship between emotional processing and PTSD symptoms. In their study they found that within session but not between session habituation preceded symptom improvement when they performed temporal analysis, and that both within and between session habituation predicted symptom improvement when averaged analyses were performed. Within session habituation is typically defined by higher peak SUDs than post SUDs within one session, and between session habituation is typically defined as higher peak SUDs in session 1 than the peak SUDs in the last session. It was very difficult to determine between and within session habituation in our study as WET's protocol only includes collection of pre and post SUDs and excludes peak. Therefore, we defined within session habituation as higher pre than post SUDs within a given session, and between session habituation as higher ratings of both pre and post SUDs for Session 1 than Session 5. Due to our study limitations in measuring nuances of SUDs, it is unclear whether our data support EPT. Participant 1 showed improvements in symptoms at post treatment (after session 5). She demonstrated between session habituation but not within session habituation from pre to post SUDs; however, it is possible that at session 5, had we assessed peak SUDs, she may have experienced an initial increase from pre SUDs followed by within session habituation, which would be consistent with EPT. Participants 2 and 3 reached clinically significant change at interim, or after session 3. Both Participants 2

and 3 demonstrated between session habituation from session 1 to 3, consistent with EPT. Only participant 3 showed within session habituation during session 3 from pre to post SUDs. However, again, it is possible that Participant 2 experienced within session habituation during session 3 from peak to post SUDs which would be consistent with EPT. It is unclear whether Participant 4 achieved symptom improvements at interim or posttreatment due to missing data. However, Participant 4 did not experience between session habituation from Session 1 to any session, nor did she experience within session habituation during any session from pre to post SUDs. However, it is possible that Participant 4 could have experienced within session habituation from peak to post SUDs prior to symptom improvement and/or between session habitation from Session 1 peak to the peak SUDs experienced at the session prior to symptom improvement which would be consistent with EPT. Overall, it appears that between session habituation preceded clinically meaningful PTSD symptom change for three of the four participants, which is consistent with many prior studies, but inconsistent with results from Hoeboer et al. (2022). Pre to post within session habituation data was not associated with symptom change except for with Participant 3. However, due to our study limitations discussed above, we cannot conclude that within session habituation (and/or between session habituation for Participant 4) did not occur given the absence of peak SUDs data.

Some clinicians express concern regarding the tolerability of exposure-based treatments for PTSD, with worry that clients will experience symptom exacerbation and/or that distress associated with exposures will lead to high dropout rates. Some studies indicated that provider attitude towards exposure and psychoeducation about usefulness of exposure can affect treatment engagement, distress, and outcomes (Kilpatrick & Best, 1984; Pitman et al., 1991; Pitman, Orr, Altman, et al., 1996; Tarrier et al., 1999). The developers of WET intentionally integrated psychoeducational components into the protocol to educate clients to understand that short term elevation of symptoms is normal and expected in exposure-based treatments. Hembree et al. (2003) found no differences in dropout rates in exposure therapy, cognitive therapy, stress inoculation training and Eye Movement Desensitization and Reprocessing. Prior RCTs (Sloan et al., 2018; Sloan et al, 2022) investigating the efficacy of WET have

demonstrated that the treatment yields impressively low dropout rates compared to non-exposure-based PTSD alternative treatments. None of our participants dropped out of treatment, regardless of high SUDs ratings reported, supporting the idea that exposure-based treatment for PTSD is tolerable and acceptable even when experiencing subjectively high distress levels.

Working Alliance

Working alliance comprises three elements: emotional bond, mutual agreement of goals, and acceptance of tasks to achieve goals (Horvath & Greenberg, 1989). As WET is a very brief intervention with limited therapist contact, and our intervention was delivered via telehealth, we were interested in understanding whether working alliance could be built in such a context. Consistent with Casas (2021), our participants reported strong working alliance posttreatment in the context of telehealth delivered WET. Our participants also demonstrated strong working alliance as early as session 3 (interim assessment), which was consistent with research suggesting that working alliance can be developed very rapidly (Held et al., 2022). Notably, all participants also showed subjective strengthening of working alliance from session 3 to posttreatment. WET's structured format may help build goal and task facets of working alliance as the treatment is very focused and all tasks are clearly articulated/scripted to the participants. Furthermore, although the WET protocol only allows for limited therapist contact during sessions, therapists read trauma narratives in-between sessions. The additional time therapists deeply think about the responses they provide participants might aid in the quality of feedback they provide and increase therapeutic bond. Additionally, knowing about the added time therapists spend interacting with participants' treatment material between sessions (indicated by the therapists' comments in subsequent sessions) might translate into subjective feelings of closeness and aid in the growth of therapeutic bond. Overall, our data is consistent with the literature suggesting that working alliance can be cultivated in the context of telehealth interventions (Norwood et al., 2018).

Exploratory Analysis of Treatment Outcomes

Changes in PTSD Diagnostic Status and Symptoms

Consistent with other WET studies with college students and other populations, all our participants experienced change in diagnostic status from baseline to posttreatment as well as clinically significant change in PTSD symptoms from baseline to interim, posttreatment, and follow up timepoints.

All participants experienced clinically significant reductions in negative alterations in arousal and reactivity clusters via the CAPS-5 and PCL-5 at posttreatment and follow up timepoints, with one participant reaching change as early as interim. All participants also experienced clinically significant reductions in avoidance symptoms via the CAPS-5 and/or PCL-5 at posttreatment and follow up with three of the participants achieving clinically significant change after session 3 via self-report. One of the participants had a discrepancy between her CAPS-5 and PCL-5 avoidance scores at posttreatment, with CAPS-5 indicating no improvement, and PCL-5 indicating clinically significant improvements at all timepoints. It is possible that this was due to errors in scoring of the CAPS-5, as the participant noted that the only avoidance she engaged in at posttreatment was avoidance of the perpetrator, which is adaptive rather than maladaptive avoidance. Alternatively, possible social desirability bias in the participant's PCL-5 responses may be alterative explanation of the discrepancy. Three quarters (the other quarter had low scores to start with) of the participants achieved clinically significant change in the reexperiencing cluster at posttreatment and follow up timepoints via the CAPS-5 and PCL-5, with one participant achieving change at interim via the PCL-5. The negative alterations in cognitions and mood cluster appeared to be the most resistant to change across participants. None of the participants reached reliable change in this cluster via the CAPS-5; however, three participants achieved change that was clinically significant. Via the PCL-5, three participants reached clinically significant change at follow up, two at posttreatment and one as early as interim. As WET does not directly target changing cognitions, it is not surprising that this was the cluster most resistant to change. It is interesting to note that participants with traumas that were interpersonal in nature and who evidenced highest working alliance experienced most improvements in this cluster, while the participant with a non-interpersonal trauma and lowest alliance rating did not achieve any improvements in this cluster. It is possible that for those with interpersonal traumas, the strength of the therapeutic relationship offered a corrective experience that helped change

negative cognitions and mood stemming from traumatic interpersonal experiences, while the therapeutic relationship might not have offered the same type of corrective experience needed to change cognitions and mood related to non-interpersonal traumas.

Changes in Negative Posttraumatic Cognitions

Research suggests that negative posttraumatic cognitions about the self, safety of the world, and self-blame are associated with PTSD symptom development and maintenance, with negative thoughts about the self having the strongest association with PTSD symptom severity (Moser et al., 2007). Although WET does not target trauma cognitions directly, studies suggest that changes in negative posttraumatic cognitions correlate with symptom improvements in exposure-based PTSD treatments. Consistent with Lee and colleagues (2021), all our participants reached clinically significant changes in posttraumatic cognitions from baseline to follow up, with three of the participants achieving clinically significant change at posttreatment. Changes were especially strong in the domains of self-blame and negative cognitions of self, with self-blame cognitions corresponding with changes in PTSD symptoms for all participants. The negative cognitions of the world were the most resistant to change, with none of the participants achieving clinically significant change.

Lee and colleagues (2021) suggest that changes in negative posttraumatic cognitions correlate with, rather than mediate, changes in PTSD symptoms. It is unclear whether negative posttraumatic cognition changes preceded, coincided with, or followed PTSD symptom change with our participants as we measured symptoms simultaneously. Future research could further explore the relationship between negative posttraumatic cognitions and PTSD symptom change in the context of telehealth delivered WET and whether these changes differ based on trauma type, strength of working alliance, and/or other factors.

Changes in Symptoms of Depression

Studies suggest that the relationship between reductions in PTSD and depressive symptoms are reciprocal in exposure-based PTSD treatments (Brown et al., 2018). Consistent with the literature, our participants experienced reductions in depressive symptoms alongside reductions in PTSD symptoms,

except for one participant who experienced improvements in depression at posttreatment only and did not maintain the improvements at follow up; this same participant was the only one who had a lack of significant improvement in the negative alterations in cognitions and mood PTSD cluster. As this participant reported multiple criterion A traumas on the LEC-5, it is possible that some of the lack of improvements in negative posttraumatic cognitions and symptoms of depression could have reflected cognitions and symptoms stemming from the non-index interpersonal traumas reported at baseline that were not processed during WET.

Limitations and Future Directions

There are many limitations in this study. Our sample size was very small, there was no experimental control, and our sample was very homogeneous (college students) which is not generalizable to the general population. Future research work could examine the efficacy and effectiveness of a telehealth delivered WET with typed narratives via an RCT to see if such an intervention can be disseminated in college counseling settings where efficient, evidence-based treatments are very much needed. Future research could also investigate the utility of WET in the context of Dialectical Behavior Therapy (DBT), similar to DBT-PE (Harned, 2022). In contrast to PE, which involves independent in vivo exposures, WET does not involve any independent exposure work and therefore could be a good candidate for trauma treatment with emotionally dysregulated clients as WET produces rapid changes in PTSD symptoms in a context where the client can be closely monitored for tolerability of treatment.

It is important to note that during the study, one of the participants was still in regular contact with the perpetrator of emotional abuse. Typically, clinical guidelines would highlight prioritizing safety planning over treating PTSD symptoms when an individual is still actively being abused (e.g., in the context of domestic/dating violence). However, guidelines on how to treat PTSD in the context of emotion-specific abuse is less clear, as the construct of emotional abuse (especially adult emotional abuse) is not clearly outlined in clinical and research settings. It could be helpful for the WET protocol to include some guidelines and skills training for ‘emotional safety planning’ for managing emotionally

abusive situations, including setting limits, boundaries when possible and/or other strategies to help navigate situations where contact with an emotional abuser is a daily reality during exposure treatment.

It is also important to note that the participant who experienced the index trauma related to witnessing a life-threatening illness reported symptoms of health anxiety in addition to PTSD. It is interesting to note that this participant took longer than the other three participants to reach clinically significant changes. It is possible that due to high anxiety sensitivity (AS), this individual may have taken longer to habituate and/or was less engaged in the exposure (as possibly evidenced by low SUDs throughout) than those without this sensitivity. However, since we did not directly measure AS in this study, we do not know whether her levels of AS were indeed any higher than that of the other participants. Nevertheless, future research could investigate integrating interoceptive exposure into the WET protocol for individuals who report high AS to see if this could enhance depth of emotional processing and tolerability of physiological symptoms.

Future research could also investigate whether WET could be altered to target multiple traumas, whether simultaneously or sequentially, to help improve symptom improvements across all clusters and aid in changes in all domains of posttraumatic cognitions. For example, perhaps the first three sessions, which primarily focus on recounting the trauma, could be repeated with each presenting trauma, and then the last two sessions, which focus on more global processing of trauma, could combine processing of all experienced traumas to comprehensively target symptom and cognitions stemming from all traumas experienced. Furthermore, future research could also explore whether WET could be helpful in treating individuals who experience stressful events not captured by the DSM-5 trauma definition, but that may lead to PTSD-like symptoms, such as experiences of 'traumatic invalidation' as defined by Dr. Marsha Linehan and Dr. Melanie Harned (Linehan, 2014; Harned, 2022), including but not limited to experiences of discrimination due to sexual orientation, gender identity, and/or race, etc.

Overall, this study adds to the emerging literature supporting the idea that WET delivered via telehealth is experienced as acceptable and feasible with individuals with clinically significant PTSD symptoms. Despite the brevity of treatment and limited therapist contact, strong working alliance is possible. Furthermore, typed narratives via computer or smartphone do not appear to negatively impact treatment outcomes and help facilitate ease of collecting and reading narratives between sessions. More research is needed to continue to explore the efficacy and effectiveness of this modality of WET delivery.

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Appendix A

Screening Materials

A1. Screening Consent Form and Screening Questionnaire

A1. Screening Consent Form and Screening Questionnaire

University of Wisconsin-Milwaukee
Informed Consent to Participate in Online Screener

Study title: Write to Heal from Trauma

Researcher[s]: Shawn Cahill, Ph.D. and Maya Krek, B.S.

We're inviting you to take a survey to determine if you are eligible to participate in a research study. This survey is completely voluntary. There are no negative consequences if you don't want to take it. If you start the survey, you can always change your mind and stop at any time. At the end of the survey, you will be informed whether you qualify to participate in the research study.

What is the purpose of this study?
The purpose of this online screener is to determine if you are eligible to participate in Write to Heal from Trauma. If eligible, you will be asked to attend 5 therapy sessions that are designed to help you process trauma you have experienced. The sessions will include writing about your past trauma as well as processing the writing experiences with a therapist. Additionally, you will be asked to complete questionnaires about posttraumatic stress and depression symptoms and interviews about posttraumatic stress symptoms.

What will I do?
The survey will ask questions about your age, past traumatic experiences, suicidal and self-injurious thoughts and behavior, drinking behaviors, psychiatric medication history, and whether you are enrolled in therapy. You must complete this screener to determine if you are eligible for the Write to Heal from Trauma study. Those who are eligible will receive instructions on how to sign up through SONA at the end of the screener. The screener should take about 15 minutes.

Risks

- Some questions may be personal or upsetting. You can skip them or quit the survey at any time.
- Online data being hacked or intercepted: Anytime you share information online there are risks. We're using a secure system to collect this data, but we can't completely eliminate this risk.
- Breach of confidentiality: There is a chance your data could be seen by someone who shouldn't have access to it. We're minimizing this risk in the following ways:
    - Your screening data will not include any personally identifying information about you, such as your name, contact information, date of birth (although we will ask your age) or your computer's IP address. However, it will contain the day and time you completed the screen. If you complete any additional study-related activities shortly after completing the screen, it may be possible to connect your screening data with other study data or identifying data. To minimize unauthorized access to your study data or identifying data, all data files will be kept in password protected files and only study personnel will be granted access to those files.

Possible benefits: There are no anticipated direct benefits to you for participating in the screener. However, if you are eligible for Write to Heal from Trauma, there is a possibility that you may benefit from the therapy program. Also, by participating, you will be helping researchers understand more about how to effectively help those struggling with posttraumatic stress reactions. The treatment used in the study has been helpful in previous research and our study, Write to Heal from Trauma, is designed to evaluate the feasibility of delivering the treatment to a college sample through telehealth procedures.

Estimated number of screening participants: 500

How long will it take? 15 minutes

Costs: None

Compensation: We are not able to provide compensation for completing this screener. If you are eligible for the study, Write to Heal from Trauma, and choose to participate, you will receive up to 4.5 hours of extra-credit compensation for time spent completing study-related evaluations. In addition, the study treatment is provided at no cost, but you will not receive extra credit for time spent in therapy sessions. Details will be provided to those who meet the study criteria.

If I don't want to be in this study, are there other options? Instead of participating in this screen, you may browse the other research studies listen on SONA or complete the non-research option for extra credit on SONA that involves writing a brief research report to earn 1 hour of extra credit.

Future research: Screening data, which does not contain any personally identifying data, may be shared with other researchers. You won't be told specific details about these future research studies.

Where will data be stored? On the servers for the online survey software (Qualtrics).

How long will it be kept? 10 years after the last publication of study data.

Who can see my data?

- Dr. Cahill, the study Primary Investigator; Maya Krek, the Graduate Student Primary Investigator; and personnel responsible for conducting assessments and administering therapy will have access to study data as well as identifying information. This is to allow them to monitor the study, contact you as needed, and conduct the study-related assessments and treatments. Other researchers will have access to coded data (i.e., no names) in order to assist with analyzing the study data.
- Agencies that enforce legal and ethical guidelines, such as
    - The Institutional Review Board (IRB) at UWM
    - The Office for Human Research Protections (OHRP)
- We may share our findings in publications or presentations. If we do, the results will be aggregate (grouped) data, with no individual results.

Questions about the research, complaints, or problems: Contact Shawn Cahill, Ph.D. (cahill@uwm.edu) or Maya Krek, B.S. (mayakrek@uwm.edu).

Questions about your rights as a research participant, complaints, or problems: Contact the UWM IRB (Institutional Review Board) at 414-662-3544 / irbinfo@uwm.edu.

Please print or save this screen if you want to be able to access the information later.
IRB #: 21.190
IRB Approval Date: 02/04/2022

Agreement to Participate
Your participation is completely voluntary, and you can withdraw at any time.
To take this survey, you must be:

- At least 18 years old
- Have experienced a traumatic event

If you meet these criteria and would like to take the survey, click the button below to start. If you do not meet these criteria or do not wish to participate at this time, please close this tab on your web browser.

<Page Break>

Online Screener for Write to Heal from Trauma

Please select your age:
- o 17 or younger
- o 18
- o 19
- o 20
- o 21
- o 22
- o 23
- o 24
- o 25
- o 26 or older

<Page Break> [survey stops here if participant selects 17 years-old or younger]

Please select which is true for you:
a) I have access to a computer with solid internet connection that I can use for a therapy session in a private space 1x-2x a week
b) I do not have a computer that I could use in a private space to attend virtual therapy sessions 1x-2x a week

<Page Break> [survey stops here if participant selects b]

Please identify yourself as:
a) UWM undergraduate student who is currently enrolled in a psychology course in which I can receive extra credit for participating in research studies
b) UWM undergraduate who is NOT currently enrolled in a psychology course which offers extra credit for participating in research
c) I am not a UWM undergraduate student

<Page Break> [survey stops here if either b or c is selected]

Please identify as:
a) I am currently enrolled in psychotherapy
b) I am not currently in psychotherapy

<Page Break> [survey stops here if a is selected]

Have you started medication for anxiety or depression in the last 12 weeks?
a) Yes
b) No

<Page Break> [survey stops here if a is selected]

In the 3 months, have you engaged in the following behaviors to deliberately harm yourself without trying to kill yourself (check all that apply)?

a) Cutting or carving your skin
b) Burn your skin (i.e., with a cigarette, match or other hot object)
c) I have not engaged in any self-harm in the last 3 months (but have in the past)
d) I have never engaged in self-harm behaviors

[this item only appears if participant checks either a or b of previous question]
If yes, have you engaged in the behavior(s) more than one time in the past 3 months?

a) Yes
b) No

<Page Break> [survey stops here if participant endorses any self-harm in the past three months AND state that they have engaged in the behavior more than 1x in the past 3 months]

Please read of the following groups of statements carefully. Then pick out the statement in each group that best describes the way you have been feeling in the past month

Thoughts of Death or Suicide

0. I do not think of suicide or death.
1. I feel that life is empty or wonder if it's worth living.
2. I think of suicide or death several times a week for several minutes
3. I think of suicide or death several times a day in some detail, or I have made specific plans for suicide or have actually tried to take my life.

Have you tried to kill yourself in the past year?

a) Yes
b) No

<Page Break> [survey stops here if any of the following is true: a) participant endorses a 2 or higher on thoughts of death or suicide item; b) participant states that they tried to kill themselves in the last year

LEC

Instructions: Listed below are a number of difficult or stressful things that sometimes happen to people. For each event check whether it happened to you or you witnessed it happen to someone else
Be sure to consider your entire life (growing up as well as adulthood) as you consider the list of events.

Event	Happened to me or witnessed it	Doesn't apply
1. Natural disaster (for example, flood, hurricane, tornado, earthquake)		
2. Fire or explosion		
3. Transportation accident (for example, car accident, boat accident, train wreck, plane crash)		
4. Serious accident at work, home, or during recreational activity)		
5. Exposure to toxic substance (for example, dangerous chemicals, radiation)		
6. Physical assault (for example, being attacked, hit, slapped, kicked, beaten up		

7. Assault with a weapon (for example, being shot, stabbed, threatened with a knife, gun, bomb)		
8. Sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm)		
9. Other unwanted or uncomfortable sexual experience		
10. Combat or exposure to a war-zone (in the military or as a civilian)		
11. Captivity (for example, being kidnapped, abducted, held hostage, prisoner of war)		
12. Life-threatening illness or injury		
13. Severe human suffering		
14. Sudden violent death (for example, homicide, suicide)		
15. Sudden accidental death		
16. Serious injury, harm, or death you caused to someone else		

<Page Break> [survey stops here if none of the "it happened to me or witnessed" items are checked]

PCL-5

Below is a list of problems that people sometimes have in response to a very stressful experience. **Keeping in mind the worst event you checked off in the previous questionnaire**, please read each problem carefully and then indicate how much you have been bothered by that problem in the past month.

Avoidance:

In the past month, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
6. Avoiding memories, thoughts, or feelings related to the stressful experience?					
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?					

<Page Break> [survey stops here if 'moderately' or above is NOT selected for EITHER question 6 or 7]

Intrusions:

In the past month, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing, and unwanted memories of the stressful experience?					
2. Repeated, disturbing dreams of the stressful experience?					
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?					

4. Feeling very upset when something reminded you of the stressful experience?					
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?					

<Page Break> [only continue to alterations in cognition and mood if "moderately" or higher is NOT selected on at least one of the 5 questions. Otherwise, skip to alcohol question.]

Alterations in cognition and mood:

In the past month, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
8. Trouble remembering important parts of the stressful experience?					
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?					
10. Blaming yourself or someone else for the stressful experience or what happened after it?					
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?					
12. Loss of interest in activities that you used to enjoy?					
13. Feeling distant or cut off from other people?					
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?					

<Page Break> [only continue to arousal and reactivity if "moderately" or higher is NOT selected on at least two of the 7 questions. Otherwise, skip to alcohol question.]

Arousal and Reactivity:

In the past month, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
15. Irritable behavior, angry outbursts, or acting aggressively?					
16. Taking too many risks or doing things that could cause you harm?					
17. Being "super alert" or watchful or on guard?					
18. Feeling jumpy or easily startled?					
19. Having difficulty concentrating?					
20. Trouble falling or staying asleep?					

<Page Break> [survey stops here if participant does not meet criteria for subthreshold PTSD or probably PTSD which is defined by endorsing at least two clusters of symptoms with one of the symptoms being in the avoidance cluster]

Please answer the following question. Please note that the definition of 'one drink' depends on the type of drink. For example, one drink of beer = 12 oz; one drink of wine = 5 oz; one drink of liquor = 1.5 oz (one shot).

How often have you drunk at least 4 drinks containing alcohol in the last year?	Never	Monthly or less	2-4 times a month	2-3 times a week	4 or more times a week

<Page Break> [Survey ends here if participant endorses 2-4 times a month or higher]

Message for ineligible participant (who are ineligible due to endorsing suicide):

Please note that no one is reading your responses right now and the researchers have no way to connect your responses to your name.

We are so sorry you are in so much pain. Please know that help is available. You don't have to go through this on your own.

Below are some resources to connect you with people who want to help:

National suicide Hotline: 1-800-273-TALK (8255)
Crisis Text Line: Text HOME to 741741
University Counseling Services: https://uwm.edu/norris/university-counseling-services/
https://www.nowmattersnow.org/ "

Also, see the mental health resource sheet provided.

[link to mental health sheet resource sheet]

Thank you for your interest in our study.

It looks like this study would not be a good fit for your needs.

We appreciate the time you spent filling out the screener. Please consider looking at other studies offered through the UWM psychology department to find a study that is right for you.

If you have any questions or concerns about the study please contact Graduate Student Principal Investigator, Maya Krek, at mayakrek@uwm.edu, or Principal Investigator, Dr. Shawn Cahill, at cahill@uwm.edu.

You may contact the UWM IRB at (414) 662-3544 or irbinfo@uwm.edu if you have any questions about your rights or complaints about your treatment as a research participant.

Message for ineligible participants (who are ineligible not due to endorsing suicide):

Thank you for your interest in our study.

I regret to inform you that your answers to the screening questions indicate that you are not a good fit for our study.

We appreciate the time you spent filling out the screener. Please consider looking at other studies offered through the UWM psychology department to find a study that is right for you.

If after completing this survey you feel that you need to talk to someone, call 1-800-656-HOPE, a National Hotline (24 hours).

Also, see the mental health resource sheet provided.

[link to mental health resource sheet]

If you have any questions or concerns about the study please contact Graduate Student Principal Investigator, Maya Krek, at mayakrek@uwm.edu, or Principal Investigator, Dr. Shawn Cahill, at cahill@uwm.edu.

You may contact the UWM IRB at (414) 662-3544 or irbinfo@uwm.edu if you have any questions about your rights or complaints about your treatment as a research participant.

Message for eligible participants:

Thank you for your interest in our study.

Your answers to our screening questions indicate that you are eligible to schedule the baseline appointments for the study based on your experiences in the past.

In order to sign up for the study, login into SONA: https://uwmilwaukee.sona-systems.com

Under Studies, find study "Write to Heal from Trauma" and use the following **invitation code** to sign up for a timeslot: [insert code]

If after completing this survey you feel that you need to talk to someone, call 1-800-656-HOPE, a National Hotline (24 hours). Also, see the mental health resource sheet provided.

[link to mental health resource sheet]

If you have any questions or concerns about the study please contact Graduate Student Principal Investigator, Maya Krek, at mayakrek@uwm.edu, or Principal Investigator, Dr. Shawn Cahill, at cahill@uwm.edu.

You may contact the UWM IRB at (414) 662-3544 or irbinfo@uwm.edu if you have any questions about your rights or complaints about your treatment as a research participant.

Appendix B

Baseline Assessment Part 1 Materials

B1. Participant Emergency Contact and Safety Sheet

B2. Study Informed Consent Form

B3. Participant ID Calculation Form

B4. Baseline Part 1 Self-Reports

B1. Participant Emergency Contact and Safety Sheet

Participant name:

Date of Telehealth Session:
Phone Number:

Primary Email Address:
Secondary Email Address:

Address where they will be during the appointment:
Emergency contact phone number for someone if needed:
Closest Emergency department:

B2. Study Informed Consent Form

Study title	Write to Heal from Trauma
Researchers	Maya Krek, BS (Department of psychology) Shawn Cahill, PhD (Department of psychology)

We're inviting you to participate in a research study. Participation is completely voluntary. If you agree to participate now, you can always change your mind later. There are no negative consequences, whatever you decide.

Overview

Purpose: The purpose of our study is to understand whether college students with posttraumatic stress symptoms find a telehealth version of Written Exposure Therapy helpful and acceptable. Written Exposure Therapy when delivered in-person has been found helpful in prior studies with non-student populations.

Procedures: You will be participating in two baseline appointments that will each take about 1.5 hours. During the first baseline appointment, you will complete the consent process as well as fill out some self-report questionnaires about your demographics and mental health symptoms. The second baseline appointment will take place within seven days of appointment and will include about an hour interview about your trauma-specific symptoms, as well as about 30 minutes of self-report questionnaires which will ask about your trauma-specific symptoms and experiences. During the first baseline appointment, we will ask you to schedule five therapy sessions to be completed in two to four weeks.

Therapy sessions will last between 40 - 60 minutes, with approximately 30 minutes of each therapy session spent recounting your past trauma through writing and/or writing about the impact of your past trauma on your life. The remaining time will be spent receiving some feedback and processing the writing activity with your therapist. All writing will be completed in a Qualtrics survey. Therefore, you must have access to a computer to participate in this study. After the 3rd therapy session, you will be asked to complete a brief questionnaire that will check in about your symptoms as well as how you feel about working with your therapist. One week after your last therapy session, you will be asked to complete a post-treatment interview and questionnaires. One month after the post-treatment interview, you will be sent an email with final questionnaires to complete.

Time Commitment: The whole study should take about approximately 10 hours. This includes the two baseline appointments, five therapy sessions, interim assessment, post-treatment assessment, and follow-up assessment.

Primary risks: There is the possibility that you might become emotionally distressed while completing the self-report questionnaires, during the interviews in which you will talk about your traumatic stress symptoms, and during the therapy sessions in which you will be writing in detail about the traumatic event you experienced and receiving feedback from your therapist. Another risk is breach of confidentiality or your online data being hacked and intercepted. Several steps that are described below will be taken to minimize these risks.

Benefits: You might benefit from the therapy appointments. However, we cannot guarantee this treatment will helpful to you. Furthermore, you will be helping researchers understand how to improve the delivery of treatments for traumatic stress symptoms.

What is the purpose of this study?

We want to understand whether an existing treatment called Written Exposure Therapy that was designed to help people process traumatic events and usually administered in-person is helpful when delivered in an online format. Specifically, we are interested in the user experience of the client; that is, whether participants find the treatment format feasible and helpful.

What will I do?

This study involves several video conferencing meetings with study personnel via Microsoft Teams video chat. For Teams video chats, please make sure you are in a private setting during the therapy sessions where you cannot be overheard or disturbed. *If you are in a public space (e.g., library, student union, dorm common room, etc.) at the start of a session, we will stop the session and reschedule for a different time when you have access to a private space. W*e will also ask you to please silence or turn off your phone during these meetings to minimize distractions.

If you take part in this study, you will be doing the following:

a) **Baseline Assessment: Part 1**. We will schedule a time for us to meet via a Microsoft Teams video conferencing call. During that meeting you will complete several questionnaires about your demographics, symptoms of depression, and drinking habits. This meeting should take about 1.5 hours.

   At the end of this first appointment, we will ask you to schedule all your therapy sessions (5 in total). Ideally, we would like you to schedule and complete two therapy sessions per week, but you can take up to one month to complete the therapy program. Note that if you are unable to complete all 5 sessions in 4 weeks, you will be withdrawn from the therapy portion of the study. This means that you will not be able to receive any more therapy sessions but will be able to continue with the assessments and will still receive the compensation for the assessments.

   Baseline Assessment: Part 2. The second baseline assessment will take place within 7 days of the Baseline Assessment Part 1. During this Microsoft Teams appointment, you will complete an interview about your trauma symptoms. You will also fill out some self-report questionnaires that ask you a bit more about your trauma specific symptoms and experiences. Altogether, this appointment should take about 1.5 hours. You will be able to take breaks as necessary. This assessment will be recorded to ensure the assessment is being conducted properly. All videos will be deleted once all the tapes have been reviewed to ensure adherence to the assessment protocol. Upon your request, we will send you email reminders approximately 24 hours in advance of your scheduled assessment.

   Note that there is a possibility that you might be found ineligible after you complete both baseline assessments. If that is the case, a study staff member will call you to let you know that you are ineligible and provide you with the diagnostic results of the assessment. Your data will be retained.

b) **Therapy Sessions**: All five therapy sessions will be administered via Microsoft Teams video chatting. All video sessions will be recorded. This is to ensure that the treatment is being conducted properly. All videos will be deleted once all the tapes have been reviewed to ensure adherence to treatment protocols. Upon your request, we will send you email reminders approximately 24 hours in advance of your scheduled therapy sessions.

   The first therapy session will last 60 minutes, all subsequent sessions will last 40 minutes. The first part of session one will be spent going over your diagnostic results from the assessment, explaining the nature of trauma, giving you an overview of the treatment. Then, you will be provided specific instructions of how to write about a specific trauma you have experienced. You will be asked to write for 30 minutes. The end of the session will be used to briefly process your writing.

Sessions two through five all have the same format. During the first part of the session, your therapist will review with you the writing you did in the prior session. Then, you will get instructions for that day's writing prompt. Then, you will write for 30 minutes after which you and your therapist will briefly discuss your writing process. You will not be asked to complete any therapy activities between sessions.

After each session, you will have the option of saving your essay and essay instructions to your computer to keep for your personal review and use later on. Whether you wish to do so is entirely up to you.

c) **Interim Assessment**: Upon completion of your third session, you will be asked to complete a very brief questionnaire that will be emailed to you. The questionnaire will check-in about symptoms of depression and trauma specific symptoms. You will also complete a questionnaire that will ask you to rate your experience with your therapist.

d) **Post Treatment Assessment**: You will be asked to complete a post-treatment assessment appointment one week after you complete your last therapy session. The assessment will be recorded and occur over Microsoft Teams and you will be asked questions similar to those asked at the baseline assessments. Specifically, questions will be about symptoms of depression and traumatic specific symptoms. You will also be completing an interview on your trauma symptoms. The study assessor will share the results of your interview assessment with you. This appointment should take about 1 hour.

e) **Follow-up Assessment**: One month after you complete your last therapy appointment, you will be emailed the link to an online survey to complete. The questionnaire will include questions about symptoms of depression and trauma specific symptoms. This questionnaire should take you about 30 minutes to complete.

Risks

Possible risks	**How we're minimizing these risks**
Some questions as well as written disclosures and discussions with your therapist may be personal or upsetting	You can skip any questions you don't want to answer. In addition, you may discontinue your participation in the study at any time.
Dual relationships (e.g. having one of your Tas serving as a study staff member)	During the first baseline appointment, we will be providing you with a list of classes that the study staff TA. If one of your Tas is a study staff member have multiple options. 1) You can decide you do not wish to participate in the study, <u>in which case you should not sign this consent form</u>. 2) You can decide to participate in this study given that your TA will not be your therapist and will not have access to your study information. 3) You can decide that you are okay with the TA being your therapist given that they can stop grading your work in the class.
Breach of confidentiality (your data being seen by someone who shouldn't have access to it)	• We'll store all electronic data in password-protected, encrypted documents. • We'll keep your identifying information separate from your research data, but we'll be able to link it to you by using a study ID.

Online data being hacked or intercepted	• This is a risk you experience any time you provide information online. We're using a secure system to conduct video therapy sessions and collect self-report data, but we can't completely eliminate this risk. You may choose to use a pseudonym or "fake" name during the therapy sessions and assessments to prevent your name from being audio-recorded during those meetings. Any data collected online will be identified with an ID number rather than your name.

There may be risks we don't know about yet. Throughout the study, we'll tell you if we learn anything that might affect your decision to participate.

Other Study Information

Possible benefits	• Previous research has indicated that Written Exposure Therapy has yielded benefits in in-person formats. Therefore, we believe it is likely that you will experience at least some alleviation in your PTSD symptoms if you complete the entire therapy program (though we cannot guarantee this). • By participating, you will be helping researchers understand how to improve delivery of treatments for traumatic stress. Therefore, you will be indirectly helping others who have experienced traumatic stress as hopefully this research will inform future practice.
Other Therapy Enrollment	As we are exploring the acceptability of a type of psychotherapy, we ask that you refrain from attending any other psychotherapy services for the duration of our research study. *Note that if you are experiencing an emergency during your time enrolled in the study, please do not hesitate to call 911 or go to your nearest emergency room. Also, if during the course of the study you feel like your needs are not being met and you need a different type of service, please let us know and we will be happy to provide you with referrals.*
Estimated number of participants	30
How long will it take?	Baseline part 1 assessment: about 1.5 hours Baseline part 2 assessment: about 1.5 hours 5 therapy sessions: together total about 5 hours Interim assessment: about 0.5 hours Post treatment assessment: about 1 hour Follow-up assessment: about 0.5 hour *Total time commitment: about 10 hours*
Costs	None
Compensation	Baseline part 1 assessment: 1.5 hours of extra credit Baseline part 2 assessment: 1.5 hours of extra credit Interim assessment: 0.5 hours of extra credit Post Treatment assessment: 1 hour of extra credit Follow-up assessment: $10 amazon gift card Please note that you will not be receiving any compensation for completing the therapy sessions. If you participate in this study, you will be able to receive up to 4.5 hours of extra credit for completing assessments (see above). Since classes typically have a maximum

	number of extra credit hours they allow students to accumulate, awarding extra credit for therapy attendance most likely would not benefit you.
If I don't want to be in this study, are there other options?	Instead of participating, SONA has a non-research option for extra credit which involves writing a brief research report to earn 1 hour of extra credit. In addition, UWM students may receive mental health treatment at no cost through the UWM Norris Health Center. In addition, students make seek mental health treatment through local community clinics, although it is likely there will be a fee for these services. A list of some treatment resources will be provided at the end of this meeting.
Future research	De-identified (all identifying information removed) data may be shared with other researchers. You won't be told specific details about these future research studies.
Recordings / Photographs	We will video record all assessment and therapy sessions using Microsoft Teams. The recordings will be used to make sure the assessment and treatment is being conducted properly. The recording is necessary to this research. If you do not want to be recorded, you should not be in this study.

What if I am harmed because I was in this study?
If you're harmed from being in this study, let us know. If it's an emergency, get help from 911 or your doctor right away and tell us afterward. We can help you find resources if you need psychological help. In addition, if study personnel determine that your condition has significantly worsened during the therapy phase of this study, the therapy may be discontinued by the investigators and you will be provided with information about alternative resources. You or your insurance will have to pay for all costs of any non-study treatment you need.

Confidentiality and Data Security
We'll collect the following identifying information for the research: your name, address, phone number, emergency contact, and email address. This information is necessary to make sure we have the info needed to keep you safe in case a crisis occurs during an appointment. We also collect this data to be able to contact you in-between sessions to remind you of therapy appointments, assessment appointments and to grant you extra credit and compensation for your participation.

Where will data be stored?	All electronic data and video files will be stored on Microsoft Teams.
How long will it be kept?	Identifying information will be stored for 10 years. De-identified data will be kept indefinitely.

Who can see my data?	**Why?**	**Type of data**
The researchers	To conduct the study and analyze the data	**Identifiable** (with your name included) –informed consent documents, file with contact information **Coded** (names removed and labeled with a study ID) – e.g. self-report questionnaires and interview answers recorded in

		Qualtrics, data files used for data analysis
The IRB (Institutional Review Board) at UWM The Office for Human Research Protections (OHRP) or other federal agencies	To ensure we're following laws and ethical guidelines	**Identifiable** (with your name included) –informed consent documents, file with contact information **Coded** (names removed and labeled with a study ID) – e.g. self-report questionnaires and interview answers recorded in Qualtrics, data files used for data analysis **De-identified** (no names, birthdate, address, etc. attached to the data) – e.g. data files
Anyone (public)	If we share our findings in publications or presentations	• Aggregate (grouped) data • De-identified (no names, birthdate, address, etc.) • If we quote you, we'll use a pseudonym (fake name)

A description of this study will be posted on https://clinicaltrials.gov/. You can search this website at any time. This website won't include information that can identify you. At most, it will include a summary of the results.

Mandated Reporting

We are mandated reporters. This means that Wisconsin law requires that, under the following conditions, we release information about you with or without your approval.

Those conditions are:

1. Suspected Child Abuse: As psychologists we are required by law to report suspected child abuse (physical, sexual, and neglect).

2. Potential Threat to Others or Suicide: In instances where we believe that you pose a serious threat to the health or safety of others, we may have to notify the intended victim and police. Likewise, if a client is deemed a serious suicidal risk, family or authorities may need to be notified in order to protect the client.

3. Suspected Abuse of a Vulnerable Adult: As psychologists we are required by law to report suspected abuse of a dependent elder or vulnerable adult.

4. Court Order: If a court of law issues a court order for a client's records, we must release these records to the court.

In addition, Wisconsin State Statutes require that all employees of the University of Wisconsin Milwaukee report occurrences of sexual assault. Should you report a history of any of these events, study therapists

will report that to the research director without disclosing identifying information about you. At the end of each calendar year the research director files these deidentified group statistics with the Dean of Students.

Contact information:

For questions about the research	Maya Krek, BS Shawn Cahill, PhD	mayakrek@uwm.edu cahill@uwm.edu
For questions about your rights as a research participant	IRB (Institutional Review Board; provides ethics oversight)	414-662-3544 / irbinfo@uwm.edu
For complaints or problems	Maya Krek, BS Shawn Cahill, PhD	mayakrek@uwm.edu cahill@uwm.edu
	IRB	414-662-3544 / irbinfo@uwm.edu

Signatures

If you have had all your questions answered and would like to participate in this study, sign on the lines below. Remember, your participation is completely voluntary, and you're free to withdraw from the study at any time.

_____

Name of Participant (print)

_____ _____

Signature of Participant Date

B3. Participant ID Calculation Form

Subject Number Calculation Form

Record the first letter of the name of the high school you attended

(Capital letter): _____

1

Record the first letter of your favorite color: _____

2

Record the month and day of your birth date: _____ _____ / _____ _____

3 4 5 6

Record the first three letters of the city

in which you were born (capital letters): _____ _____ _____

7 8 9

To make your ID number, write in each of the corresponding letters and numbers on the lines below:

_____ _____ _____ _____ _____ _____ _____ _____ _____

1 2 3 4 5 6 7 8 9

Write out your completed ID number on this line: _____

You will need this number for every questionnaire you fill out today. Please also remember this number for your follow-up.

B4. Baseline Part 1 Self-Reports

Demographics

Age:
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26 or older

Gender
- Female
- Male
- Trans Male
- Trans Female
- Genderqueer/ Gender non-conforming
- Not listed (please state): _____
- Prefer not to say

Sexual Orientation
- Bisexual
- Gay
- Heterosexual/ Straight
- Lesbian
- Pansexual
- Asexual
- Questioning/Unsure
- Not listed (please specify): _____
- Prefer not to say

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Ethnicity
- Hispanic or Latino
- Non-Hispanic or Latino

Race (Check all that apply)
- Black or African American
- Asian
- Native Hawaiian/Pacific Islander
- White
- American Indian/Alaskan Native
- Not listed (please specify):_____

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Year in School
- Year 1
- Year 2
- Year 3
- Year 4
- Year 5+

Relationship status (check all the apply)
- Single
- Dating
- In a committed romantic relationship
- Married
- Divorced or separated
- Widowed
- Other: _____

Which whom do you live (check all that apply)
- I live by myself
- Roommate(s) from college
- Roommate(s) who do not attend my college
- Family
- Significant other
- Other: _____

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QIDS-SR$_{16}$

During the past 7 days...

1) Falling Asleep:
    a. (0) I never take longer than 30 minutes to fall asleep
    b. (1) I take at least 30 minutes to fall asleep, less than half of the time
    c. (2) I take at least 30 minutes to fall asleep, more than half of the time
    d. (3) I take more than 60 minutes to fall asleep, more than half of the time

2) Sleep During the Night:
    a. (0) I do not wake up at night
    b. (1) I have a restless, light sleep with a few brief awakenings each night
    c. (2) I wake up at least once a night, but go back to sleep easily
    d. (3) I awaken more than once a night and stay awake for 20 minutes or more, more than half the time

3) Waking Up Too Early:
    a. (0) Most of the time, I awaken no more than 20 minutes before I need to get up
    b. (1) More than half the time, I awaken more than 30 minutes before I need to get up
    c. (2) I am almost always awaken at least one hour or so before I need to , but I go back to sleep eventually
    d. (3) I awaken at least one hour before I need to, and I can't go back to sleep

4) Sleeping Too Much:
    a. (0) I sleep no longer than 7-8 hours/night, without napping during the day
    b. (1) I sleep no longer than 10 hours in a 24-hour period including naps
    c. (2) I sleep no longer than 12 hours in a 24-hour period including naps
    d. (3) I sleep longer than 12 hours in a 24-hour period including naps

During the past seven days...

5) Feeling Sad:
    a. (0) I do not feel sad
    b. (1) I feel sad less than half of the time
    c. (2) I feel sad more than half of the time
    d. (3) I feel sad nearly all of the time

Please complete either 6 or 7 (not both)

6) Decreased Appetite:
    a. (0) There is no change in my usual appetite
    b. (1) I eat somewhat less often or lesser amounts of food than usual
    c. (2) I each much less than usual and only with personal effort
    d. (3) I rarely eat within a 24-hour period, and only with extreme personal effort or when others persuade me to eat

7) Increased Appetite:
    a. (0) There is no change from my usual appetite
    b. (1) I feel a need to eat more frequently than usual
    c. (2) I regularly eat more often and/or greater amounts of food than usual

d. (3) I feel driven to overeat both at mealtimes and between meals

Please complete either 8 or 9 (not both)

8) Decreased Weight (within the last 2 weeks)
   a. (0) I have not had a change in my weight
   b. (1) I feel as if I have had a slight weight loss
   c. (2) I have lost 2 pounds or more
   d. (3) I have lost 5 pounds or more

9) Increased Weight (within the last 2 weeks)
   a. (0) I have not had a change in my weight
   b. (1) I feel as if I have had a slight weight gain
   c. (2) I have gained 2 pounds or more
   d. (3) I have gained 5 pounds or more

During the past 7 days...

10) Concentration / Decision Making:
   a. (0) There is no change in my usual capacity to concentrate or make decisions
   b. (1) I occasionally feel indecisive or find that my attention wanders
   c. (2) Most of the time, I struggle to focus my attention or to make decisions
   d. (3) I cannot concentrate well enough to read or cannot make even minor decisions

11) View of Myself:
   a. (0) I see myself as equally worthwhile and deserving as other people
   b. (1) I am more self-blaming than usual
   c. (2) I largely believe that I cause problems for others
   d. (3) I think almost constantly about major and minor defects in myself

12) Thoughts of Death or Suicide:
   a. (0) I do not think of suicide or death
   b. (1) I feel that life is empty or wonder if it's worth living
   c. (2) I think of suicide or death several times a week for several minutes
   d. (3) I think of suicide or death several times a day in some detail, or I have made specific plans for suicide or have actually tried to take my life

*If the participant endorses a 2 or higher on item 12, the following message will appear:

Please note that no one is reading your responses right now. We are sorry to hear that you are in pain right now. Please know that help is available. You do not have to go through this on your own. Below are some resources to connect you with people who can help get you through this painful moment:

National suicide Hotline: 1-800-273-TALK (8255)
Crisis Text Line: Text HOME to 741741
University Counseling Services: https://uwm.edu/norris/university-counseling-services/
https://www.nowmattersnow.org/

If you feel like you cannot keep yourself safe, please visit your nearest emergency room.

13) General Interest
    a. (0) There is no change from usual in how interested I am in other people or activities
    b. (1) I notice that I am less interested in people or activities
    c. (2) I find I have interest in only one or two of my formerly pursued activities
    d. (3) I have virtually no interest in formerly pursued activities

During the past 7 days...

14) Energy Level:
    a. (0) There is no change in my usual level of energy
    b. (1) I get tired more easily than usual
    c. (2) I have to make a big effort to start or finish my usual daily activities (for example, shopping, homework, cooking, or going to work)
    d. (3) I really cannot carry out most of my usual daily activities because I just don't have the energy

15) Feeling Slowed Down:
    a. (0) I think, speak, and move at my usual rate of speed
    b. (1) I find that my thinking is slowed down or my voice sounds dull or flat
    c. (2) It takes me several seconds to respond to most questions and I'm sure my thinking is slowed
    d. (3) I am often unable to respond to questions without extreme effort

16) Feeling restless:
    a. (0) I do not feel restless
    b. (1) I'm often fidgety, wringing my hands, or need to shift how I am sitting
    c. (2) I have impulses to move about and am quite restless
    d. (3) At times, I am unable to stay seated and need to pace around

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Alcohol Use Disorders Identification Test (AUDIT)

Please answer the following questions regarding your drinking habits in the last year. Please note that the definition of 'one drink' depends on the type of drink. For example, one drink of beer = 12 oz; one drink of wine = 5 oz; one drink of liquor = 1.5 oz (one shot).

1. How often do you have a drink containing alcohol?	Never	Monthly or less	2-4 times a month	2-3 times a week	4 or more times a week
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	0-2	3 or 4	5 or 6	7-9	10 or more
3. How often do you have five or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily

4. How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
5. How often during the last year have you failed to do what was normally expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
8. How often during the last year have you been unable to remember what happened the night before because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
9. Have you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, in the last year
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	No		Yes, nut not in the last year		Yes, in the last year

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Thank you for taking the time to complete these questionnaires! Please let the researcher know you are finished!

Also, if you feel like you need extra support, please see the mental health resource sheet provided.

Appendix C

Baseline Assessment Part 2 Materials

C1. Baseline Part 2 Interview

C2. Baseline Part 2 Self-Reports

C1. Baseline Part 2 Interview

LEC – Interview

Instructions: I will be listing a number of difficult or stressful things that sometimes happen to people. For each event I state, let me know where: (a) it happened to you personally; (b) you witnessed it happen to someone else; (c) you learned about it happening to a close family member or close friend; (d) you were exposed to it as part of your job (for example, paramedic, police, military, or other first responder); (e) you're not sure if it fits; or (f) it doesn't apply to you.

Be sure to consider your entire life (growing up as well as adulthood) as you consider the list of events.

Event	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
1. Natural disaster (for example, flood, hurricane, tornado, earthquake)						
2. Fire or explosion						
3. Transportation accident (for example, car accident, boat accident, train wreck, plane crash)						
4. Serious accident at work, home, or during recreational activity)						
5. Exposure to toxic substance (for example, dangerous chemicals, radiation)						
6. Physical assault (for example, being attacked, hit, slapped, kicked, beaten up						
7. Assault with a weapon (for example, being shot, stabbed, threatened with a knife, gun, bomb)						
8. Sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm)						
9. Other unwanted or uncomfortable sexual experience						
10. Combat or exposure to a war-zone (in the military or as a civilian)						
11. Captivity (for example, being kidnapped, abducted, held hostage, prisoner of war)						
12. Life-threatening illness or injury						
13. Severe human suffering						
14. Sudden violent death (for example, homicide, suicide)						
15. Sudden accidental death						
16. Serious injury, harm, or death you caused to someone else						
17. Any other very stressful event or experience: _____						

CAPS-5 past month version

(Due to copyright, not shown here)

C2. Baseline Part 2 Self-Reports

Baseline Self-Reports Part 2

Please answer the following questions. You are free to skip over any questions you do not feel comfortable answering.

PCL-5

Below is a list of problems that people sometimes have in response to a very stressful experience. **Keeping in mind the traumatic even you just discussed in the interview**, please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

In the past month, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing, and unwanted memories of the stressful experience?					
2. Repeated, disturbing dreams of the stressful experience?					
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?					
4. Feeling very upset when something reminded you of the stressful experience?					
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?					
6. Avoiding memories, thoughts, or feelings related to the stressful experience?					
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?					
8. Trouble remembering important parts of the stressful experience?					
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?					

10. Blaming yourself or someone else for the stressful experience or what happened after it?					
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?					
12. Having strong negative feelings such as fear, horror, anger, guilt, or shame?					
13. Feeling distant or cut off from other people?					
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?					
15. Irritable behavior, angry outbursts, or acting aggressively?					
16. Taking too many risks or doing things that could cause you harm?					
17. Being "super alert" or watchful or on guard?					
18. Feeling jumpy or easily startled?					
19. Having difficulty concentrating?					
20. Trouble falling or staying asleep?					

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PTCI-36

We are interested in the kind of thoughts which you may have had after a traumatic experience. Below are a number of statements that may or may not be representative of your thinking.

Please read each statement carefully and tell us how much you AGREE or DISAGREE with each statement.

People react to traumatic events in many different ways. There are no right or wrong answers to these statements.

	Totally Disagree	Disagree Very Much	Disagree Slightly	Neutral	Agree Slightly	Agree Very Much	Totally Agree
1. The event happened because of the way I acted.							
2. I can't trust that I will do the right thing.							
3. I am a weak person.							
4. I will not be able to control my anger							

and will do something terrible.							
5. I can't deal with even the slightest upset.							
6. I used to be a happy person but now I am always miserable.							
7. People can't be trusted.							
8. I have to be on guard all the time.							
9. I feel dead inside.							
10. You can never know who will harm you.							
11. I have to be especially careful because you never know what can happen next.							
12. I am inadequate.							
13. I will not be able to control my emotions, and something terrible will happen.							
14. If I think about the event, I will not be able to handle it.							
15. The event happened to me because of the sort of person I am.							
16. My reactions since the event mean that I am going crazy.							
17. I will never feel normal emotions again.							
18. The world is a dangerous place.							
19. Somebody else would have stopped the event from happening.							
20. I have permanently changed for the worst.							
21. I feel like an object, not a person.							

22. Somebody else would not have gotten into this situation.							
23. I can't rely on other people.							
24. I feel isolated and set apart from others.							
25. I have no future.							
26. I can't stop bad things from happening to me.							
27. People are not what they seem.							
28. My life has been destroyed by the trauma.							
29. There is something wrong with me as a person.							
30. My reactions since the event show that I am a lousy coper.							
31. There is something about me that made the event happen.							
32. I will not be able to tolerate my thoughts about the event, and I will fall apart.							
33. I feel like I don't know myself anymore.							
34. You never know when something terrible will happen.							
35. I can't rely on myself.							
36. Nothing good can happen to me anymore.							

<Page Break>

Thank you so much for taking the time to fill out these questionnaires!
You will be receiving 1.5 hours of extra credit within one week.
Please let the research staff member know that you are finished.
Also, if you feel like you need extra support, please see the mental health resource sheet provided.
[mental health resource sheet]

Appendix D

Therapy Materials

D1. Session Writing Prompts

D2. Post Session Resource Sheet

D3. Session Note Templates

D1. Session Writing Prompts
(Due to copyright, not shown here. See: Sloan, D. M., & Marx, B. P. (2019). *Written exposure therapy for PTSD: A brief treatment approach for mental health professionals*. American Psychological Association.)

D2. Post Session Resource Sheet

National suicide Hotline: 1-800-273-TALK (8255)

Crisis Text Line: Text HOME to 741741

https://www.nowmattersnow.org/

D3. Session Note Templates

Session 1 Note
Date and time of session:
Duration of session: 60 min
Participant ID:

Pre-writing SUDs:
Post Writing SUDs:

In-session activities (check all that apply)
☐ Provided diagnostic feedback
☐ Provided general info about common reactions to trauma
☐ Provided info about how PTSD symptom are maintained
☐ Explained why writing about trauma will help them heal
☐ Read writing instructions to client
☐ Client wrote for ~30 minutes
☐ Processed writing for ~10 minutes

☐ Read script re: allowing thoughts images and feelings to arise between sessions
☐ Read closing script to client re: avoidance

Behavioral observations, other relevant info, plan:

Therapist:

Signature:

Supervisor: Shawn Cahill, PhD

Signature:

Session 2 Note
Date and time of session:
Duration of session: 40 min
Participant ID:

Pre-writing SUDs:
Post Writing SUDs:

In-session activities (check all that apply)
☐ Checked in and inquired how frequently clients thought about trauma between sessions
☐ Provided feedback to client regarding client narrative

☐ Read writing instructions to client
☐ Client wrote for ~30 minutes
☐ Processed writing for ~5 minutes

☐ Read script re: allowing thoughts, images and feelings to arise between sessions

Behavioral observations, other info, plan:

Therapist:

Signature:

Supervisor: Shawn Cahill, PhD

Signature:

Session 3 Note
Date and time of session:
Duration of session: 40 min
Participant ID:

Pre-writing SUDs:
Post Writing SUDs:

In-session activities (check all that apply)
☐ Checked in with client how they have been doing since prior session
☐ Provide feedback to client of writing narrative

☐ Read writing instructions to client
☐ Client wrote for ~30 minutes
☐ Pointed out any decreases in SUDs
☐ Processed writing for ~5 minutes

☐ Read script re: allowing thoughts, images, and feelings to arise between sessions

Behavioral observations, other info, plan:

Therapist:

Signature:

Supervisor: Shawn Cahill, PhD

Signature:

Session 4 Note
Date and time of session:
Duration of session: 40 min
Participant ID:

Pre-writing SUDs:
Post Writing SUDs:

In-session activities (check all that apply)
☐ Checked in with client how they have been doing since prior session
☐ Provided feedback to client of writing narrative if needed
☐ Read writing instructions to client
☐ Client wrote for ~30 minutes
☐ Pointed out any decreases in SUDs
☐ Processed writing for ~5 minutes

☐ Read script re: allowing thoughts, images, and feelings to arise between sessions

Behavioral observations, other info, plan:

Therapist:

Signature:

Supervisor: Shawn Cahill, PhD

Signature:

Session 5 Note
Date and time of session:
Duration of session: 40 min

Participant ID:

Pre-writing SUDs:
Post Writing SUDs:

In-session activities (check all that apply)
☐ Checked in with client how they have been doing since prior session
☐ Provided feedback (positive) to client of writing narrative if needed
☐ Read writing instructions to client
☐ Client wrote for ~30 minutes
☐ Asked client about their experience with the treatment/ process writing for ~5 minutes
☐ Reminded client that they can continue to use their exposure coping skills when therapy ends and can refer to their narratives

Behavioral observations, other info, plan:

Therapist:

Signature:

Supervisor: Shawn Cahill, PhD

Signature:

Appendix E

Interim Assessment Materials

E1. Interim Assessment Self-Reports

E1. Interim Assessment Self-Reports

PCL-5

Below is a list of problems that people sometimes have in response to a very stressful experience. **Keeping in mind the traumatic event you are processing in therapy**, please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past week.

In the past week, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing, and unwanted memories of the stressful experience?					
2. Repeated, disturbing dreams of the stressful experience?					
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?					
4. Feeling very upset when something reminded you of the stressful experience?					
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?					
6. Avoiding memories, thoughts, or feelings related to the stressful experience?					
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?					
8. Trouble remembering important parts of the stressful experience?					
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?					
10. Blaming yourself or someone else for the stressful experience or what happened after it?					
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?					
12. Having strong negative feelings such as fear, horror, anger, guilt, or shame?					
13. Feeling distant or cut off from other people?					

14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?					
15. Irritable behavior, angry outbursts, or acting aggressively?					
16. Taking too many risks or doing things that could cause you harm?					
17. Being "super alert" or watchful or on guard?					
18. Feeling jumpy or easily startled?					
19. Having difficulty concentrating?					
20. Trouble falling or staying asleep?					

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PTCI-36

We are interested in the kind of thoughts which you may have had after a traumatic experience. Below are a number of statements that may or may not be representative of your thinking.

Please read each statement carefully and tell us how much you AGREE or DISAGREE with each statement.

People react to traumatic events in many different ways. There are no right or wrong answers to these statements.

	Totally Disagree	Disagree Very Much	Disagree Slightly	Neutral	Agree Slightly	Agree Very Much	Totally Agree
1. The event happened because of the way I acted.							
2. I can't trust that I will do the right thing.							
3. I am a weak person.							
4. I will not be able to control my anger and will do something terrible.							
5. I can't deal with even the slightest upset.							
6. I used to be a happy person but now I am always miserable.							
7. People can't be trusted.							

8. I have to be on guard all the time.							
9. I feel dead inside.							
10. You can never know who will harm you.							
11. I have to be especially careful because you never know what can happen next.							
12. I am inadequate.							
13. I will not be able to control my emotions, and something terrible will happen.							
14. If I think about the event, I will not be able to handle it.							
15. The event happened to me because of the sort of person I am.							
16. My reactions since the event mean that I am going crazy.							
17. I will never feel normal emotions again.							
18. The world is a dangerous place.							
19. Somebody else would have stopped the event from happening.							
20. I have permanently changed for the worst.							
21. I feel like an object, not a person.							
22. Somebody else would not have gotten into this situation.							
23. I can't rely on other people.							
24. I feel isolated and set apart from others.							
25. I have no future.							
26. I can't stop bad things from happening to me.							

27. People are not what they seem.							
28. My life has been destroyed by the trauma.							
29. There is something wrong with me as a person.							
30. My reactions since the event show that I am a lousy coper.							
31. There is something about me that made the event happen.							
32. I will not be able to tolerate my thoughts about the event, and I will fall apart.							
33. I feel like I don't know myself anymore.							
34. You never know when something terrible will happen.							
35. I can't rely on myself.							
36. Nothing good can happen to me anymore.							

<Page Break>

QIDS-SR$_{16}$

During the past 7 days...

1) Falling Asleep:
    a. (0) I never take longer than 30 minutes to fall asleep
    b. (1) I take at least 30 minutes to fall asleep, less than half of the time
    c. (2) I take at least 30 minutes to fall asleep, more than half of the time
    d. (3) I take more than 60 minutes to fall asleep, more than half of the time

2) Sleep During the Night:
    a. (0) I do not wake up at night
    b. (1) I have a restless, light sleep with a few brief awakenings each night
    c. (2) I wake up at least once a night, but go back to sleep easily
    d. (3) I awaken more than once a night and stay awake for 20 minutes or more, more than half the time

3) Waking Up Too Early:
    a. (0) Most of the time, I awaken no more than 20 minutes before I need to get up

b. (1) More than half the time, I awaken more than 30 minutes before I need to get up
c. (2) I am almost always awaken at least one hour or so before I need to , but I go back to sleep eventually
d. (3) I awaken at least one hour before I need to, and I can't go back to sleep

4) Sleeping Too Much:
    a. (0) I sleep no longer than 7-8 hours/night, without napping during the day
    b. (1) I sleep no longer than 10 hours in a 24-hour period including naps
    c. (2) I sleep no longer than 12 hours in a 24-hour period including naps
    d. (3) I sleep longer than 12 hours in a 24-hour period including naps

During the past seven days...

5) Feeling Sad:
    a. (0) I do not feel sad
    b. (1) I feel sad less than half of the time
    c. (2) I feel sad more than half of the time
    d. (3) I feel sad nearly all of the time

Please complete either 6 or 7 (not both)

6) Decreased Appetite:
    a. (0) There is no change in my usual appetite
    b. (1) I eat somewhat less often or lesser amounts of food than usual
    c. (2) I each much less than usual and only with personal effort
    d. (3) I rarely eat within a 24-hour period, and only with extreme personal effort or when others persuade me to eat

7) Increased Appetite:
    a. (0) There is no change from my usual appetite
    b. (1) I feel a need to eat more frequently than usual
    c. (2) I regularly eat more often and/or greater amounts of food than usual
    d. (3) I feel driven to overeat both at mealtimes and between meals

Please complete either 8 or 9 (not both)

8) Decreased Weight (within the last 2 weeks)
    a. (0) I have not had a change in my weight
    b. (1) I feel as if I have had a slight weight loss
    c. (2) I have lost 2 pounds or more
    d. (3) I have lost 5 pounds or more

9) Increased Weight (within the last 2 weeks)
    a. (0) I have not had a change in my weight
    b. (1) I feel as if I have had a slight weight gain
    c. (2) I have gained 2 pounds or more
    d. (3) I have gained 5 pounds or more

During the past 7 days...

10) Concentration / Decision Making:

a. (0) There is no change in my usual capacity to concentrate or make decisions
b. (1) I occasionally feel indecisive or find that my attention wanders
c. (2) Most of the time, I struggle to focus my attention or to make decisions
d. (3) I cannot concentrate well enough to read or cannot make even minor decisions

11) View of Myself:
a. (0) I see myself as equally worthwhile and deserving as other people
b. (1) I am more self-blaming than usual
c. (2) I largely believe that I cause problems for others
d. (3) I think almost constantly about major and minor defects in myself

12) Thoughts of Death or Suicide:
a. (0) I do not think of suicide or death
b. (1) I feel that life is empty or wonder if it's worth living
c. (2) I think of suicide or death several times a week for several minutes
d. (3) I think of suicide or death several times a day in some detail, or I have made specific plans for suicide or have actually tried to take my life

*If the participant endorses a 2 or higher on item 12, the following message will appear:

Please note that no one is reading your responses right now. We are sorry to hear that you are in pain right now. Please know that help is available. You do not have to go through this on your own. Below are some resources to connect you with people who can help get you through this painful moment:

National suicide Hotline: 1-800-273-TALK (8255)
Crisis Text Line: Text HOME to 741741
University Counseling Services: https://uwm.edu/norris/university-counseling-services/
https://www.nowmattersnow.org/

If you feel like you cannot keep yourself safe, please visit your nearest emergency room.

13) General Interest
a. (0) There is no change from usual in how interested I am in other people or activities
b. (1) I notice that I am less interested in people or activities
c. (2) I find I have interest in only one or two of my formerly pursued activities
d. (3) I have virtually no interest in formerly pursued activities

During the past 7 days...

14) Energy Level:
a. (0) There is no change in my usual level of energy
b. (1) I get tired more easily than usual
c. (2) I have to make a big effort to start or finish my usual daily activities (for example, shopping, homework, cooking, or going to work)
d. (3) I really cannot carry out most of my usual daily activities because I just don't have the energy

15) Feeling Slowed Down:
a. (0) I think, speak, and move at my usual rate of speed
b. (1) I find that my thinking is slowed down or my voice sounds dull or flat

c. (2) It takes me several seconds to respond to most questions and I'm sure my thinking is slowed
d. (3) I am often unable to respond to questions without extreme effort

16) Feeling restless:
a. (0) I do not feel restless
b. (1) I'm often fidgety, wringing my hands, or need to shift how I am sitting
c. (2) I have impulses to move about and am quite restless
d. (3) At times, I am unable to stay seated and need to pace around

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Working Alliance Inventory – Short Revised (WAI-SR)
(Not shown due to copyright: Society for Psychotherapy Research © 2016.)

<Page Break>

Thank you for completing the survey!

You will be receiving your 0.5 hours of extra credit within a week from today!

Also, if you feel like you need extra support, please see the mental health resource sheet provided.
[mental health resource sheet]

Appendix F

Post-treatment Assessment Materials

F1. Post-treatment Interview

F2. Post-treatment Self-Reports

F1. Post-treatment Interview

Have you made any changes to your medication since therapy began?

If yes:

- When did you make this medication change?
- Was this a new medication?
- Which medication, and what were the changes?

Have you started seeing a therapist since this study began?

If yes:

- When did you start seeing the therapist?
- How many sessions have you had?
- What type of therapy is it/ what are you working on?

CAPS-5 past week version

(Not shown due to copyright)

F2. Post-treatment Self-Reports

PCL-5

Below is a list of problems that people sometimes have in response to a very stressful experience. Keeping in mind **the traumatic event you processed in therapy**, please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the <u>past week.</u>

In the past week, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing, and unwanted memories of the stressful experience?					
2. Repeated, disturbing dreams of the stressful experience?					
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?					
4. Feeling very upset when something reminded you of the stressful experience?					
5. Having strong physical reactions when something reminded you of the stressful					

experience (for example, heart pounding, trouble breathing, sweating)?					
6. Avoiding memories, thoughts, or feelings related to the stressful experience?					
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?					
8. Trouble remembering important parts of the stressful experience?					
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?					
10. Blaming yourself or someone else for the stressful experience or what happened after it?					
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?					
12. Having strong negative feelings such as fear, horror, anger, guilt, or shame?					
13. Feeling distant or cut off from other people?					
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?					
15. Irritable behavior, angry outbursts, or acting aggressively?					
16. Taking too many risks or doing things that could cause you harm?					
17. Being “super alert” or watchful or on guard?					
18. Feeling jumpy or easily startled?					
19. Having difficulty concentrating?					
20. Trouble falling or staying asleep?					

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PTCI-36

We are interested in the kind of thoughts which you may have had after a traumatic experience. Below are a number of statements that may or may not be representative of your thinking.

Please read each statement carefully and tell us how much you AGREE or DISAGREE with each statement.

People react to traumatic events in many different ways. There are no right or wrong answers to these statements.

	Totally Disagree	Disagree Very Much	Disagree Slightly	Neutral	Agree Slightly	Agree Very Much	Totally Agree
1. The event happened because of the way I acted.							
2. I can't trust that I will do the right thing.							
3. I am a weak person.							
4. I will not be able to control my anger and will do something terrible.							
5. I can't deal with even the slightest upset.							
6. I used to be a happy person but now I am always miserable.							
7. People can't be trusted.							
8. I have to be on guard all the time.							
9. I feel dead inside.							
10. You can never know who will harm you.							
11. I have to be especially careful because you never know what can happen next.							
12. I am inadequate.							
13. I will not be able to control my emotions, and something terrible will happen.							
14. If I think about the event, I will not be able to handle it.							
15. The event happened to me because of the sort of person I am.							
16. My reactions since the event mean that I am going crazy.							

17. I will never feel normal emotions again.							
18. The world is a dangerous place.							
19. Somebody else would have stopped the event from happening.							
20. I have permanently changed for the worst.							
21. I feel like an object, not a person.							
22. Somebody else would not have gotten into this situation.							
23. I can't rely on other people.							
24. I feel isolated and set apart from others.							
25. I have no future.							
26. I can't stop bad things from happening to me.							
27. People are not what they seem.							
28. My life has been destroyed by the trauma.							
29. There is something wrong with me as a person.							
30. My reactions since the event show that I am a lousy coper.							
31. There is something about me that made the event happen.							
32. I will not be able to tolerate my thoughts about the event, and I will fall apart.							
33. I feel like I don't know myself anymore.							
34. You never know when something terrible will happen.							

35. I can't rely on myself.							
36. Nothing good can happen to me anymore.							

<Page Break>

QIDS-SR$_{16}$

During the past 7 days...

1) Falling Asleep:
    a. (0) I never take longer than 30 minutes to fall asleep
    b. (1) I take at least 30 minutes to fall asleep, less than half of the time
    c. (2) I take at least 30 minutes to fall asleep, more than half of the time
    d. (3) I take more than 60 minutes to fall asleep, more than half of the time

2) Sleep During the Night:
    a. (0) I do not wake up at night
    b. (1) I have a restless, light sleep with a few brief awakenings each night
    c. (2) I wake up at least once a night, but go back to sleep easily
    d. (3) I awaken more than once a night and stay awake for 20 minutes or more, more than half the time

3) Waking Up Too Early:
    a. (0) Most of the time, I awaken no more than 20 minutes before I need to get up
    b. (1) More than half the time, I awaken more than 30 minutes before I need to get up
    c. (2) I am almost always awaken at least one hour or so before I need to , but I go back to sleep eventually
    d. (3) I awaken at least one hour before I need to, and I can't go back to sleep

4) Sleeping Too Much:
    a. (0) I sleep no longer than 7-8 hours/night, without napping during the day
    b. (1) I sleep no longer than 10 hours in a 24-hour period including naps
    c. (2) I sleep no longer than 12 hours in a 24-hour period including naps
    d. (3) I sleep longer than 12 hours in a 24-hour period including naps

During the past seven days...

5) Feeling Sad:
    a. (0) I do not feel sad
    b. (1) I feel sad less than half of the time
    c. (2) I feel sad more than half of the time
    d. (3) I feel sad nearly all of the time

Please complete either 6 or 7 (not both)

6) Decreased Appetite:
    a. (0) There is no change in my usual appetite
    b. (1) I eat somewhat less often or lesser amounts of food than usual

c. (2) I each much less than usual and only with personal effort
d. (3) I rarely eat within a 24-hour period, and only with extreme personal effort or when others persuade me to eat

7) Increased Appetite:
   a. (0) There is no change from my usual appetite
   b. (1) I feel a need to eat more frequently than usual
   c. (2) I regularly eat more often and/or greater amounts of food than usual
   d. (3) I feel driven to overeat both at mealtimes and between meals

Please complete either 8 or 9 (not both)

8) Decreased Weight (within the last 2 weeks)
   a. (0) I have not had a change in my weight
   b. (1) I feel as if I have had a slight weight loss
   c. (2) I have lost 2 pounds or more
   d. (3) I have lost 5 pounds or more

9) Increased Weight (within the last 2 weeks)
   a. (0) I have not had a change in my weight
   b. (1) I feel as if I have had a slight weight gain
   c. (2) I have gained 2 pounds or more
   d. (3) I have gained 5 pounds or more

During the past 7 days...

10) Concentration / Decision Making:
   a. (0) There is no change in my usual capacity to concentrate or make decisions
   b. (1) I occasionally feel indecisive or find that my attention wanders
   c. (2) Most of the time, I struggle to focus my attention or to make decisions
   d. (3) I cannot concentrate well enough to read or cannot make even minor decisions

11) View of Myself:
   a. (0) I see myself as equally worthwhile and deserving as other people
   b. (1) I am more self-blaming than usual
   c. (2) I largely believe that I cause problems for others
   d. (3) I think almost constantly about major and minor defects in myself

12) Thoughts of Death or Suicide:
   a. (0) I do not think of suicide or death
   b. (1) I feel that life is empty or wonder if it's worth living
   c. (2) I think of suicide or death several times a week for several minutes
   d. (3) I think of suicide or death several times a day in some detail, or I have made specific plans for suicide or have actually tried to take my life

*If the participant endorses a 2 or higher on item 12, the following message will appear:

Please note that no one is reading your responses right now. We are sorry to hear that you are in pain right now. Please know that help is available. You do not have to go through this on your own. Below are some resources to connect you with people who can help get you through this painful moment:

National suicide Hotline: 1-800-273-TALK (8255)
Crisis Text Line: Text HOME to 741741
University Counseling Services: https://uwm.edu/norris/university-counseling-services/
https://www.nowmattersnow.org/

If you feel like you cannot keep yourself safe, please visit your nearest emergency room.

13) General Interest
    a. (0) There is no change from usual in how interested I am in other people or activities
    b. (1) I notice that I am less interested in people or activities
    c. (2) I find I have interest in only one or two of my formerly pursued activities
    d. (3) I have virtually no interest in formerly pursued activities

During the past 7 days...

14) Energy Level:
    a. (0) There is no change in my usual level of energy
    b. (1) I get tired more easily than usual
    c. (2) I have to make a big effort to start or finish my usual daily activities (for example, shopping, homework, cooking, or going to work)
    d. (3) I really cannot carry out most of my usual daily activities because I just don't have the energy

15) Feeling Slowed Down:
    a. (0) I think, speak, and move at my usual rate of speed
    b. (1) I find that my thinking is slowed down or my voice sounds dull or flat
    c. (2) It takes me several seconds to respond to most questions and I'm sure my thinking is slowed
    d. (3) I am often unable to respond to questions without extreme effort

16) Feeling restless:
    a. (0) I do not feel restless
    b. (1) I'm often fidgety, wringing my hands, or need to shift how I am sitting
    c. (2) I have impulses to move about and am quite restless
    d. (3) At times, I am unable to stay seated and need to pace around

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Working Alliance Inventory – Short Revised (WAI-SR)
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Client Satisfaction Questionnaire
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VTC Participant Satisfaction Questionnaire

1. Using the televideo modality for this assessment felt:
    a. Very comfortable

b. Comfortable
c. Neither comfortable nor uncomfortable
d. Uncomfortable
e. Very uncomfortable

2. The lack of in-person contact with the clinician was:
    a. Very comfortable
    b. Comfortable
    c. Neither comfortable nor uncomfortable
    d. Uncomfortable
    e. Very uncomfortable
3. With the interview material I was:
    a. Very comfortable
    b. Comfortable
    c. Neutral
    d. Uncomfortable
    e. Very uncomfortable
4. My level of concern about confidentiality and trust during the sessions were:
    a. Low
    b. Mild
    c. Moderate
    d. Severe
    e. Extreme
5. My willingness to use a televideo service in the future is:
    a. Strong
    b. Moderate
    c. Neutral
    d. Weak
    e. Very weak
6. My preference to use an in-person interview versus televideo interview is:
    a. Strongly prefer in-person assessment
    b. Prefer in-person assessment
    c. Neutral
    d. Prefer televideo assessment
    e. Strongly prefer televideo assessment
7. Overall I rate the convenience of televideo as:
    a. Very convenient
    b. Convenient
    c. Neutral
    d. Inconvenient
    e. Very inconvenient
8. Please provide any additional comments:

<Page Break>

Thank you for completing the survey!
You will be receiving your 1 hour of extra credit within a week from today!
Please let the research staff member know that you are done!
Also, if you feel like you need extra support, please see the mental health resource sheet provided.
[mental health resource sheet]

Appendix G

Follow-up Assessment Materials

G1. Follow-up Assessment Self-Reports

G1. Follow-up Assessment Self-Reports

PCL-5

Below is a list of problems that people sometimes have in response to a very stressful experience. **Keeping in mind the traumatic event you focused on in therapy**, please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past week.

In the past week, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing, and unwanted memories of the stressful experience?					
2. Repeated, disturbing dreams of the stressful experience?					
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?					
4. Feeling very upset when something reminded you of the stressful experience?					
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?					
6. Avoiding memories, thoughts, or feelings related to the stressful experience?					
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?					
8. Trouble remembering important parts of the stressful experience?					
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?					
10. Blaming yourself or someone else for the stressful experience or what happened after it?					
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?					
12. Having strong negative feelings such as fear, horror, anger, guilt, or shame?					
13. Feeling distant or cut off from other people?					

14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?					
15. Irritable behavior, angry outbursts, or acting aggressively?					
16. Taking too many risks or doing things that could cause you harm?					
17. Being “super alert” or watchful or on guard?					
18. Feeling jumpy or easily startled?					
19. Having difficulty concentrating?					
20. Trouble falling or staying asleep?					

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PTCI-36

We are interested in the kind of thoughts which you may have had after a traumatic experience. Below are a number of statements that may or may not be representative of your thinking.

Please read each statement carefully and tell us how much you AGREE or DISAGREE with each statement.

People react to traumatic events in many different ways. There are no right or wrong answers to these statements.

	Totally Disagree	Disagree Very Much	Disagree Slightly	Neutral	Agree Slightly	Agree Very Much	Totally Agree
1. The event happened because of the way I acted.							
2. I can’t trust that I will do the right thing.							
3. I am a weak person.							
4. I will not be able to control my anger and will do something terrible.							
5. I can’t deal with even the slightest upset.							
6. I used to be a happy person but now I am always miserable.							
7. People can’t be trusted.							

8. I have to be on guard all the time.							
9. I feel dead inside.							
10. You can never know who will harm you.							
11. I have to be especially careful because you never know what can happen next.							
12. I am inadequate.							
13. I will not be able to control my emotions, and something terrible will happen.							
14. If I think about the event, I will not be able to handle it.							
15. The event happened to me because of the sort of person I am.							
16. My reactions since the event mean that I am going crazy.							
17. I will never feel normal emotions again.							
18. The world is a dangerous place.							
19. Somebody else would have stopped the event from happening.							
20. I have permanently changed for the worst.							
21. I feel like an object, not a person.							
22. Somebody else would not have gotten into this situation.							
23. I can't rely on other people.							
24. I feel isolated and set apart from others.							
25. I have no future.							
26. I can't stop bad things from happening to me.							

27. People are not what they seem.							
28. My life has been destroyed by the trauma.							
29. There is something wrong with me as a person.							
30. My reactions since the event show that I am a lousy coper.							
31. There is something about me that made the event happen.							
32. I will not be able to tolerate my thoughts about the event, and I will fall apart.							
33. I feel like I don't know myself anymore.							
34. You never know when something terrible will happen.							
35. I can't rely on myself.							
36. Nothing good can happen to me anymore.							

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QIDS-SR$_{16}$

During the past 7 days...

1) Falling Asleep:
    a. (0) I never take longer than 30 minutes to fall asleep
    b. (1) I take at least 30 minutes to fall asleep, less than half of the time
    c. (2) I take at least 30 minutes to fall asleep, more than half of the time
    d. (3) I take more than 60 minutes to fall asleep, more than half of the time

2) Sleep During the Night:
    a. (0) I do not wake up at night
    b. (1) I have a restless, light sleep with a few brief awakenings each night
    c. (2) I wake up at least once a night, but go back to sleep easily
    d. (3) I awaken more than once a night and stay awake for 20 minutes or more, more than half the time

3) Waking Up Too Early:
    a. (0) Most of the time, I awaken no more than 20 minutes before I need to get up

b. (1) More than half the time, I awaken more than 30 minutes before I need to get up
c. (2) I am almost always awaken at least one hour or so before I need to , but I go back to sleep eventually
d. (3) I awaken at least one hour before I need to, and I can't go back to sleep

4) Sleeping Too Much:
   a. (0) I sleep no longer than 7-8 hours/night, without napping during the day
   b. (1) I sleep no longer than 10 hours in a 24-hour period including naps
   c. (2) I sleep no longer than 12 hours in a 24-hour period including naps
   d. (3) I sleep longer than 12 hours in a 24-hour period including naps

During the past seven days...

5) Feeling Sad:
   a. (0) I do not feel sad
   b. (1) I feel sad less than half of the time
   c. (2) I feel sad more than half of the time
   d. (3) I feel sad nearly all of the time

Please complete either 6 or 7 (not both)

6) Decreased Appetite:
   a. (0) There is no change in my usual appetite
   b. (1) I eat somewhat less often or lesser amounts of food than usual
   c. (2) I each much less than usual and only with personal effort
   d. (3) I rarely eat within a 24-hour period, and only with extreme personal effort or when others persuade me to eat

7) Increased Appetite:
   a. (0) There is no change from my usual appetite
   b. (1) I feel a need to eat more frequently than usual
   c. (2) I regularly eat more often and/or greater amounts of food than usual
   d. (3) I feel driven to overeat both at mealtimes and between meals

Please complete either 8 or 9 (not both)

8) Decreased Weight (within the last 2 weeks)
   a. (0) I have not had a change in my weight
   b. (1) I feel as if I have had a slight weight loss
   c. (2) I have lost 2 pounds or more
   d. (3) I have lost 5 pounds or more

9) Increased Weight (within the last 2 weeks)
   a. (0) I have not had a change in my weight
   b. (1) I feel as if I have had a slight weight gain
   c. (2) I have gained 2 pounds or more
   d. (3) I have gained 5 pounds or more

During the past 7 days...

10) Concentration / Decision Making:

a. (0) There is no change in my usual capacity to concentrate or make decisions
b. (1) I occasionally feel indecisive or find that my attention wanders
c. (2) Most of the time, I struggle to focus my attention or to make decisions
d. (3) I cannot concentrate well enough to read or cannot make even minor decisions

11) View of Myself:
a. (0) I see myself as equally worthwhile and deserving as other people
b. (1) I am more self-blaming than usual
c. (2) I largely believe that I cause problems for others
d. (3) I think almost constantly about major and minor defects in myself

12) Thoughts of Death or Suicide:
a. (0) I do not think of suicide or death
b. (1) I feel that life is empty or wonder if it's worth living
c. (2) I think of suicide or death several times a week for several minutes
d. (3) I think of suicide or death several times a day in some detail, or I have made specific plans for suicide or have actually tried to take my life

*If the participant endorses a 2 or higher on item 12, the following message will appear:

Please note that no one is reading your responses right now. We are sorry to hear that you are in pain right now. Please know that help is available. You do not have to go through this on your own. Below are some resources to connect you with people who can help get you through this painful moment:

National suicide Hotline: 1-800-273-TALK (8255)
Crisis Text Line: Text HOME to 741741
University Counseling Services: https://uwm.edu/norris/university-counseling-services/
https://www.nowmattersnow.org/

If you feel like you cannot keep yourself safe, please visit your nearest emergency room.

13) General Interest
a. (0) There is no change from usual in how interested I am in other people or activities
b. (1) I notice that I am less interested in people or activities
c. (2) I find I have interest in only one or two of my formerly pursued activities
d. (3) I have virtually no interest in formerly pursued activities

During the past 7 days...

14) Energy Level:
a. (0) There is no change in my usual level of energy
b. (1) I get tired more easily than usual
c. (2) I have to make a big effort to start or finish my usual daily activities (for example, shopping, homework, cooking, or going to work)
d. (3) I really cannot carry out most of my usual daily activities because I just don't have the energy

15) Feeling Slowed Down:
a. (0) I think, speak, and move at my usual rate of speed
b. (1) I find that my thinking is slowed down or my voice sounds dull or flat

c. (2) It takes me several seconds to respond to most questions and I'm sure my thinking is slowed
d. (3) I am often unable to respond to questions without extreme effort

16) Feeling restless:
a. (0) I do not feel restless
b. (1) I'm often fidgety, wringing my hands, or need to shift how I am sitting
c. (2) I have impulses to move about and am quite restless
d. (3) At times, I am unable to stay seated and need to pace around

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Thank you so much for completing the survey and for your time and participation in our study as a whole.

If after completing this survey you feel that you need to talk to someone, 1-800-656-HOPE, a National Hotline (24 hours). Also, below is a list of therapy resources if you wish to pursue further treatment.

Your study participation is now complete.
We hope you enjoyed your time participating and found the study useful.
[mental health resources will appear here – see 'Mental Health Resources Sheet' in 'other documents' section for a copy]

Appendix H

Participant Safety Materials

H1. Suicide Prevention Protocol

H2. Mental Health Resource Sheet

H1. Suicide Prevention Protocol

(Not shown due to UWM suicide prevention protocol measure security)

H2. Mental Health Resource Sheet

Resource Sheet

If you feel like you would benefit from therapy, please see the attached referral sheet. In addition to the centers listed there, note that there are services available on campus as well:

University Counseling Services: https://uwm.edu/norris/university-counseling-services/
UWM Psychology Clinic: https://uwm.edu/psychology/clinic/

[attached was a sheet with local psychotherapy services]