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Treating Suicidal Thoughts and Behaviors Within an Emotional Disorders Framework: Acceptability and Feasibility of the Unified Protocol in an Inpatient Setting

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Abstract

We provide a theoretical rationale for applying a transdiagnostic, shared mechanism treatment (the Unified Protocol for Transdiagnostic Treatment of Emotional Disorders [UP]) to suicidal thoughts and behaviors. We also present results from a proof of concept study examining the feasibility and acceptability of adding a modified UP to treatment as usual (TAU) in an inpatient setting for individuals reporting a recent suicide attempt or active suicidal ideation. Participants (N = 12) were randomly assigned to receive UP + TAU or TAU alone. Findings indicate good feasibility and acceptability of the adjunctive intervention. Among participants who were responsive to contact attempts postdischarge (n = 6), there were no observable differences in suicidal thoughts or behaviors during a 6-month follow-up. This

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application represents a promising initial extension of a cognitive-behavioral, emotion-focused treatment to suicidal individuals within an inpatient setting. Future studies adequately powered to speak to efficacy of the modified UP intervention are warranted.

Keywords
suicidal thoughts and behaviors, treatment, inpatient, transdiagnostic

Suicidal thoughts and behaviors (STBs) are prevalent and costly public health problems. In the United States alone, more than 40,000 individuals die by suicide each year (Centers for Disease Control and Prevention [CDC], 2015), making it the 10th leading cause of death (Heron, 2014). Epidemiological studies suggest that 3% of individuals attempt suicide and 9% experience serious thoughts of suicide during their lives (Borges et al., 2010; Nock et al., 2008). The economic burden of suicide is also estimated to be as high as US$44 billion annually in the United States (CDC, 2015). Unfortunately, the global impact of suicide is only projected to increase in the coming years (Bertolote & Fleischmann, 2009).

Existing Treatments for STBs

Despite the considerable public health and economic costs associated with STBs, research to establish evidence-based interventions for suicidal phenomena has been relatively limited. For instance, there are fewer clinical trials aimed at preventing suicide than other, less-highly ranked causes of death (e.g., liver disease [ranked 12th]; hypertension [ranked 13th]; Cochrane Central Register of Controlled Trials, 2014; Heron, 2014). This disparity also exists within the mental health field, as there is far less National Institute of Mental Health (NIMH)-funded research on STBs than other prevalent mental health concerns (e.g., depression, anxiety, schizophrenia; Insel, 2015). One reason for the relative paucity of research in this area may be the considerable ethical and legal concerns associated with conducting treatment development research with high-risk individuals (e.g., random assignment to a control condition; Mishara & Weisstub, 2005).

Despite such challenges, a number of interventions that explicitly address STBs have been developed and evaluated over the past few decades. Dialectical Behavior Therapy (DBT; Linehan, 1993) is a cognitive-behavioral intervention for which reduction of "parasuicidal behavior" (e.g., nonsuicidal self-injury [NSSI], suicide gestures, suicide attempts) is a chief

treatment target. Although studies of this approach have generally provided strong support for its efficacy in treatment of individuals with borderline personality disorder (BPD; e.g., Kliem, Kroger, & Kosfelder, 2010), a number of trials have not observed DBT to produce significantly greater reductions in parasuicidal acts (and/or suicidal behavior specifically) than credible control conditions (e.g., Carter, Willcox, Lewin, Conrad, & Bendit, 2010; McMain et al., 2009; Rathus & Miller, 2002). In terms of other available treatments, suicide-focused cognitive therapy has also demonstrated efficacy when delivered in an outpatient context (G. K. Brown et al., 2005) and is undergoing empirical validation for inpatient settings (Post-Admission Cognitive Therapy [PACT]; Ghahramanlou-Holloway, Neely, et al., 2015; Rudd et al., 2015). Less intensive, evidence-based treatment approaches such as safety planning (Stanley & Brown, 2012) have also shown efficacy in reducing suicidal behavior and increasing treatment engagement following discharge from an emergency department (Knox et al., 2012; Stanley et al., 2015). In addition, the Collaborative Assessment and Management of Suicidality (CAMS; Jobes, 2006) provides a comprehensive framework focused on a strong therapeutic relationship as a vehicle for delivering potentially lifesaving interventions and has garnered recent empirical support (Comtois et al., 2011; Ellis, Rufino, Allen, Fowler, & Jobes, 2015; Jobes, 2009).

Although these treatments are promising, evidence in support of any one therapeutic approach to STBs is mixed (e.g., G. K. Brown & Jager-Hyman, 2014; Glenn, Franklin, & Nock, 2015), which underscores the need to develop novel interventions. Furthermore, some existing treatments have only demonstrated efficacy for suicidal ideation *or* behavior (G. K. Brown & Jager-Hyman, 2014); thus, interventions that are equally effective for different types of STBs are needed. Rates of suicide also remain on the rise, which may be in part due to the fact that many frontline clinicians are not using these evidence-based treatments. In short, it is important to identify not only the most effective, but also the most efficient and disseminable, protocols for STBs.

Transdiagnostic, Shared Mechanism Approach to STBs

Given that the vast majority of individuals who attempt suicide have a mental health diagnosis (e.g., Kessler, Berglund, Borges, Nock, & Wang, 2005; Mościcki, 2014), there may be utility to developing treatments that address mechanisms (i.e., underlying causal processes; Stanton, Luecken, MacKinnon, & Thompson, 2013) shared by both phenomena. Recent initiatives from the

NIMH highlight the importance of identifying core mechanisms driving a range of psychopathology that can become the focus of treatment (e.g., research domain criteria [RDoC]; Insel et al., 2010). Psychosocial interventions designed to directly target such cross-cutting mechanistic processes may facilitate improvement on multiple conditions (e.g., depression and suicidal behavior); thus, clinicians could learn one protocol to apply to multiple problems simultaneously, rather than, for example, delivering one treatment designed to address suicidal behavior only, and then another for depression. Shared mechanism treatments that account for the fact that STBs typically exist amid complex diagnostic comorbidities may be more efficient and viewed as more acceptable to patients and clinicians alike, ultimately aiding in the dissemination of evidence-based psychological treatments.

In recent years, the need for interventions to focus specifically on STBs, rather than addressing other symptoms (e.g., depression) with the expectation that STBs will reduce as a by-product, has been increasingly recognized (e.g., Rudd et al., 2015; Tarrier, Taylor, & Gooding, 2007). To consider treatments that target mechanisms responsible for the maintenance of suicidal phenomena *and* co-occurring diagnoses or symptoms is not inconsistent with this movement nor does it represent a return to, for instance, delivery of a protocol for depression with the hope that suicidal behavior will also diminish. Instead, applying transdiagnostic, shared mechanism interventions to suicidal individuals would involve targeting causal processes that maintain STBs and other commonly comorbid problems. Thus, such treatments would allow therapists to flexibly tailor application of skills and use examples spanning suicide-specific and non-suicide-specific experiences (e.g., acute anxiety, urges to use substances to relieve negative feelings).

There is reason to suggest that core mechanisms underlying the emotional disorders (i.e., anxiety, depressive, trauma-related, obsessive-compulsive, and somatic disorders; Barlow, 1991) may also contribute to the development and maintenance of STBs. One evidence-based mechanistic process of emotional disorder symptomatology is the interpretation of emotions as unacceptable or intolerable, resulting in maladaptive efforts to control the emotional experience, such as avoidance or suppression (Barlow, Ellard, Sauer-Zavala, Bullis, & Carl, 2014; Sauer-Zavala & Barlow, 2014). This functional process is also viewed as the phenotypic expression of neuroticism, or the trait-like tendency to experience frequent negative affect and perceived inability to cope in response to stress, which has been shown to confer vulnerability for anxiety, depression, and related conditions (e.g., Barlow et al., 2014; Zinbarg et al., 2016). Although experimental studies designed to directly test whether STBs share this specific causal mechanism are needed, there is preliminary conceptual and empirical support for such a notion.

First, the propensity to experience intense negative affect is a key component of prominent theoretical models explicating the emergence of STBs (e.g., Abramson et al., 2000; Baumeister, 1990; Beck, 1986; Joiner, 2005; Linehan, 1993; Shneidman, 1993). Second, neuroticism has been shown to prospectively predict suicidal ideation (e.g., Handley et al., 2012), attempts (e.g., Holma et al., 2014; Wedig et al., 2012), and deaths (e.g., Fang, Heisel, Duberstein, & Zhang, 2012; Tanji et al., 2014). Third, and most important from a therapeutic perspective, STBs may serve similar functions to the maladaptive, avoidant responses to emotion that maintain the emotional disorders. As noted above, emotional disorders are characterized by aversive reactions to intense, negative emotions—namely, maladaptive efforts to escape, avoid, or control these distressing experiences. For example, a patient with panic disorder might take a benzodiazepine when feeling particularly distressed, whereas a patient with major depressive disorder (MDD) might spend excessive time in bed. Although these responses may reduce the intensity of negative affect in the short term (e.g., a depressed individual may find it more immediately distressing to make efforts to socialize than passively withdraw from friends), they often result in rebound effects in which the suppressed or otherwise avoided emotion is likely to return with even greater frequency and magnitude (e.g., Abramowitz, Tolin, & Street, 2001).

Within this emotional disorders framework, STBs may also be viewed as extreme forms of emotion avoidance, with similar short- and long-term consequences. Fantasizing about suicide, making a suicide plan, or engaging in nonfatal suicidal behavior may temporarily relieve pervasive, intense negative emotional states, but is unlikely to provide sustained relief and may even worsen negative affect in the long term (e.g., Crowell, Derbidge, & Beauchaine, 2014). From this perspective, suicide would represent the ultimate escape from emotional distress. In sum, it is our view that STBs may be maintained by similar functional and mechanistic processes to those implicated in the emotional disorders. It follows that therapeutic strategies directly targeting these core mechanistic processes may be applicable and effective for both problems.[1]

Applicability of the Unified Protocol to STBs

The Unified Protocol for Transdiagnostic Treatment of Emotional Disorders (UP; Barlow, Ellard, et al., 2011; Barlow, Farchione, et al., 2011) is a cognitive-behavioral intervention designed to address a range of psychological disorders characterized by aversive reactions to frequently occurring negative emotion that has been undergoing development and testing over the past decade. The UP has demonstrated efficacy for heterogeneous anxiety and

depressive disorders across a number of trials to date (Barlow et al., under review; Boswell, Anderson, & Barlow, 2014; Ellard, Deckersbach, Sylvia, Nierenberg, & Barlow, 2012; Ellard, Fairholme, Boisseau, Farchione, & Barlow, 2010; Farchione et al., 2012). There is also initial support for its use with BPD (Sauer-Zavala, Bentley, & Wilner, 2016), NSSI (Bentley, Nock, Sauer-Zavala, Gorman, & Barlow, in press), and posttraumatic stress disorder (PTSD; Gallagher, in press).

The UP consists of five core modules, all aimed at extinction of distress in response to the experience of strong emotion (i.e., its putative mechanism of action). This approach differs from diagnosis-specific protocols in that its purported mechanism of action is relevant for any problem maintained by aversive and avoidant reactions to intense emotion. In contrast, a CBT protocol designed for an anxiety disorder may seek to extinguish anxiety in response to a specific stimulus (e.g., social evaluation, panic attacks) and a protocol for depression may aim to counter the behavioral avoidance (e.g., withdrawal) maintaining depressive symptoms by increasing positively reinforcing activity. Although mechanism-based, neither of these diagnosis-specific approaches provides a clear framework for *directly* addressing a broad range of presenting problems, across diagnostic boundaries. Given that functional processes targeted by the UP may also be relevant to STBs, this transdiagnostic intervention may hold promise as a parsimonious method for simultaneous targeting suicidal phenomena and other emotional disorder symptoms.

As previously noted, one advantage of shared mechanism treatments such as the UP is the potential for clinicians to be trained in one protocol that can be applied across many commonly encountered problems. Given that STBs frequently co-occur with emotional disorders (e.g., Nock, Hwang, Sampson, & Kessler, 2010; Nock et al., 2009; Zimmerman et al., 2014), this benefit may be especially pertinent to these two problem areas. In routine practice, clinicians regularly draw from a variety of well-established protocols (e.g., CBT for depression, DBT) to treat a multitude of presenting conditions without adhering strictly to the corresponding manuals. Although this approach often results in symptom reduction, it can also leave clinicians without empirically based guidance as to which techniques to implement and when, therefore resulting in longer and more costly treatment courses than would be ideal—especially for patients with complex clinical presentations. This approach can also lack a strong, empirically supported foundation to indicate *why* a specific strategy might alleviate a particular symptom (e.g., unclear mechanisms of action). Alternatively, the UP provides a clinically useful, evidence-based and conceptually sound framework for addressing a broad range of conditions maintained by the same mechanistic processes, thereby

potentially optimizing treatment efficiency and cost effectiveness (e.g., Bullis & Barlow, 2015).

Modifying the UP to Address STBs in an Inpatient Setting

Based on this rationale, we sought to adapt the UP for use with patients experiencing STBs. Given the strong need for evidence-based interventions for STBs within inpatient programs (e.g., G. K. Brown & Jager-Hyman, 2014; Ghahramanlou-Holloway, Cox, & Greene, 2012; Ghahramanlou-Holloway, Neely, & Tucker, 2015; O'Connor et al., 2015), we made several modifications to the published UP (Barlow, Ellard, et al., 2011; Barlow, Farchione, et al., 2011) so that the resultant intervention would be deliverable within an inpatient setting. First, given that most patients are hospitalized for relatively brief periods of time (e.g. 6-7 days on average; Ghahramanlou-Holloway et al., 2012; Sokolov, Hilty, Leamon, & Hales, 2006), it was important to considerably shorten the published UP from its standard, outpatient format of 16 to 20 individual sessions. As such, the original UP was reduced to five, 1-hr individual treatment sessions by distilling each module down to a core skill/activity. Correspondingly, the patient workbook (Barlow, Ellard, et al., 2011) was shortened from 204 to 22 pages. Second, given the potential for a wide range of functioning levels within an inpatient setting, care was taken to lower the reading level to an eighth-grade standard. We also aimed to keep the content as consistent as possible with the original UP to preserve its transdiagnostic nature that facilitates seamless transitioning between STBs and other emotional problems that patients may be experiencing. Although we added explicit examples of applying skills to STBs, experiences relevant to the range of emotional disorders and symptoms (e.g., situational avoidance in social anxiety and panic, withdrawal in depression) were retained. Given the prevalence of substance use among patients in the unit (and common co-occurrence with STBs), references to substance use as a means of coping with emotion were also included.

A summary of our five modified UP sessions is provided below and in Table 1. Session 1 involves first orienting patients to the goals of treatment; specifically, patients learn that although they will be learning more adaptive ways to manage their emotions, the aim is not to eliminate negative emotions altogether. This point is reiterated with an exploration of the functional nature of emotions that was expanded to include possible functions of suicidal thoughts (e.g., thinking about ending one's life may indicate that substantial changes need to be made). It is explicitly stated that the treatment will not be focused on forcing suicidal thoughts out of one's mind, but responding to

Table 1. Session Content in the Modified Unified Protocol.

Session	Skill targets	Session content
1	Psychoeducation: Part I Foster motivation	Introduce rationale for UP treatment Discuss functional nature of emotions (fear, anxiety, sadness, anger) and suicidal thoughts Decisional balance exercise (costs/benefits of change, costs/benefits of living)
2	Psychoeducation: Part II Present-focused emotion awareness	Learn to break down emotional experiences into three parts (thoughts, feelings, behaviors/behavioral urges) Identify antecedents and consequences of responses (including a recent suicidal episode) Practice anchoring in the present moment; provide laminated card with steps for future skills use
3	Cognitive flexibility	Introduce automatic negative appraisals and highlight interacting relationship with feelings and behaviors Practice generating more flexible interpretations for automatic negative appraisals; provide laminated card with challenging questions for future use
4	Countering emotion-driven behaviors Emotion exposure	Introduce and identify emotion-driven behaviors Generate adaptive alternative actions Emotion exposure exercise(s) in which patients practice (or imagine using) previously learned skills while experiencing a strong emotion
5	Emotion exposure Relapse prevention	Emotion exposure exercise(s) Review of skills, generate plan for future practice

Note. UP = Unified Protocol.

these (and other distressing) thoughts in different, more helpful ways—strategies that, over time, will result in less frequent and intense emotional distress. Also during Session 1, patients generate lists of the costs and benefits of both engaging with treatment and staying alive in a motivation enhancement exercise. This discussion centers around the notion that continuing to live involves experiencing important rewards (e.g., watching a child graduate, more time with loved ones) and at times, painful emotions. Patients are provided with the abbreviated workbook containing homework exercises (reading, worksheets for skills practice).

Session 2 begins with psychoeducation on the three components of an emotional experience—thoughts, physical sensations, and behaviors/behavioral urges. Patients are asked to recall a recent suicidal episode, and identify what they were thinking, feeling, and doing at the time. The interacting nature of these three components is emphasized; for example, patients may be asked to explore how certain thoughts (e.g., "I've really messed my life up") can lead to emotional reactions (e.g., hopelessness), which in turn contribute to behaviors and behavioral urges (e.g., substance use, urges to end one's life). In addition, they are encouraged to consider antecedents leading to the experience of strong emotions and suicidal urges (e.g., conflicts with family, perceptions of failure or loss), as well as the short- and long-term consequences of their responses (e.g., drinking decreasing negative emotions in the short term, subsequent guilt over lost sobriety resulting in thoughts of suicide over the long term).

This session also includes a distillation of the original UP's nonjudgmental, present-focused emotion awareness module. In our modified protocol, the emphasis is on focusing one's attention on the demands of the present moment. The therapist and patient begin by discussing the idea that emotional experiences can be influenced and augmented by thoughts about past events or worries about the future. An "anchoring in the present" skill is then introduced to help the patient turn his or her mind from upsetting past events (e.g., "This is just like what happened last time") or future concerns (e.g., "These feelings will never end") to what is happening in the present moment, which can assist with engagement in more present-oriented, adaptive behavioral responses. Finally, patients learn concrete steps for bringing their attention to the present and are provided with a wallet-sized laminated card with these instructions to remind them how to guide their attention back to the present moment during future moments of distress.

Session 3 provides a cognitive flexibility skill for coping with automatic, negative appraisals, the aim of which is to increase patients' capacity for flexible and more adaptive thinking. First, an exercise is conducted in which patients are presented with an ambiguous image and asked to identify their initial, automatic appraisal of the scene before generating several alternatives. This activity is used to illustrate the notion that a range of interpretations of most situations is possible and show the influence of appraisals on emotions (and vice versa). Patients practice identifying negative, automatic appraisals (e.g., "I can't cope with this," "No one truly cares about me") and are provided a list of challenging questions, again on a wallet-size card, to help them generate more flexible appraisals in future emotionally laden situations (e.g., "How likely is ____ to happen?" and "If ____ happened, could I cope with it?"). With therapist guidance, patients practice generating alternative appraisals for automatic, negative thoughts during session, and are asked

to continue doing so with current or recent emotion-producing situations for homework.

Sessions 4 and 5 shift to a focus on behavior change. First, during Session 4, therapists introduce typical behaviors enacted in response to strong emotions (e.g., anger results in yelling, sadness results in withdrawing) and then, patients are encouraged to explore their own emotion-driven urges. This discussion is not limited to suicidal behaviors, but rather, the emphasis is on identifying behavioral responses that have functioned to relieve, avoid, or escape painful feelings during past suicidal episodes. Concepts introduced in Session 2—many emotion-driven behaviors relieve negative emotions in the short term, but backfire in the long term—are reiterated. Patients begin generating alternative (or opposite) actions to counter their urges to engage in unhelpful or unsafe emotion-driven behaviors. Preference is given to alternative actions that bring an individual into productive contact with their negative emotions (e.g., approaching a loved one calmly about an issue instead of yelling at them) or prioritize immediate safety so they can engage adaptively with their problems later (e.g., consulting a safety plan, seeking help, exercising vigorously). Of note, within the UP framework, both suicidal thinking and behavior are conceptualized as avoidant strategies for coping with intense negative emotion. Thus, use of core UP strategies (and countering emotion-driven behavior specifically) may lead to similar effects for both types of avoidance; however, this notion requires empirical testing.

Emotion exposure exercises are another important behavioral component of the UP. The final one to two sessions of our modified UP intervention also include in-session emotion exposures, which provide the opportunity for skills rehearsal and consolidation in the context of a strong emotion ("learning by doing"). The aim is *not* for patients to become desensitized to or comfortable with their suicidal thoughts, but rather to learn that they can respond to strong negative emotions that may have previously contributed to suicidal thoughts and/or behaviors in more adaptive ways. These exercises are not explicitly designed to bring about suicidal cognitions; however, should thoughts of suicide arise during an exposure, patients have the opportunity to learn that they can respond differently (and more adaptively) to suicidal thoughts that may have previously led to behaviors. The rationale for applying skills while experiencing negative emotion during these exercises is to foster confidence in patients' ability to access and apply treatment strategies, thereby coping adaptively and without avoidant, unhelpful responses, in "real-world," emotion-producing situations when they are likely to need their skills the most. Although in vivo emotion exposures are certainly possible in an inpatient setting, imaginal exposures are particularly well suited for this context. During these exercises, patients are instructed to (a) imagine a recent situation that elicited strong emotions and/or thoughts of suicide; (b) sit with any thoughts,

feelings, and behavioral urges generated for a period of time; and (c) practice applying treatment skills while experiencing negative emotion.

For example, consider a patient who recently learned about her longtime partner's infidelity, which led to intense suicidal ideation prompting the current hospitalization. During an imaginal emotion exposure, she might first be asked to recall and describe in vivid detail her recent feelings of anger and sadness associated with these events (e.g., thoughts, physical feelings, behavioral urges). Then, while experiencing at least mild to moderately intense emotion, this patient would be encouraged to use her cognitive flexibility skill to consider alternative appraisals (e.g., "I would rather know than continue to be in the dark," "I've gotten through worse than this before") and/or imagine herself acting alternatively to her emotion-driven urges (e.g., engage in NSSI, overdose to end her life) by reaching out to a supportive friend or family member, or utilize other strategies (e.g., distress tolerance, intense physical exertion) to ensure she stays safe. Another individual who describes abusing substances as exacerbating suicidal urges might be instructed to view online images with his or her therapist expected to trigger urges to use (e.g., pictures of cocaine, bars). This patient would focus on staying anchored in the present (rather than becoming consumed by memories of past failures), practice challenging negative automatic appraisals that arise (e.g., "I always fall on my face"), and even imagine what it would be like to counter emotion-driven behaviors with more adaptive alternative actions (e.g., walking away, calling a sponsor, going on a run). These exercises are processed in detail afterward. Session 5 also includes planning for future skills practice after discharge from the hospital to prevent relapse and readmission.

The Present Study

The present study aimed primarily to examine the initial acceptability and feasibility of a brief version of the UP modified to address STBs in an inpatient setting. We hypothesized that patients would find the modified UP to be an acceptable, satisfactory treatment, and that it would prove a feasible adjunctive intervention within an inpatient setting. As a secondary (exploratory) aim, we sought to determine the effects of the modified UP on STBs and related symptoms.

Method

Setting

The Community Crisis Stabilization (CCS) Unit, Dr. Solomon Fuller Mental Health Center at Boston Medical Center provides short-term inpatient crisis

intervention services to underserved populations in the Boston area. The average length of stay at this unlocked unit is 4 days. The primary goals of CCS treatment are symptom management, stabilization of psychopharmacological therapy, and establishment of aftercare. Treatment at the CCS typically consists of medication management, supportive group therapy sessions, psychoeducation about mental health symptoms, and coordination of care with outpatient treatment providers.

Participants

All participants were recruited from CCS and met the following criteria: (a) at least 18 years old; (b) English speaking; (c) admittance to the CCS based, at least in part, on making a suicide attempt or experiencing active suicidal ideation (i.e., thoughts of suicide with at least one potential method identified, but not necessarily a specific plan or intent) within the past 2 weeks; and (d) able to provide informed consent (i.e., fully alert, not intoxicated). We required that participants had experienced active suicidal ideation to test our modified UP with the more acute, higher risk individuals typically seen in inpatient settings. Participants were excluded for current mania and florid hallucinations/delusions.

Ten of the 12 randomized participants were male (83%). Half were African American, one third were Caucasian, one identified as multiracial, and one identified as "Other" (Hispanic/Latino). The mean age was 44 years (SD = 11.73 years, range = 26-64 years). All were not working and reported earning less than US$15,000/year (generally in the form of disability payments). One third identified as homeless. The highest level of education was high school for seven participants, some college for three participants, bachelor's for one participant, and graduate school for one participant. The sample was diagnostically heterogeneous, with most common diagnoses of depression (n = 10) and polysubstance abuse (n = 5). Diagnoses were established by nonstudy staff at the unit with unstructured clinical interviews.

Procedures

The internal review board (IRB) at Boston University approved all study procedures. Participants admitted to CCS for reasons related to STBs were referred to the study by CCS staff. Interested participants first completed a screening session, during which study staff obtained signed consent and confirmed eligibility via clinician-rated interviews (see "Measures" section). After the screening session, participants completed baseline self-report measures and were randomized to the treatment as usual (TAU) or UP + TAU

condition. Participants in the TAU condition received all services typically provided at CCS. UP + TAU participants received five 1-hr UP sessions delivered in an individual format over the course of 4 days, in addition to all usual CCS services. No more than two UP sessions were delivered to a given participant in 1 day, and when this occurred, participants took at least a 15-min break between sessions. Study therapists were one licensed doctoral-level psychologist (SSZ) with 10 years of experience, one postdoctoral-level psychologist (LRC) with 8 years of experience, and one master's-level doctoral candidate (KHB) with 3.5 years of experience. All had received formal training and certification in the UP. Participants in the TAU condition completed posttreatment assessments less than 24 hr before CCS discharge. Those in the UP + TAU condition completed the posttreatment assessment immediately after their fifth (final) UP session.

All participants who completed a posttreatment assessment were contacted for 1- and 6-month follow-up (1MFU and 6MFU) assessments, which included a self-report questionnaire battery and clinical interview with an independent evaluator (CCR) blind to study condition. Participants were able to complete the interview by phone and the self-report measures by mail or email. Thus, some participants only completed one part of each follow-up assessment.

Measures

To determine study eligibility, the Self-Injurious Thoughts and Behaviors Interview–Self-Report (SITBI-SR) was administered at baseline. This 16-item measure was adapted from the clinician-rated SITBI (Nock, Holmberg, Photos, & Michel, 2007) and assesses the presence and frequency of suicidal thoughts, plan, and attempts in the patient's lifetime, past year, and past week. It has shown strong interrater and test–retest reliability (Nock et al., 2007). The psychosis and bipolar disorder screening questions of the Anxiety Disorders Interview Schedule for *Diagnostic and Statistical Manual of Mental Disorders* (5th ed., *DSM-5*; American Psychiatric Association, 2013 [ADIS-5]; T. A. Brown & Barlow, 2013) were used to assess exclusionary symptoms.

To assess intervention acceptability and feasibility, participants completed three measures as posttreatment. All participants completed the Client Satisfaction Questionnaire (CSQ; Larsen, Attkisson, Hargreaves, & Nguyen, 1979). This eight-item measure was used to assess satisfaction with all services received at the CCS on a 1 to 4 scale, with higher scores indicating greater satisfaction. This measure has evidenced good reliability and validity, and has been shown to perform similarly across different ethnic groups (e.g.,

Larsen et al., 1979). Participants in UP + TAU condition also completed a skill acquisition and receipt form created for the study to assess knowledge of UP material. This questionnaire contains 13 items covering material presented during the intervention (e.g., "emotions tell us important and useful information," "the way people think about situations does not affect how they feel"), which elicit true or false responses. Correct items are summed to produce a total score, with higher scores indicating greater knowledge of UP concepts. UP + TAU participants also completed a seven-item feedback form developed for the study to assess acceptability and satisfaction with the modified UP specifically via two items set on scales of 0 (*not at all acceptable/satisfied*) to 5 (*extremely acceptable/satisfied*), and five open response items eliciting qualitative feedback regarding what participants found most and least helpful, as well as any modifications they would recommend.

The Beck Scale for Suicide Ideation (BSI; Beck & Steer, 1991), Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974), Beck Depression Inventory–II (BDI-II; Beck, Steer, & Brown, 1996), and Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988) were administered at baseline, posttreatment, 1MFU, and 6MFU. The Work and Social Adjustment Scale (WSAS; Marks, Connolly, & Hallam, 1973), which captures functional impairment, was administered at baseline, 1MFU, and 6MFU. Participants also completed a modified version of the SITBI with an independent evaluator at 1MFU and 6MFU to capture STBs and treatment received since discharge from the unit.

Results

Feasibility

Intervention feasibility was primarily assessed via retention rates during treatment (see Figure 1). Of the 12 randomized participants (6 UP + TAU and 6 TAU), one in the UP + TAU condition left the unit after receiving one UP session, and one TAU participant left the unit after completing the baseline questionnaires (both terminating all unit services against medical advice); these two individuals were lost to contact and are not included in the analyses below. Thus, in the UP + TAU condition, all but one patient completed all five sessions. Feasibility was also assessed with acquisition of UP skills. Overall, UP + TAU participants evidenced a very good understanding of concepts presented during the intervention, with four of five scoring 100% on the skill acquisition measure, and one responding incorrectly to only a single item.

In early stages of treatment development, it is also important to consider feasibility of conducting research on the experimental intervention. In terms

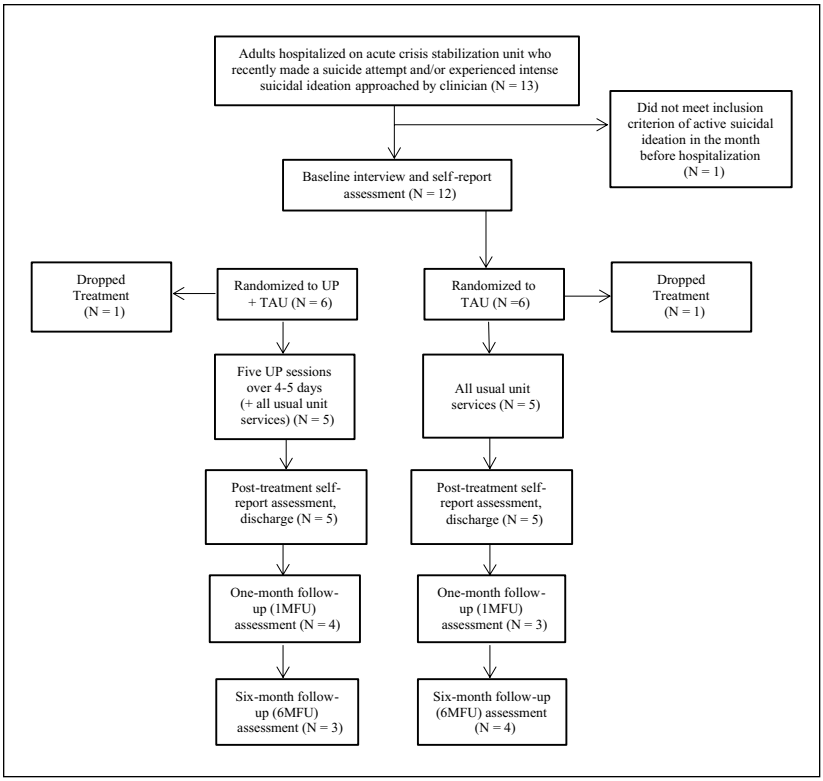

Figure 1. CONSORT diagram.
Note. Ns for follow-up assessments indicate the number of participants who completed at least one part of the assessment (clinician-rated interview or self-report questionnaires).

of enrollment, 13 of 14 individuals (93%) approached by study staff were interested and provided informed consent; of these, 12 (92%) were eligible (see Figure 1). We were able to collect at least one portion (clinician-rated interview or self-report) of assessments from four of five UP + TAU individuals at 1MFU and three of five UP + TAU participants at 6MFU, compared with three of five TAU participants at 1MFU and four of five TAU participants at 6MFU.[2] In terms of reasons for incomplete assessments, one individual refused to complete the 6MFU, and the remainder no longer had valid contact information and/or failed to respond to three unanswered contacts (to the participants and their specified contact person) who varied by time of day and day of week.

Acceptability

Acceptability of services received by participants in both treatment conditions was assessed with the CSQ at posttreatment. Satisfaction was high for UP + TAU ($M = 31.5$, $SD = 1.0$), with an average item-level response of 3.9 on a scale of 1 (e.g., *quite dissatisfied*, *poor*) to 4 (e.g., *very satisfying*, *excellent*). Although ratings were positive overall for the TAU condition ($M = 22.0$, $SD = 9.20$; average item-level response of 2.75, *mostly satisfied*, *good*), UP + TAU participants ($n = 4$) reported significantly higher levels of satisfaction with CCS services than those who received TAU alone ($n = 4$; $M_{diff} = –9.50$, 95% CI = [–18.25, –1.20]).[3]

On the posttreatment UP feedback form, participants in the UP + TAU condition ($n = 5$) rated the UP as extremely acceptable ($M = 4.80$, $SD = 0.45$) and reported being extremely satisfied ($M = 4.60$, $SD = 0.55$) with the intervention. Qualitative feedback was consistent with these data; for example, participants described the treatment as "something I needed at the perfect time," "excellent," and "very helpful." With regard to the most important intervention components, participants indicated, "life is all about dealing with your emotions," "things to do when I'm feeling a really a strong emotion," and "think before you act." One individual also stated that "everybody would benefit from this approach for a variety of issues," consistent with the transdiagnostic nature of the UP. In terms of the most helpful aspects of the intervention, two participants reported "breaking down emotions," one cited "ways to cope with [those] emotions and feelings," and one reported "different ways of thinking," whereas one indicated "dialogue back and forth" as the most helpful part of treatment. Only two participants indicated finding elements of the intervention less helpful; for these individuals, "homework" and "opposite thoughts/actions [that were] a bit simplistic" were less well received. Only one individual suggested a change to the intervention: "examples and solutions could be more . . . complex."

Clinical Outcomes

Clinician-rated frequencies of suicidal ideation, suicide plan, and suicide attempts at baseline are shown in Table 2. Participants in TAU reported notably higher estimates for days of suicidal ideation in their lifetime and the past year, as well as lifetime days of making a suicide plan, than UP + TAU participants; however, the very large standard deviations for these numbers reflect two outliers in the TAU condition who gave estimates such as "half the days in my life."

Table 2. Descriptive Data for Clinician-Rated STBs by Condition at Baseline.

	UP + TAU	TAU
	M (*SD*)	*M* (*SD*)
Suicidal ideation		
No. of days in lifetime	54.0 (82.0)	1493.0 (2672.5)
No. of days in past year	16.7 (24.4)	68.0 (74.4)
No. of days in past week	3.9 (2.6)	3.4 (3.4)
Suicide plan		
No. of days in lifetime	6.5 (4.9)	26.8 (48.9)
No. of days in past year	2.7 (1.9)	4.3 (5.1)
No. of days in past week	2.6 (2.3)	0.3 (0.5)
Suicide attempt		
No. in lifetime	1.5 (2.4)	2.8 (2.3)
No. in past year	0.8 (1.8)	1.0 (1.4)
No. in past week	0.8 (1.8)	0.6 (1.3)

Note. STBs = suicidal thoughts and behaviors; UP = Unified Protocol; TAU = treatment as usual.

Due to the very small sample size (and poor retention during follow-up), data on clinician-rated STB frequency were not suitable for statistical analysis. There were no observable between-group differences in STB frequency at 1MFU or 6MFU. Of the six participants who completed at least one of the two follow-up interviews, five (two UP + TAU, three TAU) reported suicidal ideation, two (one in each condition) reported a suicide plan, and none reported a suicide attempt since discharge. Five (two UP + TAU, three TAU) participants reported receiving psychotherapy and two (one in each condition) reported a hospital readmission. Descriptive data for self-report questionnaires are shown in Table 3. Scores for both groups decreased from baseline to posttreatment, and tended to increase slightly by 1MFU. There were two significant between-group differences: UP + TAU participants scored lower on the BAI at 1MFU ($M_{diff} = 15.62$, 95% CI = [3.40, 27.84]) and the BDI-II at 6MFU ($M_{diff} = 21.55$, 95% CI = [14.99, 28.11]) than TAU.

Discussion

Despite recent advancements in evidence-based psychological interventions for STBs, these phenomena continue to have a devastating impact worldwide. One promising approach toward reducing suicide on a large scale is to develop treatments that directly target the underlying functional mechanisms

Table 3. Descriptive Data for Self-Report Questionnaires by Condition and Assessment.

	UP + TAU				TAU			
	M (*SD*)				*M* (*SD*)			
	Baseline	Posttreatment	1MFU	6MFU	Baseline	Posttreatment	1MFU	6MFU
BSI	17.20 (3.11)	6.29 (3.79)	11.50 (6.36)	5.67 (4.93)	15.00 (2.82)	5.50 (3.53)	N/A	10.56 (14.93)
BHS	11.60 (2.70)	4.42 (4.60)	6.37 (8.34)	8.33 (4.93)	9.80 (6.30)	6.40 (2.30)	3.50 (2.12)	12.33 (4.16)
BDI-II	32.40 (8.84)	15.20 (13.47)	20.66 (9.71)	13.33 (3.06)	37.60 (15.07)	24.40 (11.73)	16.00 (N/A)	34.89 (2.72)
BAI	30.20 (10.18)	18.60 (8.05)	26.33 (4.72)	12.33 (11.59)	37.60 (11.41)	29.80 (13.98)	41.95 (2.90)	40.00 (5.66)
WSAS	5.70 (1.58)	N/A	2.80 (0.00)	2.40 (2.12)	5.84 (1.68)	N/A	6.50 (2.12)	5.20 (2.83)

Note. UP = Unified Protocol; TAU = treatment as usual; 1MFU = one-month follow-up; 6MFU = six-month follow-up; BSI = Beck Scale for Suicidal Ideation; BHS = Beck Hopelessness Scale; BDI-II = Beck Depression Inventory–Version II; BAI = Beck Anxiety Inventory; WSAS = Work and Social Adjustment Scale; N/A = not applicable. The WSAS was not administered at posttreatment due to the fact that this measure captures interference in life domains such as work, home management, social leisure, and so forth, and the entire intervention was administered while patients stayed at the crisis unit. For UP + TAU, baseline n = 4-5, posttreatment n = 5, 1MFU n = 2-3, 6MFU n = 3. For TAU, baseline n = 4-5, posttreatment n = 2-5, 1MFU n = 1-2 (with the exception of the BSI), 6MFU n = 2-3. Discrepancies in ns between questionnaires at each time point within condition are due to an administrative error with the BSI and patients answering insufficient number of items to calculate total questionnaire scores for the WSAS, BDI-II, and BAI on selected occasions.

shared by suicidal phenomena and commonly co-occurring mental health symptoms (e.g., depression, anxiety). Such transdiagnostic, shared mechanism interventions have the potential to efficiently address STBs and related psychological disorders (or symptoms) maintained by similar processes (e.g., depression, anxiety, PTSD, BPD). These streamlined approaches may also prove more easily disseminable across a wide range of treatment settings (e.g., outpatient/inpatient, community mental health), as instead of learning multiple distinct protocols, clinicians may receive training in one evidence-based treatment that can be applied to STBs and related comorbid conditions simultaneously.

The UP (Barlow, Ellard, et al., 2011; Barlow, Farchione, et al., 2011) is an emotion-focused, cognitive-behavioral intervention designed to address core processes responsible for the maintenance of anxiety, depressive, trauma, and related emotional disorders. As previously detailed, our view is that STBs may serve similar functions to the avoidant, maladaptive responses to intense affect that maintain the emotional disorders (e.g., short-term relief or escape from negative emotion). Thus, the UP may offer a practical, efficient framework for addressing suicidal phenomena and co-occurring emotional disorder symptoms concurrently. Correspondingly, the primary aim of this proof of concept study was to explore the feasibility and acceptability of a modified version of the UP for individuals with STBs in an inpatient setting. Findings suggest that the modified UP is feasible for delivery within an inpatient setting. Participants also viewed the UP to be an acceptable, satisfactory approach. However, there were no observable differences in suicidal thoughts or behaviors during a 6MFU period.

With regard to intervention feasibility, retention during treatment was equal between the two conditions, indicating that the UP may be feasibly added to usual services provided in an inpatient setting. Given that this study was conducted in an unlocked crisis unit (in which patients are free to leave at any time), the fact that only one of six participants dropped out of the intervention (and all other concurrent unit services) is encouraging. To the best of our knowledge, this represents the first empirical examination of the UP delivered in an inpatient unit; thus, our study bodes well for future work on extending the UP beyond outpatient settings.

Participants who received the UP also evidenced a very strong understanding of session content. Characteristics of the present sample (e.g., relatively low educational attainment, 40% homeless, 100% unemployed) posed the potential for challenges to acquisition of more advanced treatment concepts (e.g., present-focused emotion awareness); thus, this finding is promising with regard to the feasibility of using the modified UP in settings that provide services to disadvantaged groups. As previously noted, care was

taken to ensure that the adapted workbook was written at an eighth-grade reading level, and therapists presented concepts with more simplified language than the published outpatient protocol. Although these modifications likely facilitated comprehension and acquisition of UP concepts, one individual suggested that examples be more complex; perhaps unsurprisingly, this was also the patient with the highest educational attainment (graduate school) in our sample. Balancing delivery of UP content so that it is well received by patients across the full range of education and functioning levels represents an important consideration as the treatment continues to be adapted for diverse treatment settings.

Conducting research on the experimental intervention within an inpatient unit also generally proved feasible, as evidenced by excellent study recruitment and enrollment rates. This finding is notable given the challenges of conducting randomized controlled trials within inpatient settings. However, retention for follow-up assessments after unit discharge proved more problematic—an important issue we return to in the "Limitations" section below.

Along similar lines, participants who received the UP reported high satisfaction with, and acceptability of, the intervention. Qualitative feedback was largely extremely positive and aligned with the overall aims of this transdiagnostic treatment (e.g., applicability to a wide range of problems, practicality). Participants also tended to report finding the skills-based components of the UP to be the most helpful, which is consistent with the brief, skills-focused nature of our modified intervention. In terms of less helpful components, one individual described the examples provided as too simple, and another cited the homework. Given the poor homework compliance observed for participants in our study, refinements to between-session assignments of the modified UP may be important, particularly given the challenges of completing "homework" in inpatient settings (e.g., less time between sessions, no access to a work space).

Also regarding acceptability, participants who received the UP in addition to usual services reported significantly higher levels of satisfaction with treatment at the CCS than those who received usual services alone. This finding provides further support for the notion that the UP may be well suited as an augmentation to typical services provided in inpatient settings. However, it is possible that simply receiving *any* additional care while at the unit resulted in higher satisfaction rates. Future research must examine whether adding the UP (over non-UP interventions) to usual care also results in higher satisfaction and acceptability.

No meaningful conclusions can be drawn with regard to intervention efficacy given our very small sample size and poor retention during follow-up. Suicidal behavior was rare or absent for both groups during follow-up, and

there were no observable between-condition differences in treatment received (e.g., hospital readmissions, psychotherapy) during follow-up. In light of our acceptability and feasibility findings, as well as the potential impact of a transdiagnostic, mechanisms-based treatment in inpatient settings, efficacy trials of the modified UP with adequate power to observe between-group effects (if they do exist) are warranted. In addition to self-report and clinician-rated symptom measures, it will be important for future studies to assess other important clinical outcomes, such as length of future hospitalizations and remittance rates.

Limitations

There are a number of limitations of this work that should be considered. First, due to our focus on gathering initial acceptability and feasibility data, our sample was extremely small, which rendered us unable to speak to intervention efficacy. The sample size was especially problematic during follow-up, when we faced significant difficulties with retention. Although we employed several procedures to maximize retention postdischarge, we lacked resources to put other potentially helpful measures into place, such as travel reimbursement and ability to complete follow-up interviews in more regularly frequented locations (e.g., participants' residences).

Second, the modified five-session UP was delivered in individual therapy sessions. This makes it difficult to determine whether the higher satisfaction ratings were due to the UP content or extra, individualized attention from a caring therapist. Individual sessions are not the norm for most inpatient settings, which tend to deliver psychotherapy in group formats. Given this, work to develop and evaluate a modified version of the UP that addresses STBs in a group format is underway. Another limitation is that UP + TAU participants may have received instructions during other groups attended while at the unit that conflict with core UP concepts (e.g., distract yourself when distressed, push away suicidal thoughts). Given the potential for "mixed messages" to detract from understanding and acquisition of UP content, this is an important consideration for future work integrating the UP into settings that provide a multitude of services. Because most participants who completed a follow-up interview reported additional psychotherapy since discharge, it is also unknown whether effects observed during follow-up were due to services received at the unit or postdischarge. Furthermore, medication usage, which could also impact STBs, was not systematically assessed during treatment or follow-up. Other limitations include the possibility that results observed in this unlocked crisis unit may not generalize to other inpatient settings, such as locked units that tend to see higher risk individuals.

Conclusion

Despite these limitations, the present investigation also has strengths, including use of random assignment, a control condition (which is less common in research conducted in inpatient settings), and an independent evaluator. In addition to its experimental rigor, our study represents an encouraging step toward the development and application of transdiagnostic, shared mechanism treatments for STBs and related emotional problems (e.g., depression, anxiety). The UP may hold promise as a practical, efficient approach for addressing STBs and co-occurring conditions across diverse treatment contexts, including inpatient settings that are in need of evidence-based treatment approaches. The UP may also offer a flexible framework for continuity of care as patients step down from residential to less intensive settings; however, continued focus on minimizing the inevitable barriers to large-scale dissemination and implementation of the UP (e.g., cost and time of training) is critical. Furthermore, the rationale for extending this unified approach to suicidal individuals would be strengthened with additional experimental evidence supporting the notion that STBs share the underlying mechanistic processes that have been identified for the emotional disorders. Should future studies support the efficacy of this unified approach for suicidal phenomena and co-occurring symptoms across diverse treatment settings, it may represent an exciting prospect for reducing the significant emotional and financial burden of suicide.

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Notes

1. Individual-level functional analysis is likely critical to determining whether suicidal thoughts and behaviors (STBs) serve this function of emotion regulation, as in some cases, STBs may serve other functions (e.g., interpersonal communication; O'Connor, Comtois, Atkins, & Kerbat, 2017), and thus not fit within an emotional disorders framework.
2. We only attempted to collect follow-up data for those participants who completed all in-unit study procedures (e.g., the posttreatment assessment; $n = 10$).

3. Nonparametric statistical techniques (i.e., bootstrapping) were used to calculate group difference due to nonnormal distribution of Client Satisfaction Questionnaire (CSQ) scores (i.e., skewness = –1.55) and small sample size. Four Unified Protocol for Transdiagnostic Treatment of Emotional Disorders (UP) + treatment as usual (TAU) patients and four TAU patients completed the CSQ, given that it was added after two patients (one in each condition) had already completed the posttreatment assessment.

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