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Pilot Study of a Brief Dialectical Behavior Therapy Skills Group for Jail Inmates

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Abstract

Regulating emotions, refraining from impulsive maladaptive behavior, and communicating effectively are considered primary treatment needs among jail inmates. Dialectical Behavior Therapy (DBT; Linehan, 1993a) skills address these deficits and have been implemented in long-term correctional settings, but have yet to be adapted for general population inmates in short-term jail settings. This study assessed the feasibility and acceptability of a DBT skills group in a jail setting, as well as its utility in improving coping skills and emotional/behavioral dysregulation. Male jail inmates (16 completed out of 27 who started; primarily due to involuntary attrition such as transfer to another correctional facility) participated in an abbreviated (8 week) DBT skills group and completed pre- and post-test assessments of coping skills, emotional and behavioral dysregulation, and measures of treatment acceptability. Although several logistical issues arose during this pilot study, preliminary results suggest that a brief DBT skills group is feasible and acceptable in a jail setting, and may improve coping skills and reduce externalization of blame among general population jail inmates. This study lays the groundwork for larger, controlled trials of abbreviated DBT skills groups for general population inmates in short-term jail settings.

Keywords

Dialectical Behavior Therapy; jail inmates; feasibility

Nearly 11.4 million people were incarcerated in United States jails in 2014 (Bureau of Justice Statistics [BJS], 2015), many of whom were in great need of behavioral health interventions. An estimated 80% of individuals housed in the “general population” – those not in segregation or in special forensic units in the jail – are in need of substance use and/or mental health treatment (Drapalski, Youman, Stuewig, & Tangney, 2009). In a recent study, 57% of general population jail inmates demonstrated clinically significant mental health symptoms and 67% endorsed three or more substance dependence criteria (Meyer, Tangney, Stuewig, & Moore, 2014). Nationally, 64% of jail inmates have a mental health problem (BJS, 2006). For instance, jail inmates report substantial symptoms of posttraumatic stress disorder (PTSD; Drapalski et al., 2009) and the prevalence of borderline personality disorder

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(BPD) diagnosis and features among jail inmates ranges from 17% to 45% respectively (Conn et al., 2010; Trestman, Ford, Zhang, & Wiesbrock, 2007).

Many mental health problems observed in jail inmates have common underlying threads, including impaired self-control and impulsivity (DeLisi, 2001), distress-driven maladaptive behaviors such as substance use (Kerridge, 2009), and poor regulation of anger and aggression (Robertson, Daffern, & Bucks, 2015). Further, jail inmates may suffer from general deficits in interpersonal skills; the interpersonal skillset required to communicate effectively with court systems (e.g., judge, probation officer) is often underdeveloped. Such skills deficits in behavioral control, emotion regulation, and interpersonal skills disrupt employment, community adjustment, and often precipitate quick return to jail after release (DeLisi & Berg; 2006; Tonkin, Dickie, Alemagno, & Grove, 2004; Malouf et al., 2014). Thus, there is an overwhelming need to enhance adaptive coping skills in this population. Specifically, learning to regulate and tolerate emotions, refrain from maladaptive behaviors such as substance use or aggression, and communicate effectively with others are considered primary treatment needs among general population jail inmates.

Dialectical Behavior Therapy (DBT; Linehan, 1993a) is an evidence-based intervention that addresses these very skills deficits. DBT has typically been reserved for treatment of severe personality disorders both in community and long-term forensic settings, showing evidence of improvements in impulsivity (Van den Bosch, Koeter, Stijnen, Verhuel, & Van den Brink, 2005; Verheul et al., 2003) as well as emotion dysregulation and substance use (Axelrod, Perepletchikova, Holtzman, & Sinha, 2011). However, DBT skills may have broader applications that would meet the needs of general population jail inmates. Indeed, research shows the efficacy of DBT in treating trans-diagnostic emotion regulation problems (Neacsiu, Eberle, Kramer, Wiesmann, & Linehan, 2014) and interpersonal skills deficits (Stepp, Epler, Jahng, & Trull, 2008) in non-BPD populations. In addition, DBT has been proposed as a treatment for substance use problems (Linehan et al., 2002; Dimeff & Linehan, 2008). It is possible that the core skills taught in DBT would improve jail inmates' ability to regulate emotions, refrain from distress-driven maladaptive behaviors, and better navigate interpersonal stressors, ultimately reducing the chances of reincarceration and enhancing post-release adjustment.

There are a multitude of barriers, however, to implementing this treatment in a *jail* setting. First, because jail is the entryway into the justice system, it is a holding place for individuals awaiting trial and sentencing. Inmates' length of jail incarceration is frequently uncertain or changed due to early release or transfer to other facilities (Osher, Steadman, & Barr, 2003). As a result of this uncertainty and population instability, many evidence-based treatments are not implemented in jail settings; anywhere from 64% to 83% of jail inmates do not receive treatment to meet their mental health needs (Sung, Mellow, & Mahoney, 2010; BJS, 2006). Second, DBT in particular is costly in intensity as well as duration; traditional DBT requires one year of individual and group therapy provided by highly trained therapists (Andión et al., 2012). Jails often lack the resources required to provide such treatments (Osher et al., 2003). These considerations were used to inform the adaptation of DBT for general population jail inmates in this study.

Dialectical Behavior Therapy (DBT)

DBT (Linehan, 1993a) utilizes principles of learning to identify the causes and reinforcers of maladaptive behavior and in turn, introduce and reinforce new skillful behaviors. The DBT framework is based on the biosocial theory of emotion dysregulation, which describes how a strong biological predisposition to experience intense emotions paired with an invalidating environment results in emotion dysregulation and maladaptive, impulsive behavior (Crowell, Beauchaine, & Linehan, 2009). This model posits that maladaptive behaviors, such as self-injury or aggression, are triggered by intense acute emotions and reinforced by both the short term alleviation of distress and responsiveness to extreme behaviors by the environment (Crowell et al., 2009). This framework has been most commonly used to conceptualize severe emotional and behavioral dysregulation, specifically chronic suicidal behavior in BPD (Linehan, 1993a; Lynch, Trost, Salsman, & Linehan, 2007). To this end, traditional DBT is intensive, involving one year of participation in weekly individual therapy, weekly skills group participation to learn mindfulness, emotion regulation, interpersonal effectiveness, and distress tolerance skillsets, as well as the ability to call the individual therapist 24/7 for skills coaching as needed (Linehan, 1993a; Neacsiu & Linehan, 2014). Indeed, research in non-correctional settings shows that traditional DBT is an effective treatment for individuals diagnosed with BPD and non-suicidal self-injury (Kliem, Kroger, & Kosfelder, 2010; Linehan et al., 2015).

DBT in Correctional Settings

DBT has been adapted for use with criminal offenders and implemented in forensic/correctional settings (Berzins & Trestman, 2004), however, outcomes have only been evaluated in five studies¹: forensic hospital (1), forensic outpatient (1), and prison (3). The adaptation of DBT in each study varies greatly, with differing lengths of treatment, treatment components, and training level of treatment facilitators. This research is reviewed below. Studies that implemented Linehan's (1993a) DBT without modification will be referred to as having implemented "traditional DBT."

Forensic hospital and outpatient settings

Sakdalan, Shaw, and Collier (2010) implemented the DBT skills group component with nine forensic outpatients diagnosed with an intellectual disability and a history of violent charges. Facilitators provided 1.5 hour, weekly skills groups over 13 weeks, covering the four core DBT skills modules. Facilitator training in DBT was not described. They found significant pre- to post- improvements in global functioning and general self-regulation and coping skills as assessed with the short-term assessment of risk. They emphasized the effectiveness of DBT skills groups alone, without individual therapy and coaching components. In a forensic hospital, Evershed et al. (2003) recruited eight people with significant BPD traits and provided an adapted version of DBT to include only the skills group component and individual therapy (i.e., no coaching) over 18 months. In addition, they examined violent

¹DBT has been implemented and evaluated in three juvenile detention settings (Trupin, Stewart, Beach, & Boesky, 2002; Shelton, Kesten, Zhang, & Trestman, 2011; Drake & Barnoski, 2006), but a description of adaptations for juvenile populations is outside the scope of the present study.

behavior as a treatment target and tailored certain distress tolerance skills to males. Only some facilitators completed DBT training. The treated sample was compared to a control group of men with BPD characteristics who completed treatment as usual in the hospital. The treatment and control groups were not equivalent in many respects, but the DBT group evidenced greater reductions in seriousness of violent behavior, and on some self-report measures (i.e., anger, hostility).

Prison settings

Three studies have adapted and evaluated DBT in prison settings (Eccleston & Sorbello, 2002; Nee & Farman, 2005; Shelton, Sampl, Kesten, Zhang, & Trestman, 2009). Eccleston and Sorbello (2002) provided DBT skills group twice per week over 10 weeks and individual therapy as needed to prison inmates (no sample size specified) with BPD traits or self-harm. Many skills were simplified, and there was no coaching component to this treatment. Preliminary results indicate the Stress subscale of the Depression and Anxiety Stress Scale decreased from pre- to post-test. In another study, Nee and Farman (2005) conducted five pilot studies of DBT with female prisoners who met criteria for BPD or engaged in recent self-harm behavior. Two of these studies implemented traditional DBT (combined for analyses) and three used adaptations (16 week and 12 week adaptations, also combined for analyses). With regard to traditional DBT, participants improved from pre- to post- on the borderline syndrome list, emotion control, and impulsivity, although not significantly compared to the control group. With regard to adapted DBT, results showed significant improvements in impulsivity and self-esteem (no control group). Only a portion of group facilitators completed a two week DBT training and received DBT supervision. Finally, Shelton et al. (2009) evaluated DBT-Corrections Modified (DBT-CM; Trestman, Gonillo, & Davis, 2004) with 63 male and female prisoners. DBT-CM involved the DBT skills group component that is delivered twice per week over 16 weeks and random assignment to either 8 weeks of 30 minute individual coaching or case management sessions (e.g., finding employment) during incarceration. They found that behavioral infractions, aggression (for certain facilities), and skills usage improved from pre- to post-intervention for participants who completed the DBT-CM 16 week skills group. They also found the coaching sessions group improved more in symptoms of psychopathology than the case management group at the 6 month follow up, though results were not significant at the 12 month follow up.

Present Study

In the current study, we pilot-tested an abbreviated DBT skills group with general population jail inmates. Jail settings differ from other correctional settings in three main ways that affect implementation: DBT in a jail setting needs to be (1) short in length due to relatively short sentence lengths; (2) broadly applicable to inmates with a range of self and/or emotion-regulation problems; and (3) less resource intensive than typical DBT, as most jail mental health staff have large caseloads and little (if any) time to provide individual therapy/coaching. Therefore, our abbreviated DBT skills group was designed to be delivered over a shorter period of time (i.e., 8 weeks) than a typical DBT skills group (i.e., 24 weeks) and we did not include individual therapy or skills coaching components. To our knowledge, no

studies have examined DBT with adult general population jail inmates not explicitly selected for severe emotional or behavioral dysregulation, but who may still benefit from the core DBT skills. We hypothesized that DBT skills would (1) be feasible to implement in a jail setting, (2) be acceptable to general population jail inmates, and (3) result in improved coping skills and decreased emotional/behavioral dysregulation from pre- to post-intervention.

Method

Abbreviated DBT Skills Group Intervention

The abbreviated DBT skills group for the current study was adapted and modified from Linehan's (1993b; 2014) DBT skills modules to be delivered in eight, one hour and 15 minute sessions over a period of 8 weeks. Seven skills were deemed particularly relevant based on research noting the common difficulties of jail inmates (e.g., DeLisi, 2001; Robertson, Daffern, & Bucks, 2015). Specific skills presented during each session are shown in Table 1. To target impulsivity and the inability to refrain from engaging in maladaptive behavior that conflicts with long-term goals, we selected skills for 1) gaining mindful awareness and noticing when emotions are driving behaviors (i.e., states of mind) and 2) using cold water, exercise, and relaxation strategies to alter one's physiological state to reduce emotional arousal (i.e., TIP). To target emotion dysregulation and in particular, dysregulation of anger, we selected skills aimed at 3) identifying emotions, 4) reducing physical and mental vulnerability to intense emotions (i.e., PLEASE MASTER; see Table 1), 5) identifying and acting opposite to emotion urges in order to promote better behavioral control (i.e., Opposite Action), and 6) integrating enjoyable activities into one's routine to promote long-term emotional well-being. Finally, we targeted interpersonal and assertiveness skills using techniques that teach the ability to 7) make requests and say no while maintaining self-respect and being effective in reaching one's goals (i.e., DEAR MAN GIVE FAST; see Table 1).

The first session of the intervention includes an introduction to DBT rules and principles, mindfulness, and a values clarification exercise, which is common in "third wave" interventions, such as Acceptance and Commitment Therapy (Hayes, 2004), and is included in the newer edition of the DBT skills manual (Linehan, 2014). In our group, participants were asked to identify specific values they hold (i.e., family, stability), as well as barriers to living in line with these values (e.g., substance abuse, incarceration). The notion of using DBT skills to overcome these barriers was introduced. Values clarification was used at the start of treatment to increase engagement in treatment and enhance willingness to contemplate errors and transgressions as well as to experience associated negative emotions such as guilt, shame, regret and disappointment (Malouf, Youman, Harty, Schaefer, & Tangney, 2013). We believed this would be especially useful for individuals who recently became incarcerated.

Group members were assigned homework each week; homework completion was rewarded using colored ink stamps of encouraging phrases (i.e., "Awesome job"), a standard practice in DBT skills groups. The stamps are presumed to positively reinforce and thus shape skills practice outside of group sessions. Each session followed the structure described by Linehan

(1993b; 2014): mindfulness exercise, homework review, new skill lesson, wind-down activity (i.e., mindfulness exercise). Given the brevity of the intervention, didactic instruction on mindfulness skills only occurs in the first session during the discussion of states of mind (emotion mind, wise mind, reasonable mind; see Table 1); however, guided mindfulness exercises are practiced throughout the intervention with reminders about the purpose and components of mindfulness. Sessions two through six focus on distress tolerance, emotion regulation, and interpersonal effectiveness skills (see Table 1). The last two sessions include skill review and application of skills to participants' individual behavioral goals. During the last session, participants are given the opportunity to provide feedback about the group and receive certificates of completion during a graduation ceremony. Sessions 7 and 8 follow the same structure as Sessions 2-6, as described above, with the exception that no new skills are introduced.

The treatment team had considerable clinical and research experience with jail and prison populations. Two clinical psychology doctoral students co-led each group; a total of three doctoral students facilitated the three cohorts of participants. The three facilitators were all enrolled in a Clinical Psychology Ph.D. program. All had obtained M.A. degrees in Psychology. Facilitators were all White females, had completed an average of 20.33 years of education ($SD = 1.15$ years), and were on average 25.67 years old ($SD = 0.58$). Two of the facilitators had training in DBT through coursework and had facilitated a DBT skills group in a community mental health center. The third facilitator received training from the senior DBT skills group facilitators, and observed a full cohort of the group. All facilitators had knowledge of and experience with DBT, including both the skills components and stylistic strategies used, and received supervision from a licensed clinical psychologist with extensive training and experience in DBT.

Participants and Procedure

Participants were three cohorts ($N = 16$) of post-sentence male general population inmates in an adult detention center (ADC) in a suburb of Washington DC. An existing partnership with Opportunities, Alternatives, & Resources (OAR) of Fairfax, a nonprofit organization that provides human services to offenders and their families, facilitated participant recruitment within the jail. An ADC staff member who serves as a liaison between the ADC and OAR selected inmates for the abbreviated DBT skills group largely to satisfy their program enrollment criteria. Participants were deemed eligible by ADC and OAR staff following completion of other curricula designed to target employment skills, as increasing post-release employment was a priority for this organization. Of note, employment skills classes are among the most common programs jail inmates enroll in (Harlow, 2003) and do not encompass a less severe subset of inmates. This abbreviated DBT skills group was considered to have an emphasis on applying skills to maintain employment post-release (i.e., examples used by facilitators focused on how to use skills in the workplace). None of the previous employment curricula at this jail focused on emotional or behavioral regulation skills, which are referred to in correctional programming as "soft employment skills" (i.e., contrasted with "hard employment skills" involving job applications and resume preparation; Calabrese & Hawkins, 1988; Tonkin, Dickie, Alemagno, & Grove, 2004). Sample selection was not based on severity of emotional/behavioral problems or BPD

symptoms, as the purpose of this pilot study was to determine the utility of DBT skills for general population jail inmates and not a specific clinical sample. Because we expected our intervention to target emotional and behavioral dysregulation, we included an inventory of BPD features that captures emotional and behavioral dysregulation to assess for changes over the course of the group.

This study was approved by the George Mason University Institutional Review Board. Two research assistants met with group participants at the start of the first session to obtain informed consent. It was explained that research participation (i.e., having clinical assessment data entered into database and analyzed) was entirely voluntary and not a requirement for participation in the DBT skills group. Risks and benefits of research participation were explained and participants were encouraged to ask questions.

A total of 32 inmates were invited to participate in this research; four (13.8%) declined. In addition, data from one participant in Cohort 1 was discarded a priori due to validity concerns (e.g., the participant's responses suggested that he portrayed himself in an overly positive light on questionnaires), which resulted in a final sample of 27 inmates. Although we had valid pre-test data for 27 participants, we only had post-test data for 16 participants (59.3% retention). This retention rate is similar to other studies examining DBT with correctional populations (e.g., Eccleston & Sorbello, 2002; Nee & Farman, 2005; Shelton, Sampl, Kesten, Zhang, & Trestman, 2009). Comparison of the 16 inmates with valid pre- and post-test data and the 11 with only pre-test data revealed no significant differences at pre-test in age, race, education, marital status, BPD symptoms, or two of three DBT Ways of Coping Checklist subscales (i.e., skills usage, blaming others); however, those who did not have post-test data tended to have higher dysfunctional coping scores at pre-test, $t(15.16) = -.55, p = .018$. Following a Bonferroni Correction there were no significant differences between those with valid pre- and post-test data and those with only pre-test data.

Due to a jail rule, any inmate who missed two classes without an excuse was removed from the group, leading to non-completion for many participants. Other reasons for program non-completion were not always made known to facilitators and institutional restrictions limited facilitators' ability to follow-up with non-attending group members. Some reasons for program non-completion made known to investigators included changes in work schedule, lack of proficiency in the English language, and accrual of additional "keep separates" (e.g., individuals not allowed to be in contact with one another due to safety concerns; jail rules restrict inmates with a certain number of keep separates from participating in programs). Facilitators were aware of only one participant who elected to be removed from the group. This participant had completed behavioral therapy in the past and did not believe additional participation would be beneficial.

Data from all participants who completed both pre- and post-test assessments ($N = 16$) were analyzed; all participants who completed the post-test assessment self-reported having attended at least 6 out of 8 sessions of the abbreviated DBT skills group. On average, participants were 34.79 years old ($SD = 8.48$ years) and had completed 11.71 years of education ($SD = 2.19$ years). Participants were racially diverse (37.0% Black, 29.6% White, 25.0% Hispanic, 3.7% Middle Eastern, 29.6% identified as "mixed" or "other"),

predominately single/never married (78.6%), had zero (39.3%) or one (25.0%) child ($M=1.54$, $SD=2.06$, range=0-8), and the majority were incarcerated on new charges (71.4%), compared to a probation violation (7.1%) or both new charges and a probation violation (21.4%). In regards to employment history, participants reported employment at an average of 7.93 jobs during their lifetime ($SD=4.55$, range = 0-20), being fired from an average of 1.26 jobs ($SD=1.38$, range = 0-5), and leaving most jobs because they found a better job (38.9%) or because the pay was too low (33.3%).

Measures

Demographic questionnaire—Participants self-reported their race, age, education, marital status, number of children, and employment history.

Dialectical Behavior Therapy Ways of Coping Checklist (DBT-WCCL; Neacsiu, Rizvi, Vitaliano, Lynch, & Linehan, 2010) is a 59-item self-report measure of coping strategies utilized in the past month, rated on a 4-point scale from 0 (*never used*) to 3 (*regularly used*). The DBT-WCCL includes three subscales: (1) Skills Usage (e.g., “Tried to get centered before taking any action”; higher scores indicated more adaptive coping strategies); (2) General Dysfunctional Coping (e.g., “Criticized or lectured myself”; higher scores indicated more use of dysfunctional coping skills); (3) and Blaming Others (e.g., “Took it out on others”; higher scores indicated greater externalization of blame). The DBT-WCCL has sound psychometric properties in other studies, as evidenced by strong internal consistency, test-retest reliability, content validity analyses, and discriminant validity (see Neacsiu et al., 2010). In the current sample, internal consistency estimates of reliability for the three subscales at pre-test (Cronbach’s $\alpha = .88, .77, .72$, respectively) as well as at post-test (Cronbach’s $\alpha = .64, .79, .51$, respectively) were acceptable to high, with the exception of the Blaming Others subscale, which was less reliable at the post-test.

Personality Assessment Inventory-Borderline Personality Features Scale (PAI-BOR; Morey, 1991)—Participants completed a subset of questions assessing emotional and behavioral dysregulation from the widely used self-report measure, the Personality Assessment Inventory (PAI; Morey, 1991). The PAI-BOR scale includes 24 items rated on a 4-point scale from 0 (*false*) to 3 (*very true*). The PAI-BOR scale is composed of four subscales: (1) Affective Instability (e.g., “My mood can shift quite suddenly”); (2) Identity Problems (e.g., “My attitude about myself changes a lot”); (3) Negative Relationships (e.g., “My relationships have been stormy”); (d) and Self-Harm, ostensibly reflecting self-harming behaviors, however most items assess impulsivity (e.g., “I sometimes do things so impulsively that I get into trouble”). Total PAI-BOR scores were computed for each participant (i.e., sum of four subscales) where higher scores represent higher levels of emotional and behavioral dysregulation; six items were reverse coded (e.g., “My mood is very steady,” “I rarely feel very lonely”). The PAI-BOR was converted to a T -score based on the census standardization sample. Internal consistency for the PAI-BOR was high (pre-test $\alpha = .85$; post-test $\alpha = .80$), consistent with those reported in the standardization samples (Morey, 1991). At pre-test, scores ranged from 34 T to 89 T ($M=62.43$, $SD=14.35$) and at post-test from 38 T to 83 T ($M=63.19$, $SD=14.49$), indicating a range of emotional and behavioral dysregulation in this sample.

Participant feedback—Participants were asked “How helpful was the group in teaching skills for maintaining employment in the future?”; responses were on a Likert scale from 1 (*not helpful at all*) to 10 (*very helpful*). In addition, during the final session, facilitators engaged participants in a discussion of their experience with the abbreviated DBT skills group. Participants were encouraged to provide constructive feedback in order to improve the group for future participants. Participant responses were transcribed by the facilitator during Cohort 1 and recorded using a voice recorder during Cohorts 2 and 3.

Data Analysis

We used a mixed-methods approach to analyze the data. Dependent samples t-tests were used to assess changes in coping and emotional and behavioral dysregulation with all cohorts combined for analyses. Cohen’s *d* was calculated as a measure of effect size and is interpreted following Cohen’s (1988) established guidelines in which .20 denotes a small effect, .50 denotes a medium effect, and .80 denotes a large effect. Though we did not conduct formal qualitative analyses, we did elicit participant feedback through group discussion during the final session for each cohort and highlight those themes throughout the results. Given the distinct feasibility issues present during each cohort that may have impacted participants’ experiences with and response to treatment, descriptive statistics (*M* and *SD*) are presented separately by cohort in Table 2 to show patterns of changes in coping and emotional and behavioral dysregulation; no statistical analyses were conducted separately by cohort due to the small sample sizes within each group, so these are merely patterns and should be interpreted with caution. Feasibility and acceptability results are presented separately by cohort in text.

Results

Changes in coping skills—When analyzing the entire sample, although not statistically significant, changes from pre- to post-test in the DBT-WCCL subscales demonstrated small effect sizes for skills usage ($t(15) = -.719, p = .48, d = .18$), dysfunctional coping ($t(15) = .628, p = .54, d = .15$) and blaming others ($t(15) = .854, p = .41, d = .23$).²

Changes in emotional/behavioral dysregulation—When analyzing the entire sample, there were no statistically significant changes in emotional or behavioral dysregulation as assessed by the PAI-BOR ($t(15) = -.96, p = .35, d = .08$). Of note, the correlation between pre- and post-test PAI-BOR was .95 ($p < .001$), suggesting little change occurred over time.

Participant feedback—In general, participants provided positive feedback about the group. Participants reported the group was very helpful in teaching skills for maintaining employment ($M = 9.3, SD = 1.1$). Specific comments are presented by cohort below.

²We also considered the possibility that certain items from the WCCL might not be amenable to change in a jail environment (e.g., “Treated myself to something really tasty” and “Soothed myself by surrounding myself with a nice fragrance of some kind”). As such, we removed 7 items from the assessment and reanalyzed the results. The pattern of results and magnitude of effects were the same. Although not statistically significant, skills usage increased, $t(15) = -.544, p = .60, d = .17$, and dysfunctional coping, $t(15) = .551, p = .59, d = .13$, and blaming of others, $t(15) = .854, p = .41, d = .23$, decreased from pre- to post-test. Given the similar pattern of results and magnitude of effects, we focus on the standard scoring method using all items from the WCCL going forward.

Cohort 1

Participants—Participants ($N = 5$) were selected based on completion of an ADC employment skills class; one participant was currently enrolled in an employment skills class but had not yet completed it. Group members reported many of them had taken classes together previously in the jail, so the group was well-acquainted with each other from the outset. Participants were at varying stages in their sentences; some members were nearing release, while others were awaiting transfer to prison. We started with 7 participants and had 5 remaining at the post-test assessment (71.4%).

Logistical challenges—There were no substantial logistical challenges in Cohort 1. All sessions had 63.6% attendance or higher (based on facilitator records) and the 8 sessions were conducted over the 8-week period as planned.

Changes in coping skills—Statistical tests were not conducted separately by cohort. With regard to the DBT-WCCL skills usage subscale (higher scores indicate more adaptive coping skills), inmates scored an average of 1.97 at pre-test and 2.11 at post-test (see Table 2). On the dysfunctional coping subscale (higher scores indicate more maladaptive coping), inmates scored an average of 1.52 at pre-test and 1.39 at post-test, and on the blaming others subscale (higher scores indicate greater externalization of blame onto others), inmates scored an average of 1.03 at pre-test and 0.77 at post-test.

Changes in emotional/behavioral dysregulation—With regard to change in PAI-BOR scores from pre- to post-test, mean scores were the same at both timepoints (see Table 2). At the individual level, one participant decreased on the PAI-BOR, two did not change, and two increased.

Participant feedback—Participants provided positive feedback about the group. Participants reported the group was very helpful in teaching skills for maintaining employment ($M = 9.2$, $SD = 1.3$). During the open discussion, group members highlighted several things they found beneficial: (1) the group focused on how to calm oneself and which skills could feasibly be implemented in the jail versus in the community; (2) the group leaders were respectful and made them feel comfortable with and open to the material; (3) the skills were applicable to both the jail and community settings; and (4) they enjoyed the mindfulness exercises.

Participants mentioned a few things that they would change about the group. Some suggestions for improvement included: (1) more role-play practice of skills during group; (2) a few group members did not like the stamps used as reinforcement (though this feeling was mixed as some group members liked the stamps); and (3) shifting the focus away from employment but rather on how the skills can be used more broadly.

Cohort 2

Participants—Selection of participants ($N = 5$) was completed using the same procedures described for Cohort 1, with the exception that we recruited participants nearing release to the community (i.e., to be released in approximately 6 months based on jail records). Given

the employment focus of this abbreviated DBT skills group, we wanted participants to be able to use the skills on the job as soon as possible. The day before the first session, however, there was a disciplinary incident involving several of the assigned group members which prevented them from being eligible for any jail groups. As such, five new individuals were added to the group, some of whom reported being currently enrolled in an employment skills class. We started with 10 participants and had 5 remaining at the post-test assessment (50%).

Logistical challenges—Programs at the ADC are run according to the surrounding county's public school schedule, thus ADC programs are cancelled when there is a school closure. As such, three classes were cancelled during Cohort 2 as a result of inclement weather. In order to still hold eight sessions, the group treatment was delivered over a period of 11 weeks. All sessions had 50% attendance or greater; for six out of the eight sessions, attendance was at or above 70%.

Changes in coping skills—Statistical tests were not conducted separately by cohort, but observed mean differences in DBT-WCCL subscales were largely consistent with Cohort 1. With regard to the skills usage subscale, inmates scored an average of 2.07 at pre-test and 2.20 at post-test (see Table 2). On the blaming others subscale, inmates scored an average of 1.23 at pre-test and 0.73 at post-test. On the other hand, on the dysfunctional coping subscale, inmates scored an average of 1.69 at pre-test and 1.89 at post-test.

Changes in emotional/behavioral dysregulation—Inmates scored an average of 73.00 on the PAI-BOR at pre-test and 70.60 at post-test (see Table 2). At the individual level, three participants decreased and two increased on the PAI-BOR.

Participant feedback—In general, participants provided positive feedback about the group. Participants reported the group was very helpful in teaching skills for maintaining employment ($M = 9.8$, $SD = 0.4$). During discussion, group members highlighted several things they found beneficial: (1) opening the group with mindfulness exercises helped with group participation and openness in discussion; (2) the small size of the group was intimate so it was easy to open up and have time to share in group; (3) they reportedly learned more from this class than any taken so far at the jail; and (4) the skills were helpful and applicable to both jail and community settings. Additionally, some group members reportedly shared the skills handouts with others in the jail since they found them to be useful. Participants did not provide anything they would change about the group. One group member indicated that it was difficult for him to apply the skills in the jail setting.

Cohort 3

Participants—The recruitment strategy was the same as outlined in Cohort 2. It was successful in Cohort 3; all participants ($N = 11$) had completed an employment skills class and were nearing release into the community. We started with 11 participants and had 6 remaining at the post-test assessment (60%).

Logistical challenges—Although all classes were held as scheduled, attendance was particularly problematic in Cohort 3. Attendance was as low as 25% during two of the classes. Several participants missed more than one session because deputies did not transport participants from their cell block. As such, some participants missed substantial amounts of group material in Cohort 3 and the group lacked consistency (different participants missed each week), which seemed to detract from cohesiveness and fluency of discussion from one session to the next.

Changes in coping skills—Statistical tests were not conducted separately by cohort. With regard to the DBT-WCCL skills usage subscale, inmates scored an average of 2.40 at pre-test and 2.31 at post-test (see Table 2). On the dysfunctional coping subscale, inmates scored an average of 1.58 at pre-test and 1.30 at post-test. On the blaming others subscale, inmates scored an average of 0.86 at pre-test and 1.17 at post-test.

Changes in emotional/behavioral dysregulation—Inmates scored an average of 57.17 on the PAI-BOR at pre-test and 62.33 at post-test (see Table 2). At the individual level, one participant did not change and five increased on the PAI-BOR.

Participant feedback—In general, participants provided positive feedback about the group. Participants reported the group was very helpful in teaching skills for maintaining employment ($M = 8.8$, $SD = 1.3$). During the open discussion, group members highlighted several differences in how the group was facilitated compared to other groups in the jail, which they found beneficial: (1) the group leaders appeared to be invested in the group and this was motivational; (2) groups were interactive in combining lecture and group discussion; (3) the group leaders were knowledgeable of the material and able to convey material without reading from a script; and (4) the group leaders were seemingly warm and genuine.

Participants mentioned a few things that they would change about the group, which were unfortunately not all feasible in a correctional setting. They expressed the desire to: (1) have class two times per week to keep the information fresh on their minds; (2) have longer classes (1.5 hours compared to 1.25 hours) so there is more time for discussion; and (3) for group leaders to write individual reports for each participant as a concrete way to demonstrate their progress throughout the group.

Discussion

This study is the first evaluation of an abbreviated DBT skills group in an adult jail setting. Participants were general population jail inmates – people who did not necessarily display personality psychopathology or severe behavioral dysregulation. Though not statistically significant, analyses of changes in DBT-WCCL subscale scores are encouraging and should be replicated in larger samples; at the individual level, some inmates appeared to use more adaptive coping skills, less maladaptive coping skills, and engage in less externalization of blame over the course of the intervention. Individuals who become incarcerated often lack essential self-regulation skills needed to control impulses and tolerate difficult emotions, which detracts from their ability to maintain employment, comply with probation, and resist

engaging in illicit behavior. Because the time period after being released from jail involves significant stressors (e.g., finding housing, employment, and transportation, staying sober, getting proper mental health treatment/ medications, complying with probation), relying on dysfunctional coping strategies (i.e., wishful thinking, avoidance) to navigate these stressors will likely precipitate return to the criminal justice system. On the other hand, learning more adaptive coping skills would improve inmates' ability to exert behavioral control over impulses, engage in problem-solving, cognitively reframe situations to have a more positive outlook, utilize others for emotional support, and take steps to reduce vulnerability to intense emotions. More research is needed to determine whether inmates' coping skills do indeed change across the course of abbreviated DBT skills groups.

Though not statistically significant, some inmates appeared to externalize blame and take anger out on others less at post-test than at the start of the intervention. This finding is consistent with other evaluations of DBT with forensic populations noting improvements in offenders' ability to accept personal responsibility as opposed to blaming others (Shelton et al., 2009). Considering aggressive behavior was often an individual behavioral target and a primary focus of group discussion in this sample, this effect is particularly promising. Although data on disciplinary infractions were not available in the present study, some participants reported being able to walk away from arguments with other inmates or correctional staff more easily than they had in the past. Decreasing the tendency to blame others not only has implications for emotional and behavioral regulation, but it may have specific implications for criminal behavior post-release. Externalization of blame (i.e., blaming others) is a cognitive strategy used to justify engagement in antisocial behavior (e.g., Sykes & Matza, 1957). Recently, Tangney, Stuewig, and Martinez (2014) showed that externalization of blame assessed during incarceration was a significant predictor of recidivism in the first year post-release. Thus, reducing this maladaptive coping skill may actually prevent future engagement in criminal behavior and incarceration.

When examining individual participant scores, emotional and behavioral dysregulation, as assessed using the BPD features subscale of the PAI (i.e., PAI-BOR), increased (not significantly) for some participants from pre- to post-test. It is possible the increases observed were the result of increased awareness of problematic emotional, behavioral, and interpersonal patterns, rather than a true worsening of these abilities. For example, increased awareness of problem behaviors could lead to higher responses on items such as "I have little control over my anger" and "I sometimes do things so impulsively that I get into trouble" and "My mood can shift quite suddenly." Indeed, we did not receive any feedback from participants about having worse emotional or behavior problems throughout the group, and instead received ample feedback about improvement in the ability to recognize problematic behaviors, identify emotions, and navigate dysfunctional interpersonal relationships. Given the preliminary nature of these findings, future research with a larger sample size and a control group is necessary to determine the true nature of these effects.

Furthermore, this abbreviated DBT skills group was acceptable to the inmates in this study. Feedback across cohorts indicated that participants found the leaders motivating (e.g., leaders conveyed they wanted to be in group, knew the material, were respectful and genuine), the skills useful (in the jail and on the outside), and the DBT skills handouts

helpful. For example, many group members not only completed practice assignments weekly, but some group members reportedly shared their handouts with other inmates since they found them to be useful. Additionally, the primary criticisms focused on logistical challenges due to jail rules for programs, not the group specifically. For example, some group members wanted more frequent or longer classes. This high level of acceptability shows promise for implementing abbreviated DBT skills groups with general population inmates at other jail facilities.

Implementation Issues and Recommendations for Correctional Settings

In conducting this pilot study, we encountered several logistical challenges and have developed recommendations for future implementations of abbreviated DBT skills groups in jail settings. Although our retention rate is similar to other studies examining DBT with correctional populations (e.g., Eccleston & Sorbello, 2002; Nee & Farman, 2005; Shelton, Sampl, Kesten, Zhang, & Trestman, 2009), non-attendance and dropout were problematic, and may have limited our ability to detect significant effects. Some inmates were transferred to prison mid-way through treatment and others missed classes involuntarily for reasons such as deputies not calling/escorting inmates to group, which after two absences, led to removal from the group (due to a jail rule). The former challenge raises the issue of considering timing and stage in the criminal justice process when selecting inmates to participate in this sort of behavioral intervention. Inmates who have been sentenced, are early on in serving their sentence, and are likely to serve their sentence at the host jail (i.e., not transferred to Department of Corrections) may be the most appropriate for a multi-week abbreviated DBT skills group. Selection based on these criteria minimizes unpredictable transfers and maximizes the chance inmates will be able to receive the full dosage of treatment and build skills throughout the course of the group.

With regard to the latter, group facilitators may be able to work with the jail to reduce implementation challenges. For example, in an ideal scenario, facilitators could meet with deputies to discuss the importance of sending participants to groups whenever possible; the material taught in groups such as the abbreviated DBT skills group is likely relevant to their behavior on the unit, and this may be an incentive for deputies to take extra care in ensuring participants attend group. If it is not possible to meet directly with deputies, discussion and coordination with shift administrators and supervisors regarding how participation in the intervention may benefit their staff through a reduction in behavioral issues may increase the likelihood of deputies facilitating participants' attendance.

In general, it is recommended that future implementations of abbreviated DBT skills groups continue to provide the intervention to general population jail inmates rather than selecting individuals who are elevated on personality psychopathology measures or other markers of extreme behavioral dysregulation. Although inclusion of less severe psychopathology may limit the degree of change that is detectable (i.e., there would be larger improvements from pre- to post-intervention among individuals with more severe psychopathology at the start), the abbreviated DBT skills intervention is considered clinically appropriate and applicable to a broad range of emotional and behavioral skills deficits. For example, many general population inmates suffer from substance use disorders (about 68% of inmates; James &

Glaze, 2006), borderline personality disorder (about 30-45% of inmates; Conn, et al., 2010; Jordan, Schlenger, Fairbank, & Caddell, 1996), and PTSD (more than 1/3 of inmates; Teplin, 1994; Teplin, Abram, & McClelland, 1996). A common thread among these disorders is a deficit in emotion regulation, which then translates into low self-control and impulsive, often unwise behavior; this demonstrates the clinical utility of this intervention for a more inclusive jail population.

With regard to the broader implementation of abbreviated DBT skills groups in jail settings, there are several recommendations for correctional clinicians. The current pilot study was an opportunity of convenience, as doctoral students provided the intervention as part of a clinical practica in a jail setting that already had an existing research partnership with the university. These sorts of partnerships are encouraged, as clinical psychology doctoral trainees with interest in DBT and access to DBT supervision could continuously provide this type of intervention for no cost to the correctional facility. This is not, however, the only viable model for implementing evidence based treatments in jail settings. Correctional clinicians can also be trained to deliver this abbreviated DBT skills intervention. As with dissemination of any evidence-based treatment in a community setting, the most effective method involves training staff and facilitating follow-up supervision in the therapy modality provided (McLean & Foa, 2013). If the abovementioned partnerships between jails and universities exist, doctoral students could train staff and provide follow up supervision (while still being supervised themselves). Alternatively, if such partnerships do not exist, correctional clinicians could receive basic training in the conceptual components of this therapy modality (i.e., behavior therapy, learning theory) by attending brief, affordable workshops at clinician-focused conferences, such as the American Psychological Association (APA) or Association for Behavioral and Cognitive Therapies (ABCT). Such workshops would likely provide enough exposure to this treatment for correctional clinicians to facilitate treatment adherent DBT skills groups. In addition, the Linehan (1993a,b) skills group manual provides more in-depth information about the stylistic strategies that DBT skills group leaders can use. Of note, unlike some adaptations of DBT for correctional settings, we did not simplify the DBT skills (Eccleston & Sorbello, 2002) or tailor them for men (Evershed et al., 2003); nonetheless, we found participants understood and engaged with therapeutic content, which suggests other clinicians could deliver the abbreviated DBT skills intervention as outlined in this study.

Certain aspects of this abbreviated DBT skills group may explain the high levels of acceptability observed with this intervention, and should be considered as critical recommendations for correctional clinicians who will implement this intervention in a jail setting. We began the first session with a discussion of group members' personal values, which we believe decreased defensiveness, increased willingness to examine behavior nonjudgmentally, and facilitated connectedness/reduced barriers among inmates and staff. Clarifying and affirming values (e.g., an act that demonstrates a person's adequacy; Cohen & Sherman, 2014) prompts people to consider the self as capable and adaptive, lessening the need to rationalize away threatening information (Sherman & Cohen, 2006; Steele, 1988). Affirming values in particular also promotes openness to feedback and threatening information while allowing individuals to maintain a global sense of self-worth (Sherman & Cohen, 2006).

In addition, it is recommended that clinicians follow certain critical stylistic strategies associated with DBT (i.e., validation), which are detailed in Linehan's book (1993b) and would likely be reviewed in the abovementioned DBT workshops at clinician-focused conferences. Specifically, Linehan (1993b) states the goal of skills group leaders is to keep the tone of the group light-hearted, funny, and positive as skills are taught, which involves group leaders being genuine in their presentation of didactic material, and not assuming a typical "clinical demeanor." Linehan's (1993a) recommendation to induce positive mood among group members is based on research showing people learn and problem-solve better when they are in a positive mood. In addition, group leader use of validation may be particularly important. Validation is a stylistic strategy used in DBT that identifies the kernel of truth in a person's behavior given the environmental factors that either reinforce or punish that behavior (Linehan, 1993a). Validation of emotions in DBT theoretically decreases defensiveness because it communicates acceptance of one's behavior (given their environment), while facilitating nonjudgmental examination of that behavior (Linehan, 1993a; Cameron, Reed, & Gaudiano, 2014). Thus, validation may have allowed participants to explore their reasons for engaging in maladaptive behaviors and allow for positive behavior change. These stylistic strategies are thought to be core elements contributing to the efficacy and acceptability of this intervention, and are essential elements of group leader training in future adaptations of DBT skills groups for jail settings.

Limitations and Future Directions

Limitations of the current study present several opportunities for future research. In addition to the implementation challenges described above, our participants were all male inmates from one jail, which limits the generalizability to individuals incarcerated in other jails. In addition, our choice of measures may have been a limitation. Traditional DBT was originally designed for women with BPD. As such, the DBT-WCCL assessment (Neacsiu et al., 2010) used in the current study was initially validated with a sample of women diagnosed with BPD. Since many studies of DBT with forensic populations include only male participants (e.g., Shelton et al., 2009), it may be useful to examine the gender-sensitivity of the DBT-WCCL assessment in order to enhance effectiveness for male participants. Finally, we utilized a single sample, pre-test post-test design; we did not have a control group and group members were not randomly selected for participation. When using such a design, confounding variables related to history, maturation, and practice effects cannot be separated out from the effects of the intervention (Cook & Campbell, 1979). For example, with regard to maturation, the blaming others scale may decrease the longer one spends in a correctional institution. Finally, novelty effects (e.g., Hawthorne effect) can arise in settings where participants receive little attention and are motivated to modify their behavior or are energized by even minimal attention (Shadish, Cook, & Campbell, 2002). Future research utilizing a randomized control group is needed to minimize threats to internal validity and determine the effectiveness of an abbreviated DBT skills group in short-term jail settings.

Conclusions

In conclusion, despite encountering logistical issues, this abbreviated DBT skills group appears feasible and acceptable for general population inmates and is potentially useful in decreasing maladaptive coping and increasing use of more adaptive coping skills. This type

of skills intervention has the potential to impact employment, overall community adjustment, and recidivism upon release from jail. Research with larger samples is needed to test the efficacy of brief DBT skills interventions in affecting long-lasting change in the target areas (i.e., behavioral control, emotion regulation) as well as outcomes of interest, such as employment and criminal behavior, among jail inmates. Data from this pilot study is a starting point for more widespread implementation and research on this intervention in short-term jail settings, which will ultimately advance the healthcare agenda in favor of providing treatment and skills that prevent individuals from reentering the criminal justice system.

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Table 1
Order of DBT skills

Session	Module	Skill
1	Mindfulness	States of Mind (Emotion mind, Wise mind, Reasonable Mind)
2	Emotion Regulation/Distress Tolerance	Emotion Identification; TIP: change body Temperature, Intensely exercise, Paced breathing, paired muscle relaxation
3	Emotion Regulation	PLEASE MASTER: treat Physical iLIness, balance Eating, avoid mood- <u>A</u> ltering drugs, balance S <u>l</u> ee <u>p</u> , get E <u>x</u> ercise, build M <u>A</u> ST <u>E</u> Ry Opposite Action
4		Opposite Action; Emotion Regulation in the Long-term
5	Interpersonal Effectiveness	DEAR MAN; Describe, Express, <u>A</u> ssert, Reinforce, be <u>M</u> indful, <u>A</u> pp <u>e</u> ar confident, <u>N</u> egotiate
6		GIVE FAST: be Gentle, act Interested, <u>V</u> alidate, use an <u>E</u> asy manner, be <u>F</u> air, no <u>A</u> pologies, <u>S</u> tick to values, be <u>T</u> ruthful
7 & 8	Review	Individual target behaviors and skill review

Table 2
Changes in DBT-WCCCL subscales and PAI-BOR from Pre- to Post-Intervention

Assessment Measure	T1 M (SD)	T2 M (SD)	Difference M (SD)
Cohort 1			
Skills Usage	1.97 (0.15)	2.11 (0.23)	0.14 (0.23)
Dysfunctional Coping	1.52 (0.71)	1.39 (0.50)	-0.13 (0.56)
Blaming Others	1.03 (0.76)	0.77 (0.53)	-0.27 (0.55)
PAI-BOR	56.80 (19.64)	56.80 (18.89)	0.00 (3.24)
Cohort 2			
Skills Usage	2.07 (0.19)	2.20 (0.37)	0.13 (0.36)
Dysfunctional Coping	1.69 (0.47)	1.89 (0.65)	0.20 (0.45)
Blaming Others	1.23 (0.61)	0.73 (0.51)	-0.50 (0.53)
PAI-BOR	73.00 (14.75)	70.60 (13.13)	2.40 (4.39)
Cohort 3			
Skills Usage	2.40 (0.22)	2.31 (0.19)	-0.10 (0.18)
Dysfunctional Coping	1.58 (0.64)	1.30 (0.47)	-0.28 (0.56)
Blaming Others	0.86 (0.36)	1.17 (0.42)	0.31 (0.43)
PAI-BOR	57.17 (9.22)	62.33 (10.48)	5.17 (4.12)