

# Effectiveness of a Dialectical Behaviour Therapy Program for Incarcerated Female Juvenile Offenders

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**Background:** Female offenders incarcerated in Washington State have demonstrated higher rates of mental health needs than boys. Linehan's (1993a, b) Dialectical Behavioural Therapy (DBT) is an effective treatment for adult women with Borderline Personality Disorder. DBT utilises a combination of skills training, problem solving, and validation to enable patients to reduce self-destructive, impulsive and aggressive behaviours. The prevalence of similar emotional problems among female juvenile offenders suggests that DBT may be an effective strategy for this population. The State of Washington Governor's Juvenile Justice Advisory Committee sponsored a collaborative project conducted by a research team from the University of Washington and the staff at the Juvenile Rehabilitation Administration's Echo Glen Children's Center to evaluate the effectiveness of a DBT intervention. **Method:** Pre-post intervention records were compared for female offenders from a mental health and a general population unit where DBT was implemented. Youth on a third unit served as a comparison group. Youth behaviour problems, staff punitive responses were compared before and after the intervention period. **Results:** Youth behaviour problems and use of punitive responses by staff decreased compared to the year prior on one cottage (unit) while no behaviour or staff changes were noted on another. **Conclusions:** The evaluation demonstrated the efficacy of providing DBT to female offenders in a residential setting and yielded mixed results on behaviour change during the study period that may relate to quality of training and prior youth behaviour problems.

**Keywords:** Juvenile justice; mental health; juvenile offenders

## Introduction

In the United States the juvenile justice system has multiple and at times conflicting responsibilities. These include holding a youth accountable for their delinquent behaviour, punishing a youth for breaking the law, keeping a youth out of a community to prevent further criminal behaviour and providing rehabilitation so the youth will learn pro-social behaviours inconsistent with criminal activities. Accountability, punishment, deterrence, restoration, public safety, and rehabilitation are the core obligations of juvenile justice. The system was not designed to provide comprehensive treatment for youth with mental health and substance abuse disorders.

However, over the past two decades there has been a steady and significant increase of youth exhibiting major psychiatric disorders who come into contact with the juvenile justice system. Numerous studies have demonstrated that at least 20% of all youth entering the justice system exhibit serious mental or emotional problems, with the majority also experiencing a co-occurring substance use disorder (Otto et al., 1992; Loeber & Farrington, 1998; Stewart & Trupin, 2000).

The so-called 'tough on crime' policies adopted by state and federal legislatures in the 1980s have led to a major increase in mandatory sentences of youth to de-

tention facilities. Juvenile judges' previous capacity to use discretion in sentencing seriously disturbed youth to community-based treatment was significantly reduced. In many communities access to community mental health services for youth who are minorities, have both mental health and substance use disorders, and have delinquent histories were and are non-existent. Thus, even in circumstances where diversion to community placements are within the purview of a judge, they often justify sentencing these youth to secure detention facilities just so they can receive mental health services.

## Mental health issues among female juvenile offenders

A large proportion of juvenile offenders have serious emotional disturbances (Elliot, Huizinga, & Menard, 1989; Loeber, Wung, & Keenan, 1993). Although conduct disorders appear to be the most prominent diagnoses among youth in juvenile justice settings, studies have shown the prevalence of affective disorders, including major depression, bipolar disorder, dysthymia, and cyclothymia to range from 32 to 78% (McManus et al., 1984; Wierson, Forehand, & Frame, 1992; Edens & Otto, 1997). As many as 70% may have substance

abuse or dependence, and the symptoms – and even the diagnosis – of borderline personality disorder are common among incarcerated adolescents and young adults (McManus et al., 1984; Gibbs, 1982). Yet, criminal justice systems typically do not have the knowledge base or resources to appropriately treat, let alone rehabilitate, these young people. Confinement, alone, does not facilitate improvement in mental health.

As the number of girls entering the juvenile justice system continues to increase, the complexity of their health, educational and treatment needs has been noted by a variety of professionals (Timmons-Mitchell et al., 1997). Factors such as abuse/victimisation, substance use/abuse, difficulty in school, and gang related activities have been identified as significant risks for delinquency in girls (Prescott, 1997). A survey over two time periods found girls in juvenile justice facilities displayed an increased need for mental health assistance compared to the boys (84% vs 27%). These girls suffered a significantly higher rate of conduct, mood or substance use disorder. Almost half of the girls had an anxiety disorder (Timmons-Mitchell et al., 1997). Similarly, in a statewide assessment, female offenders incarcerated in Washington State have demonstrated higher rates of mental health needs than boys (Stewart & Trupin, 2001). In this study, female offenders were particularly more likely to report multiple clinically significant mental health symptoms at intake to state custody and were more likely to report significant traumatic experiences than male offenders. Table 1 summarises the results of that study.

### Links between emotional dysregulation and delinquency

The high rates of co-occurring behavioural, emotional and substance use disorders among incarcerated female offenders is not surprising given current developmental theories for each type of disturbance. These theories point to common pathways leading to emotional dysregulation (i.e., mood disturbance, affective lability, uncontrolled anger), behavioural dyscontrol (i.e., violent aggression, self-harm, poor impulse control) and self-destructive substance use, sexual and criminal behaviours in adolescence. Mezzich et al. (1997) reported that in adolescent female substance abusers, behavioural dysregulation, negative affectivity and internalising symptoms were related to violent behaviour. Studies of boys have also shown the relationship between affect dysregulation and antisocial behaviour (Snyder, Schrepferman, & St. Peter, 1997). The co-occurrence of affective dysregulation and aggressive antisocial behaviour is prevalent enough to

lead to the suggestion by some that disruptive behaviour disorders are a form of affective disorder (Cole & Zahn-Waxler, 1992). In addition to the direct link between emotional dysregulation and antisocial behaviour, disturbed affect among adolescents increases the potential of suicidal ideation and behaviour (Zlotnick et al., 1997). Among incarcerated adolescents the consequences of emotional dysregulation, suicidal ideation and aggressive behaviour can include segregation from the general population, increased time incarcerated and lack of access to school, vocational and other rehabilitative services. Strategies to reduce the impairment caused by emotional disturbance are therefore important elements in the rehabilitation of juvenile offenders.

### A validated treatment for severe emotional dysregulation

DBT is, in essence, the application of a wide assortment of cognitive-behavioural strategies combined with a philosophical emphasis on dialectics, the aim being to find the synthesis between two seemingly opposite positions. This translates into accepting patients 'where they are' while, at the same time, benevolently demanding that they change. DBT therapists balance strategies of support and acceptance with confrontation and change. Treatment is focused on validation of patients' current emotional, cognitive and behavioural responses as understandable in the context of the patient's skill level. In DBT, the application of skills is encouraged and coached in all aspects of treatment, in an effort to reframe problem behaviours as simply 'ineffective' in comparison to a more effective use of skills. The therapist acts as both coach and consultant to the patient, and actively works to cultivate a positive interpersonal and collaborative relationship throughout the course of treatment.

### Generalising DBT

The prevalence of emotional dysregulation including symptoms of BPD among incarcerated female juvenile offenders suggests that DBT may be an effective strategy for this population. This study reports the results of a trial of DBT with female juvenile offenders in state custody on two treatment units. The adaptation of an outpatient treatment modality designed for adult women with BPD to a residential population of non-specifically diagnosed female offenders was guided by previous work in generalising and adapting DBT to other settings and populations. Barley et al. (1993) describe the successful adaptation of DBT to an inpatient treatment program. Staff who were primarily psychodynamic in orientation were able to implement DBT skill training techniques and reduce rates of parasuicidal behaviour on the inpatient unit. Clinically, DBT has also been adapted to adolescent inpatient and outpatient treatment. These successful adaptations demonstrate that DBT is generalisable across settings (inpatient, forensic), and populations (forensic, adolescent, non-specific diagnostic groups). Research has also demonstrated that DBT can be disseminated among clinicians with varying backgrounds and functions. Hawkins and Sinha (1998) reported studies of DBT dissemination to mental health staff in a statewide

**Table 1.** Indicators of mental health needs among incarcerated juvenile offenders

	Females (N = 187)	Males (N = 1841)
Report clinically significant levels of symptoms at intake	62%	33%
Significant traumatic experience(s)	78%	52%
Prior mental health treatment	79%	72%
Substance abuse	70%	66%

program and Linehan and her colleagues have demonstrated the effectiveness of DBT training for clinical teams from a variety of settings.

### *Adapting DBT for incarcerated female juvenile offenders*

For the present project four staff from the mental health cottage (unit) of a Juvenile Rehabilitation Administration (JRA) facility, along with two research staff, received extensive training (80 hours) in DBT from Linehan and colleagues. Staff from a second cottage and the remaining staff from the mental health cottage received 16 hours of introductory training in DBT from Linehan Associates, in addition to 1–2 hours of on-site instruction and case consultation, provided weekly throughout the year.

Following the initial 40 hours of training the mental health cottage staff began the process of adapting DBT to adolescents, and to meet the requirements of a residential, forensic setting. Behavioural targets were changed to reflect the mental health needs of female juvenile offenders. Targetting problem behaviours occurring on the unit, and focusing heavily on offense related behaviours in individual sessions are examples of changes we made relative to this specific population and setting.

Specific categories of resident behaviour that were targeted included:

- *life-threatening behaviours* (suicidality and self-mutilation);
- *unit-destructive behaviours* (violence, oppositional/defiance, victimising behaviours);
- *treatment-interfering behaviours* (excessive demanding, non-compliance, and non-participation);
- *quality of life-interfering behaviours* (high-risk sexual behaviours, mental health problems, offence related behaviours, and behaviours likely to limit placement options).

A typical youth seen in this facility is described by the following vignette:

Dee was a 17-year-old Caucasian female who was committed to the facility for assaulting a roommate while in foster care. She hit the victim on the head with a rock. Because of a history of psychiatric hospitalisation and Axis I diagnoses (including bipolar disorder, conduct disorder, post traumatic stress disorder) as well as Borderline features, Dee was admitted to the mental health cottage. She was placed on suicide precautions after she cut her arm with a broken pen, an act precipitated by her teacher's refusal to allow her to listen to the radio.

DBT is unique in its inclusion of strategies to 'treat the therapist' by providing support while targeting specific behaviours of staff that are predictive of negative outcomes for residents. These include: extreme rigidity or flexibility, poor interpersonal limits, favouritism, and extreme irreverence (Linehan, 1993a). Reducing the staff's reliance on punishment, restriction and isolation as the primary response to emotional dysregulation (evidenced by suicide attempt, aggression, and noncompliance) was a primary target of the intervention.

Applying new contingencies to support new behaviours, DBT skills were taught, coached and actively reinforced, while old ineffective behaviours were put in an extinction schedule. Five categories of skills were taught, including: Core Mindfulness Skills, Interpersonal Effectiveness Skills, Emotion Regulation Skills, Distress Tolerance Skills, and Self-Management Skills. A detailed description of the skills training procedures is available in the DBT skills training manual (Linehan, 1993b). Each of the five skills was taught over a period of four weeks, utilising a group format. Groups comprised two staff and up to eight residents, and lasted from 60–90 minutes, once or twice per week. Homework assignments, which were given to residents on a weekly basis, consisted mainly of filling out a daily Diary Card that recorded the frequency at which each skill was attempted. Residents were reinforced for their participation in-group, for practising the skills within the cottage and for soliciting skills coaching from staff. Staff also received reinforcement for reading about and learning DBT, volunteering to co-facilitate skills groups, and for applying DBT interventions on the floor with residents. Through ongoing training and consultation with staff, efforts were made to continuously expand the application of DBT-based interventions and competencies within the cottages.

In the case of Dee, the DBT intervention allowed the staff to gain insight into her behaviour and design a program that ultimately eliminated her parasuicidal behaviour and time on suicide precautions. Dee and the staff were able to functionally analyse her para-suicide attempts and identify a clear sequence of emotional and behavioural events that led to these behaviours. The attempt described above, for example, was found to be precipitated not only by the confrontation with the teacher, but also by Dee's distress over not being able to reach her mother, a sleepless night spent ruminating, and the belief that the teacher's denial of radio privileges was a personal attack. The staff also learned that their reaction to her parasuicidal behaviour, including frequent checks, one-on-one sessions where Dee was encouraged to vent her anger, removal of attention when she calmed down ('Finally, WE can take a break!') were reinforcing her behaviour. The combination of staff behaviour change and client skills acquisition allowed Dee to eventually get a job on campus and graduate from the high school, events that were previously unheard of on the mental health unit.

### *Research questions*

The overarching goal of the project was to increase staff's ability to successfully intervene with the most difficult behavioural and emotional problems of incarcerated female offenders, enabling them to maintain participation in rehabilitation services. The aims of the DBT project are stated below and formed the basis of the evaluation.

1. Do female offenders who receive the DBT intervention improve their behaviour while incarcerated?
2. Will staff use of restrictive and punitive actions be reduced by implementation of DBT?
3. Will participants in DBT decrease risk assessment scores compared to matched comparison youth?

- 4. Will youth who receive DBT increase access to rehabilitative services in the institution?

**Method**

*Participants*

Adolescent females incarcerated at a State of Washington Juvenile Rehabilitation Administration facility were the source of participants in this study. Participants were recruited from three treatment cottages in the centre. DBT was implemented at two of the cottages, one a mental health treatment unit and one a general population unit. The third cottage was a general population unit that served as a ‘treatment as usual’ comparison site. All three cottages were locked facilities offering educational, vocational and recreational programs in addition to group meetings to discuss issues of daily living and cottage rules. All cottages used a behavioural modification program designed to reward compliance with rules and appropriate social interactions and to punish rule infractions. Twenty-two participants were recruited from the Mental Health Cottage (MHC), 23 from the General Population Cottage with DBT (GPCD) and 15 from the General Population Comparison Cottage (GPCC). Records for an additional 30 female offenders were utilised for comparison on baseline offence and mental health screen measures. These records were accessed through JRA, without using names or identifiers.

*Measures*

Intake interviews were conducted with all new residents on the three cottages following informed consent. Initial interviews included the Diagnostic Interview Schedule for Children (DISC: Shaffer, Schwab, & Fisher, 1993) a structured interview assessing DSM-IV psychiatric diagnoses, the Child and Adolescent Functional Assessment Scale (CAFAS: Hodges, 1995), a rating of functional impairment based on staff interview and chart review. Daily Behaviour logs were kept on each cottage for each youth. A staff member, using standardised shift reports and charts, noted incidents of room confinement, school suspension, suicide precautions, parasuicidal acts (self-mutilation, suicide attempt, and threatened suicide) classroom disruption, and aggressive behaviour each day. For the mental health cottage these behaviour logs were available for the year preceding the DBT project as well as the study period.

Composite variables of youth behaviour problems (i.e., aggression + parasuicidal acts + classroom disruption) and staff punitive actions (i.e., room confinement + suicide precaution levels + classroom suspension) were developed. Community Risk Assessment Scores (CRA), a measure used by JRA for placement and security level, were accessed through JRA’s computer database at intake and at 90 days follow-up. The Massachusetts Youth Screening Instrument (MAYSI; Grisso, 1999), a measure administered by JRA screening youth mental health symptoms, was collected from the JRA computer database at intake and 90 days follow-up.

**Results**

Participant characteristics are presented in Table 2. While the initial design of the evaluation divided the participants into DBT and non-DBT groups, it became clear early in the project that implementation of DBT at the mental health and general population cottages was not equivalent. The MHC staff received more DBT training than the staff on the GPCD (80 vs 16 hours). In addition, examination of initial comparisons of functional impairment revealed significant differences in baseline functioning between female offenders on the three cottages. Despite equivalent demographic characteristics, rates of Axis I diagnosis and number of prior offences (Table 2), female offenders on the mental health cottage were significantly more likely to demonstrate impairment in mood disturbance ( $\chi^2 = 7.78, p = .007$ ), self-harmful actions and ideation ( $\chi^2 = 3.80, p = .05$ ), and thought disturbance ( $\chi^2 = 5.72, p = .017$ ) (see Figure 1). DISC results also demonstrated differences among the samples. Girls on the MHC had higher rates of Mood Disturbance (33%), Disruptive Behaviour Disorders (83%) and Substance Use Disorder (62%), while the GPCD youth were more likely to have Anxiety Disorders (58%) and Substance Use Disorder (75%). The differences between youth on the MHC and GPCD, the intervention cottages, suggested that different outcomes might be expected from the intervention. Therefore, analyses were performed separately for youth on the MHC and GPCD.

*Do female offenders who receive the DBT intervention improve their behaviour while incarcerated?*

This question was tested using the composite measures of youth behaviour problems. Behaviour logs from

**Table 2.** Participant characteristics

	Mental Health Cottage-DBT	General Population-DBT	Matched comparison
Number of participants	22	23	45
Age	14.8	15.5	15.2
% White	50	50	59
% African American	15	22	23
% Native American	15	9	9
% Hispanic	10	14	7
% Axis I Diagnosis	78	75	50*
# Prior offences	6	5	7
% Extraordinary sentence	57	15	40

\* Note: n=15 for participants in this condition receiving DISCs.

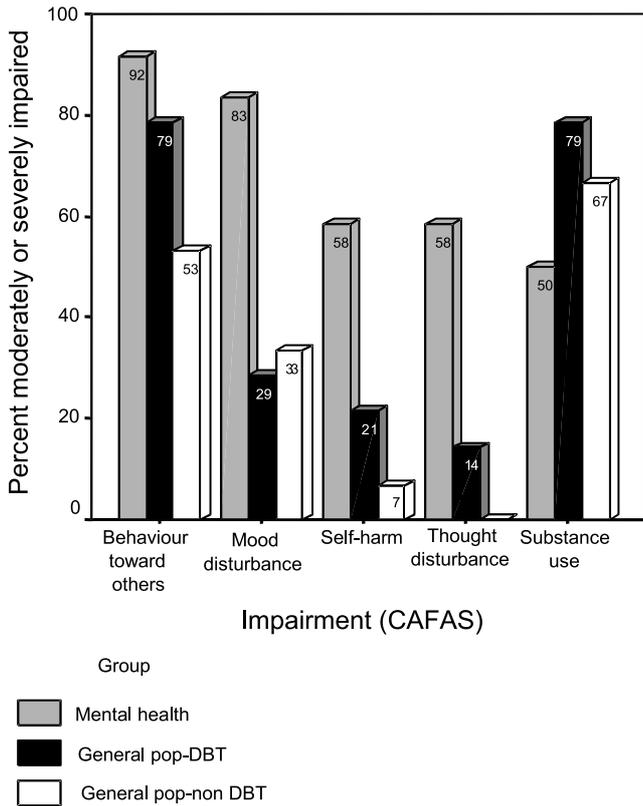


Figure 1. Baseline functional impairment scores by treatment condition

the general population comparison cottage were not included in the analyses due to an absence of reported disruptive behaviour on the cottage. Curve estimation regression analyses were used to estimate the significance of change in rate of behaviour on the two DBT cottages. Youth on the MHC demonstrated significant reduction in behaviour problems during the 10 months of the DBT study ( $R^2 = .55, p = .01$ ), while youth on the GPCD did not demonstrate a significant reduction in behaviour problems ( $R^2 = .01, p = .77$ ). These trends are illustrated in Figures 2 and 3. Notably, the youth

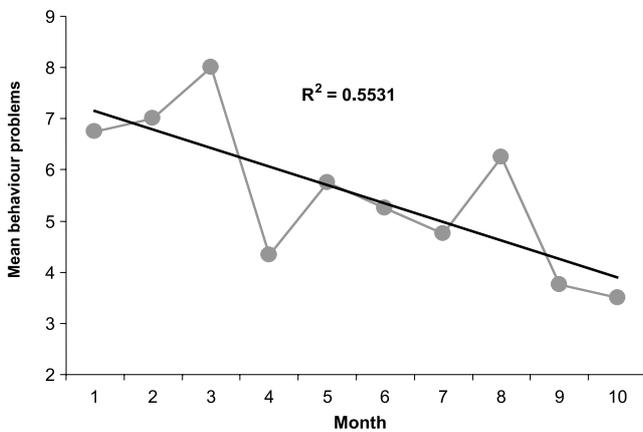


Figure 2. Youth behaviour problem composite (agression + parasuicide + classroom disruption) on the mental health cottage during the DBT intervention

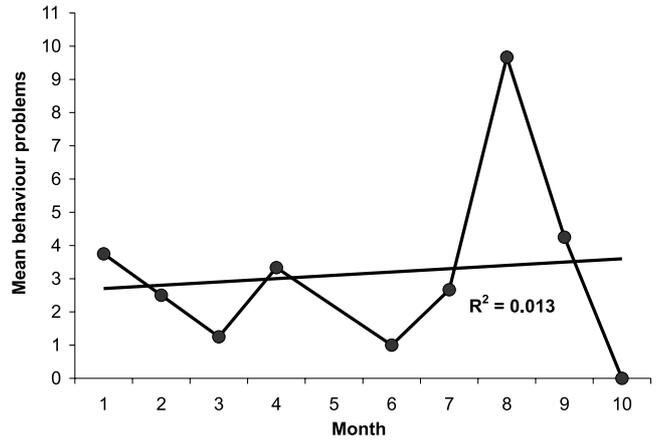


Figure 3. Youth behaviour problem composite (agression + classroom disruption) on the general population DBT cottage during the DBT intervention

on the MHC demonstrated significantly higher overall rates of behaviour problems than youth on the GPCD.

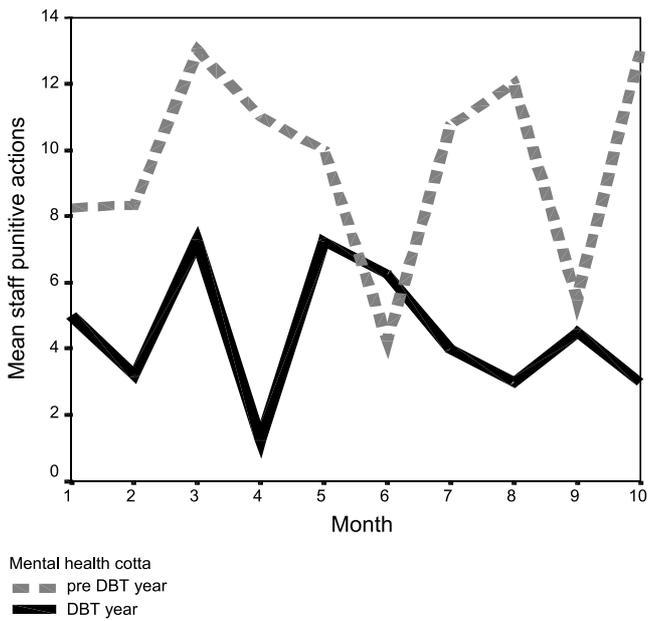
*Will staff use of restrictive and punitive actions be reduced by implementation of DBT?*

The impact of DBT on staff use of punitive actions was examined using curve estimation regression analyses with the staff action composite variable. The comparison cottage did not report use of restrictive punitive actions such as room confinement and suicide precautions. Staff punitive actions did not demonstrate a reduction during the DBT intervention on the MHC ( $R^2 = .046, p = .55$ ) and actually showed a significant increase on the GPCD ( $R^2 = .74, p = .002$ ).

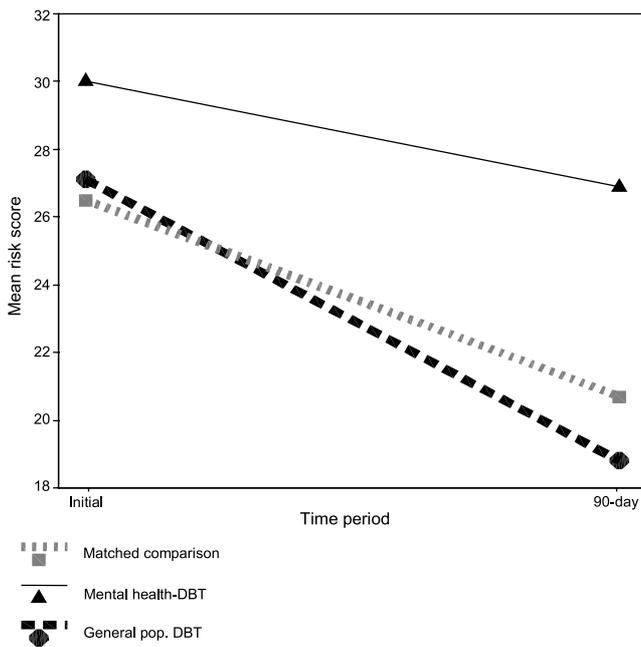
The availability of behaviour logs for the year prior to DBT on the MHC allowed comparison of pre-post effects of the intervention and additional tests of the questions that DBT would change youth and staff behaviour. A time-series autoregression analysis was used to compare the monthly rates of youth behaviour problems and staff punitive actions during the 10 months of the DBT project and the same 10-month period during the prior year. Results showed that while overall rates of behaviour problems did not differ between the DBT and non-DBT year on the MHC ( $\beta = 0.03, T = 1.13, p = .27$ ), staff punitive actions were significantly lower during the DBT year ( $\beta = -0.03, T = -2.22, p = .04$ ). The significant decrease in staff punitive actions on the MHC is illustrated in Figure 4.

*Will participants in DBT decrease risk assessment scores compared to matched comparison youth?*

To evaluate the impact of DBT on risk scores a repeated measure analysis of variance was conducted. Initial and follow-up CRA scores were compared for female offenders in the DBT intervention with comparison youth matched for initial mental health and risk-score severity. These results demonstrated no significant difference risk score change by DBT condition ( $F = .997, p = .37$ ), although there was a significant within subjects decrease in risk scores across groups ( $F = .17.76, p < .001$ ). The risk change by group difference is illustrated in Figure 5.



**Figure 4.** Staff punitive actions on the mental health cottage during the year prior to the DBT intervention and during the DBT intervention



**Figure 5.** Risk score change by treatment condition

*Will youth who receive DBT increase access to rehabilitative services in the institution?*

This question was examined by comparing rates of participation in various on-campus programs for youth in the MHC, where pre and post DBT data were available. During the DBT intervention the number of youths participating in these rehabilitative services was increased. Nine compared to zero youth from the MHC were employed full time on campus. Six compared to one youth completed a GED and six as opposed to one youth completed a drug and alcohol program. Most significantly, in the year prior to DBT only one youth

had transitioned back to an open cottage from the MHC designed as a crisis stabilisation unit; seven adolescents were able to be transitioned back to open campus during the DBT year.

**Discussion**

This study evaluated the effectiveness of a DBT intervention on two units of a state juvenile rehabilitation facility for female juvenile offenders. As expected, youth residing in the designated mental health unit initially demonstrated higher rates of severe mood and thought disturbance as well as higher rates of thought disorder than youth on the general population unit receiving DBT. Female offenders on the MHC demonstrated a significant decrease in serious behaviour problems during the 10-month period of the study. Suicidal acts, aggressive behaviour and class disruption decreased throughout the year but were not significantly reduced compared to the prior year on the same unit. One explanation for this mixed result is the frequent transfer of new residents to the MHC who are suicidal and/or aggressive, keeping the overall rates of problem behaviour on the unit high.

Youth in the general population unit who had significantly fewer behaviour problems did not show a reduction during the DBT implementation period. Notable among this group was the absence of suicidal, self-mutilating and parasuicidal behaviour-primary targets of DBT. Youth in the non-DBT comparison group did not demonstrate any severe problem behaviour that met the operational definition.

The second primary target of the DBT was to reduce the staff's use of restrictive punishment including room confinement, suicide precautions and school removal. The DBT intervention was designed to provide the staff with alternatives to room confinement and other punitive actions as primary behavioural management tools. The efficacy of the intervention was tested therefore by the staff's willingness to utilise the DBT methods compared to the methods previously available to them. On the MHC the rates of these interventions remained constant during the 10-month DBT period, driven in large part by youth being transferred to the unit on suicide precautions; however, compared to the previous year, the staff's use of punitive actions was significantly reduced. On the GPCD the staff's use of restrictive punitive actions increased significantly during the DBT intervention. The staff on this unit used room confinement liberally and tended to increase the use as the DBT study continued. Some of this increase was due to a few staff member's using room confinement as a group punishment for infringements and is evidence of a lack of adherence to the DBT model. This staff also did not receive the full DBT intensive training. The variability of staff's discretionary use of room confinement is demonstrated by the complete absence of this punishment on the non-DBT comparison unit.

Youth on the MHC were able to participate in institutional services like drug and alcohol treatment, employment and even transfer to other units, due in part to reductions in behaviour problems and restrictions during the DBT intervention. Institutional staff and administrators identified this as a significant positive outcome.

The DBT intervention did not result in a significant decrease in risk assessment scores. Multiple items comprising the risk assessment scale are fixed (points for crime, number of prior offences, prior drug and alcohol use and sex offences) and therefore limit the variance in risk scores.

This study was a preliminary examination of outcomes of a DBT intervention and demonstrated mixed results. It appears that with intensive training, motivated staff and a population of female offenders who exhibit the types of parasuicidal and aggressive behaviour that DBT targets, the intervention can be successful in reducing behaviour problems and increasing staff's use of therapeutic rather than restrictive and punitive responses. As a result of this change, female offenders who are segregated on a mental health unit may gain more access to valuable rehabilitative services such as substance abuse treatment and employment.

The effectiveness of a DBT intervention is increased when treatment is matched to appropriate behaviour problems (i.e. suicidal, extremely aggressive and non compliant) and implemented with intensive training. Future studies should examine the implementation of DBT, comparing equally emotionally and behaviourally disturbed youth and equally trained and committed staff who are randomly assigned to DBT vs treatment as usual. Changing institutional behaviour is only a first-step in designing effective interventions. Ultimately, the success of this intervention will be measured by the ability of youth to transition successfully to the community and generalise the skills learned in the DBT program. Families, providers and parole officers should be included in the treatment intervention to ensure that this skill set will be reinforced. The authors of this study will test the implementation of DBT skills training within an outpatient multisystemic therapy program for recidivist juvenile offenders with co-occurring disorders.

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