



An Evaluation Of Dialectical Behavior Therapy In Washington State's Juvenile Rehabilitation

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Contents

Executive Summary..... 1
Introduction 2
 Dialectical Behavior Therapy 2
 Past to Present: DBT in Washington State’s Juvenile Rehabilitation..... 4
Current Study..... 7
Question One: Taking Stock of DBT Related Data Collection 8
 Analytic Strategy 8
 Findings 9
 Summary of Findings on DBT Implementation Data 11
Question Two: Examining the Effectiveness of DBT in JR..... 12
 Methodology..... 12
 Analytic Approach..... 14
 Findings 14
 Multivariate Analysis..... 17
 Summary of Findings on the Impact of DBT 21
Discussion..... 21
Recommendations: A Path Forward 23
References 26
Appendices.....28

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Executive Summary

Dialectical Behavior Therapy Implementation Findings

- Juvenile Rehabilitation (JR) has implemented some level of Dialectical Behavior Therapy (DBT) since it was piloted in 1998.
- The Quality Assurance (QA) protocol currently only monitors Environmental Adherence (EA), one of the four DBT treatment modes.
- There was little to no measurement of the quality of individual counseling sessions, skills groups, or consultation teams from 2000 to 2019.
- The QA team collects a set of three surveys (youth, staff, and family) twice a year. These surveys overlap with other data collection and do not significantly contribute to our understanding of DBT implementation.
- In 2014 and 2015, about 57 percent of youth who left JR did not receive the level of treatment required by at least one of the three separate standards (EA, individual sessions, and skills groups). About 21 percent of youth received treatment that met one standard, 18 percent received treatment that met two standards, and only 4 percent of youth left JR having received treatment that met all three standards.

DBT Effectiveness Findings

- Increases in EA correspond to reductions in recidivism, specifically felony recidivism.
- Rates of individual sessions and skills group are not related to recidivism, however, the quality of those sessions varied widely.
- High levels of EA are particularly important for younger youth and those with a high risk of mental health issues.

Main Recommendations

- The QA plan should be revised to include monitoring of individual sessions, skills groups, and consultation teams.
- JR should stop administering duplicate surveys. This is time-consuming for the QA team and does not significantly contribute to higher quality treatment for youth.
- Analysis was not possible at the living unit level because of inconsistencies in the incident report collection process. JR should develop common definitions for the incident reporting process.
- JR should prioritize high-level implementation in the acute mental health units. Training and staff resources should be dedicated to these units to bring them up to standard as quickly as possible.

Introduction

Youth involvement in the criminal justice system has declined over the past few decades (OJJDP, 2018), however, rehabilitation of youth remains a challenge. Youth who commit serious criminal violations are still sent to secure residential treatment in the United States. Over the past century, policies toward juvenile crime have swung from rehabilitation to punishment in response to moral panic (Howell, 2009). Most recently, policies have trended toward treatment and rehabilitation in response to brain development research (Steinberg, 2009). This has resulted in less youth being sent to residential institutions and states raising the age of jurisdiction for the juvenile system (Kollman, 2014). Nevertheless, some youth are institutionalized for their crimes and this process can be traumatic for a youth (Aizer and Doyle, 2015). Finding treatment models that reduce future involvement in the criminal justice system should be a top priority. The current study examines the effectiveness of a statewide implementation of Dialectical Behavior Therapy (DBT) in state-run juvenile justice residential facilities.

Washington State's Juvenile Rehabilitation (JR) started implementing DBT as a pilot project in 1998. Since then, DBT has become the primary residential treatment for juvenile offenders in JR. The evaluation of the initial pilot study found significant reductions in recidivism for those who received the treatment (Drake and Barnoski, 2006). There has not, however, been an outcome evaluation of DBT since the examination of those who originally received the treatment in the 1990s. JR now has the sample size to better understand the impact of DBT on youth outcomes. From January 2000 to August 2018, JR has released more than 17,000 youth¹ into the community. However, research on the use of DBT for juveniles generally, and in institutions specifically, is very limited. For JR, research is needed to summarize how well DBT is being implemented and then determine how the implementation is related to youth outcomes.

Dialectical Behavior Therapy

DBT is a cognitive behavioral strategy that applies the philosophy that two opposites can be true. On the one hand, clients are taught to accept where they are in life and on the other hand they must be motivated to change. DBT was designed and championed by Linehan (1993) as a treatment for females with borderline personality disorder and suicidal behavior. At the time, few options for effective treatment of this population existed. DBT provided an effective response and set of tools for those who became emotionally dysregulated. The treatment was designed as an outpatient treatment, but would soon be adapted to an inpatient environment.

DBT treatment emphasizes the validation of the client's thoughts and behaviors as legitimate and understandable. The treatment consists of individual counseling sessions where issues are dealt with on a hierarchy, with the most harmful (i.e. suicide and self-harm) being dealt with first (Koerner, 2012). Additionally, skills groups are conducted to teach clients new ways of dealing with situations. In an outpatient setting, counselors will check-in with patients over the phone to see how their skills are translating into real-life settings, also called skill generalization. Finally, the DBT model requires team consultations, where those who provide the treatment meet and help support each other. The philosophy is that counselors and therapists have to be healthy if they are to support their clients.

Because of the high rates of mental health needs among the justice-involved population (Underwood and Washington, 2016) the application of DBT in this population has been of high interest. As a

¹ Youth who were committed and released multiple times were counted each time they were released.

treatment designed for an outpatient setting, there are a number of unique challenges to implementing DBT in an institutional setting. First, there is the tension between safety and treatment. In an institution, safety will always be the first priority, sometimes at the expense of treatment access. Second, skill generalization takes on a new meaning when youth are not free in their community. Practicing new skills in the institution might not easily translate to the situations one will face when they return to their home community. Counselors will need to coach youth as they interact in social settings, to encourage generalization, instead of keeping in touch over the phone (as is done when DBT is administered in a community setting). Third, there is a need to update the training materials to make them more relevant to specific sub-populations (Sampl, Wakai, and Trestman, 2010). The language that is used and the examples presented need to be culturally relevant to help the youth connect with and buy into the new skills that are being presented. Finally, juvenile justice institutions have limited resources to implement this type of multi-modal treatment model. In a recent review of the DBT literature in forensic settings, Ivanoff and Marotta (2018) found that "There are numerous examples of systems so low on resources that DBT implementation is simply not possible. In some cases, staff or clinicians providing DBT skills training or individual psychotherapy are so thinly distributed the dose is ineffective" (pg. 31). Both process and outcome evaluations of DBT, in institution settings, are vital to better understand the role the treatment can play in the forensic context (i.e. justice-involved population).

DBT has been implemented in a variety of settings across heterogeneous populations and has a strong literature base. A recent randomized control trial of adolescents in an outpatient setting found that DBT was effective at reducing suicidal and self-harm behavior compared to an alternative treatment (McCauley et al., 2016). The sample consisted of young (average age 14.9), mostly white (56 percent), females (95 percent) with a history of suicidal behavior. Although DBT has broad support in the literature for outpatient treatment of those who experience suicidal and self-harm behaviors, there has long been an interest in translating the treatment to both juveniles generally and an institutional justice setting specifically.

The literature on the effectiveness of DBT among adolescents is limited, but growing body of literature (Groves et al., 2012). The literature on the effectiveness of DBT for youth in residential settings is even more limited but is also encouraging. There have been three studies resulting in five articles that evaluated the effectiveness of DBT for adolescents in the forensic setting (Ivanoff and Marotta, 2018). Evaluations for this population generally have small sample sizes and are not methodologically rigorous (Ivanoff and Marotta, 2018). Nevertheless, DBT is routinely found to be an effective treatment for those with severe emotional and behavior problems. Important to note, there is a need to identify the specific components of DBT that are most strongly related to behavioral problems so that institutions can prioritize treatment modes based on need and available resources (Banks and Gibbons, 2016).

There were two studies of DBT in Washington State's JR. The first one, by Trupin et al. (2002) tested the full implementation of DBT at Echo Glen Children's Center among females in mental health unit and a general population unit. They compared the DBT units to a general population unit that did not receive the treatment. There was special attention paid to training and model adherence in the treatment units. Overall, the study found evidence that serious behavioral problems were reduced in the mental health unit and that staff reduced their use of punitive actions to deal with problem behavior. The findings were constrained by the methodological design. Youth would move in and out of the units, making it difficult to isolate the effect of the treatment. In summary, the authors stated that "The effectiveness of

a DBT intervention is increased when treatment is matched to appropriate behavior problems (i.e. suicidal, extremely aggressive, and non-compliant) and implemented with intensive training” (pg. 127).

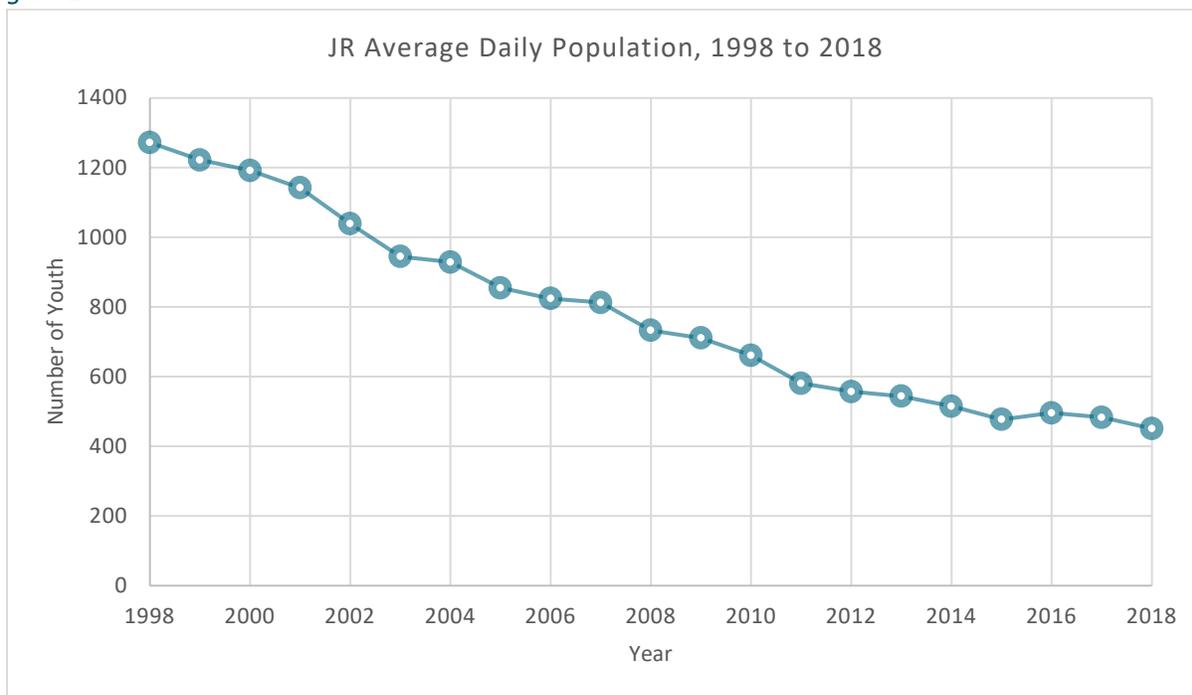
The Washington State Institute for Public Policy conducted a second study also examining DBT at Echo Glen Children's Center (Drake and Barnoski, 2006). The study design created a comparison group of youth from the same unit, from the years prior to DBT becoming the primary treatment model. The treatment group was youth who were in the living unit in 1998 and 1999, the control group was youth from before 1998. The study examined recidivism rates up to 36 months post-release. The analysis indicated lower recidivism rates for the treatment group at each six-month follow up period but none of the reductions were statistically significant. Specifically, the treatment group was 15 percent less likely to be reconvicted of a felony and 9 percent less likely to be reconvicted of a violent felony during the 36-month follow up period. With a treatment group of 63 and a control group of 65, there was low statistical power in this study. The authors concluded, “a larger sample size is needed to determine more conclusively if DBT reduces recidivism.” With small sample sizes, only large effect sizes will be detected, while small or moderate effect sizes will likely be undetectable.

The two studies of DBT in Washington State's JR both indicated positive results, however, there were significant limitations when interpreting the findings. First, both studies focused on a similar population of youth in a mental health-focused living unit at the same institution. Second, both studies were conducted on youth from about two decades ago. And third, both studies had small sample sizes and lack of randomized or matched control groups. Based on these limitations, additional research is required to better understand the effect of DBT on youth who are committed to residential facilities in JR.

Past to Present: DBT in Washington State's JR

JR is part of the state's Department of Children, Youth, and Families as of July 1, 2019. JR serves the state's highest-risk youth who have been convicted of a qualifying offense by either county's juvenile court or an adult criminal court. As the state moves away from institutionalizing youth and the youth crime rate declines, JR has gone from an average daily population in 1998 of 1,272, to 451 in 2018, an almost 65 percent decline in 20 years (See Figure 1). Many of the youth who have historically been served at JR are now receiving local sanctions. This change has resulted in a changing profile of youth (i.e. more high risk youth) committed to JR. As of 2019, JR runs three institutions and eight community facilities. Youth start at an institution, then, depending on risk level, sentence, and bed availability, can be moved to a community facility before being released. About half of JR youth receive community supervision (parole) when they are released from residential supervision.

Figure 1

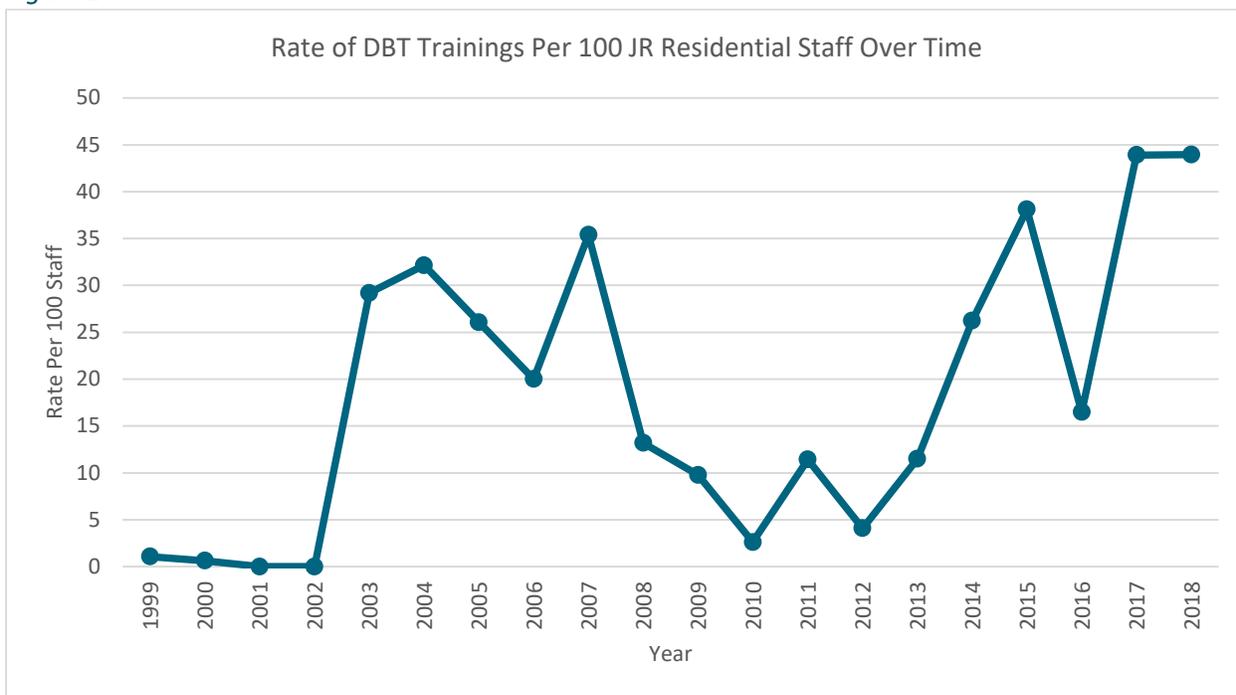


As mentioned earlier, in 1998, DBT was first piloted in JR in a mental health living unit at Echo Glen Children’s Center (Trupin et al., 2002; Drake and Barnoski, 2006). After the pilot, protocols were developed to implement DBT across all living units in JR. Starting in 2002, DBT became part of the agencies Integrated Treatment Model (ITM). The goal was to integrate DBT into treatment for all youth who entered JR. Over the years, JR has attempted to implement DBT as the agency was experiencing organizational changes, inconsistent budget allocations, and changing youth population (smaller numbers but higher acuity). In 2007 and 2008, resources for quality assurance (QA) were requested, however, the legislative requests were not funded as a result of the economic downturn. In 2012, a renewed effort was made to streamline the QA protocols and more resources were dedicated to monitoring implementation. Additional training was provided to the caseload carrying staff, along with all staff who managed the youths’ social interactions (also called milieu management).

The following section provides background information on adjustments to JR’s DBT program as a result of the changes in agency resources and priorities since the initial pilot in 1998. As the focus of the juvenile justice field and JR began to shift toward the use of evidence-based practices, JR used the success of the pilot to implement DBT statewide in 2002. With statewide implementation came changes to the organizational structure of the agency as well as a significant increase in the need for training. Professional consultants were hired to administer statewide training in 2003, 2004, and 2006. Due to the volume of need across the agency, the two-week intensive training originally administered during the pilot was condensed to a three-day training administered on-site at the residential facilities. As seen in Figure 2, this emphasis on training staff to the model paired with the resources to hire professional trainers on site, led to one of the highest frequencies of DBT training in 2007 (Washington State Learning Management System, 2019).²

² Training varies from a one-hour online course to a 16-hour in person course. The modal category was a 2-4 hour in-person training module.

Figure 2



As JR continued to refine its DBT implementation, an internal workgroup developed the first JR DBT QA instrument in the form of an Environmental Adherence (EA) coding tool in 2009. From 2009 to 2014, the agency underwent significant change. Paired with a declining population and budget, the economic recession around 2009 diminished resources and numerous DBT support roles within the agency were either moved or eliminated. Agency leadership changed twice within this period, as did the agency’s priorities. Aggression Replacement Therapy (ART) and Family Functional Therapy (FFT) funding was expanded to allow for greater implementation around the state during this period. In 2008 and 2009, training resources diminished, however, DBT continued to be implemented agencywide. In 2011 and 2012, additional funding was allocated by the state legislature to expand training and to redesign the DBT QA protocols. The QA protocols remained consistent from 2012 to 2019.

As of February 2019, there were four written standards on the DBT treatment modes: individual sessions, consultation team, milieu management, and skills groups. These standards were reviewed by DBT experts, to ensure they aligned with the model. First, individual session standards indicate that individual counseling sessions are to be held once a week (at least four times a month). In the individual sessions, the counselor should follow a structured guide, following DBT principles, and track progress in a Treatment Planning & Progress Note (TPPN). Second, consultation teams are to meet every other week in the three residential facilities. The JR standard reads, “Consultation teams are structured, facilitated meetings designed to enhance the ability of case carrying counselors to conduct treatment work and build collaboration around delivery of treatment.” In addition, didactics are to be scheduled every two weeks. Didactics are designed to be brief, staff development activities for those who are case carrying counselors. Third, milieu management standards were created to guide the structure of the treatment environment and the “approaches staff will use to support youth with behavior change and progress with goals in the program, community and to support their transition.” Fourth, the skills group standard is that each youth will attend a skills group session at least once a week. Each session should

have two facilitators and a cycle of skills groups will draw from the five modules: mindfulness, interpersonal effectiveness, emotion regulation, distress tolerance, and middle path skills. Based on the DBT standards set by JR, all youth committed to the agency should receive the same level of dosage during each month of their commitment.

In terms of training, efforts are made to train staff on DBT principles and to ensure implementation according to standards. DBT is taught in a six-month new employee academy process for full-time employees who will work directly with youth. As part of the academy process, all JR staff receive DBT instruction as part of “Coaching on the Floor” training and those with counseling responsibilities receive additional DBT instruction as part of “Case Management” training. Coaching and Case Management trainings are followed by a final academy training that reviews the DBT components and provides opportunity to apply DBT strategies in a structured training environment. Furthermore, some counseling staff have received additional instruction through “Foundational DBT” training provided by external DBT experts. There is not a set schedule for a DBT refresher training for staff but refresher training is offered occasionally. JR provides staff with a wealth of resources on DBT principles that are available to all JR staff on their intranet.

JR has dedicated resources for QA as well. As of February 2019, there were three Quality Assurance (QA) Managers who are responsible for conducting observations of every living unit in JR. Every six months, three seven-hour observations are conducted. In addition to the observations, the QA Managers administer a youth survey to measure youth opinions about the treatment they are receiving. The goal is to collect surveys from two-thirds of all youth in the living unit at the time of the observation. Although adherence tools have been developed for individual sessions and skills groups, they have not been implemented and there are currently not any protocols for monitoring adherence to the individual sessions, skills groups, or consultation team meetings. Training related to the DBT model is carried out by a team of three internal DBT consultants. There has not been an evaluation of DBT in JR since the original pilot was conducted in 1998 and 1999. A mountain of data on the individual sessions, skills groups, and EA to milieu management has been collected.

Current Study

The current study examined the implementation and impact of DBT in a statewide, residential JR agency from 2012 to 2019. First, this study examined the data that was collected related to DBT and identified the underlying factors associated with the data. The analysis determined the quality of the data and different aspects of DBT that were measured (dimensionality). In total there were five measurement tools (one observational and four self-report surveys) used by the QA team that were examined. Indicators of DBT implementation were then used to understand how the level of treatment, across the different treatment modes, are related to future criminal behavior. Second, we tested whether DBT implementation is related to reductions in recidivism. To determine the impact of DBT on youth, we used a 2014 and 2015³ cohort of youth released from JR, which gave us a sample size of 1,031 youth. The main research question was, did DBT have an impact on recidivism rates?⁴

³ We selected these years because they are the most recent available with at least an 18-month follow up period, plus 12 months to allow for adjudication through the courts.

⁴ The original study design had three research questions. This study was also going to examine the effect of DBT implementation on the behavior of youth in the living unit. However, due to data quality issues related to incident reports, we were not able to complete the analysis on this question. This limitation will be addressed further in the recommendations section of the report.

Question One: Taking Stock of DBT-Related Data Collection

Concerning the first question, assessing the data collected related to DBT in JR, there were five different data collection instruments used by the QA team as of 2019: (1) Environmental Adherence (EA) assessment, (2) EA Youth Survey, (3) QA Youth Survey, (4) QA Staff Survey, and (5) QA Family Survey. Copies of all data collection instruments are included in Appendix A. The purpose of this analysis is to show what JR has been measuring related to DBT and how those data might be related to each other

The main QA measure used by JR to monitor implementation of DBT is the *EA assessment*. The EA assessment is meant to measure the quality of the social environment based on the DBT milieu standards, with a focus on the interactions between staff and youth in a living unit. Each living unit receives an EA assessment twice a year, once between January and June and a second time between July and December. The assessment entails three separate observers, each conducting a seven-hour observation and completing an EA coding form. All EA assessments were carried out by trained JR staff members who were knowledgeable about the implementation of DBT. The assessments were consistently administered from 2012 to 2019. Previously published research has shown that these data have high inter-rater reliability (Walker and Bishop, 2016). Additionally, the QA team administers a youth survey with the goal of surveying two-thirds of the youth in the living unit. The *EA Youth Survey* is 10 questions and is administered in units during the twice-annual EA assessment. The survey was first administered in 2009 and revised in 2012 to its current version.

The next data collection tools were a set of three surveys administered twice a year, in April and October. The *QA Youth Survey* consists of 23 questions. The QA team attempts to survey about 30 percent of the youth population during these administration months, across all institutions and community facilities. The *QA Staff Survey* consists of 21 questions and *QA Family Survey* has 13 questions. They are administered twice a year, in the same months as the youth survey. The original design for the family survey was a random selection of 30 percent of families, however, due to low response rates, the sampling plan more closely resembles a convenience sample. All three surveys were started in 2009, revised in 2012, and ongoing as of 2019.

Analytic Strategy

Factor analysis was used to examine each of the five data collection instruments. Factor analysis allows us to identify the underlying factor structure of each instrument. This helps determine the overlap and gaps between instruments in terms of concepts being measured.⁵ After factors were identified, Cronbach's alpha was calculated to confirm the internal reliability of the source variables. Once the factor structure was determined, the data were aggregated to the living unit level and correlated. Aggregated factor scores indicate the average across the individuals in the living unit during the data collection time period. Since we did not have all the data at the individual level, we compared aggregate level data at the living unit level to determine if they were reliable measures of similar concepts. To reiterate, the purpose of this analysis is to show what JR has been measuring related to DBT and how the data might be related to each other.

⁵ Factor analysis with varimax rotation was applied. This type of rotation helps reduce cross loadings.

Findings

The EA assessment is the primary data collected to monitor DBT adherence in JR. The factor analysis shows that there are three main factors being measured by the assessment. Table 1 presents the questions in each factor, the factor loadings, the eigenvalue, and Cronbach’s alpha. A factor is retained when an eigenvalue is more than one. This indicates that the factor is producing more than one unit of variance, that is, it is reproducing more than one question worth of information. Factor loadings indicate the weight of that particular question in the creation of the factor score.⁶ Cronbach’s alpha indicates the internal reliability of the questions in the scale, with a value more than 0.7 indicating high internal reliability. High internal reliability tells us that the questions are being answered in similar ways across respondents. Three factors emerged from the analysis of the EA assessment: (1) Structure of the environment, (2) Engagement with youth, and (3) Staff culture. All three factors have high internal reliability. These three factors provide a well-rounded measurement of the extent to which a living unit is providing a therapeutic environment based on the three underlying factors. These factors are unique but positively correlated, as one increases, so do the other two. The average correlation between the three factors is 0.35, a moderate correlation.

Table 1

Factor Analysis and Internal Reliability of Environmental Adherence Assessment			
EA Coding Form (n=1,342)	Cronbach’s Alpha	Eigenvalue	Factor Loading
Factor 1: Structure of the environment	0.912	3.58	
Topic 1: Program is structured in a way that ensures treatment is occurring			0.495
Topic 2: Youth have structured programming on the floor			0.672
Topic 3: Program effectively reinforces behaviors			0.703
Topic 4: Staff structures the milieu to actively engage youth in generalizing skills			0.720
Topic 5: Staff help youth accomplish treatment goals			0.682
Topic 6: Staff apply DBT strategies in the milieu			0.686
Factor 2: Engagement with youth	0.780	2.18	
Topic 1: Staff are respectful in their communication with youth			0.522
Topic 2: Staff convey genuine regard and liking toward youth			0.646
Topic 3: Staff demonstrate that they listen to youth			0.685
Factor 3: Staff culture	0.834	2.08	
Topic 1: Behavior is described in an empathetic, objective, and nonjudgmental way			0.508
Topic 2: Important treatment specific information is communicated among staff daily			0.677
Topic 3: Clear programmatic structure that pairs privileges to treatment performance			0.619
Topic 4: Staff support each other in delivering the treatment with fidelity			0.455

⁶ Some measures will load on multiple factors, to help reduce cross-loadings we rotated the factor solution. The measure is then presented in the factor where the factor loading is the highest.

Next, we examine the EA Youth Survey. The tables for the remaining factor analyses can be found in Appendix B. Table B.1 presents the questions in each factor, the factor loadings, the eigenvalue, and Cronbach's alpha related to the EA Youth Survey. One factor emerged from the EA Youth Survey. The factor is the quality of treatment. This factor has 10 questions, with an eigenvalue of 4.91 and a Cronbach's alpha of 0.90. This shows that the questions in the survey are all measuring the same underlying factor.

The QA Youth Survey measures two underlying factors: treatment quality and skill generalization. The questions associated with each factor, the factor loadings, eigenvalue, and Cronbach's alpha are showing in Table B.2. Both factors have high internal reliability (Cronbach's alpha > 0.8) and have a low correlation ($r=0.06$).⁷ Both the EA Youth Survey and now the QA Youth Survey have 10 questions that tap into the youth's opinion about the quality of treatment they are receiving. Skill generalization is a dimension that is not measured in the EA Youth Survey.

The QA Staff Survey items loaded on three unique factors, shown in Table B.3. The three factors are staff and environment supportive of DBT, transition planning, and DBT effectiveness. The factors have high internal reliability (Cronbach's alpha > 0.8). The three factors have a low average correlation ($r=0.08$). One factor that is of particular interest is DBT effectiveness. This factor indicates the level at which staff believe the treatment is effective at changing behavior. This is largely a staff culture indicator and can help inform results later in the report.

The fifth measurement instrument on DBT is the QA Family Survey. Table B.4 shows the factors measured in the survey and the internal reliability of the factors. There are three factors in the QA Family Survey, they are communication with a counselor, understanding of DBT, and skill generalization. The most significant challenge with the QA Family Survey is the sampling plan, while the factors could provide important indicators, it is unlikely that the data collected is generalizable to the population of families of youth in JR.

The analysis above reveals the types of information that were collected related to the quality of DBT treatment. The next step is to better understand the relationship between the factors being measured. Table 2 shows the correlation coefficients between the EA assessment and the four surveys. The EA assessment is the most direct measure of DBT implementation and so we examine how the other data collection efforts overlap or provide unique information about DBT. For this analysis, all the data was aggregated to the living unit for the six months when the data collection occurred.

Looking at Table 2, a few observations should be highlighted. First, all but one of the factors are significantly and positively associated with the EA assessment scores. This positive association means that as scores on one increase, scores on the other tend to increase as well. This shows us that they are tapping in to, or measuring, similar concepts. The one factor that was not significantly correlated was transition planning in the QA Staff Survey. Second, the EA Youth Survey factor on treatment quality was strongly correlated with the overall EA assessment score ($r=0.6$; $p<.05$). This shows that when the QA teams observe high-quality treatment occurring, the youth are also able to notice the high quality of treatment. Third, the two areas the surveys are measuring that are not being measured by the EA assessment or the EA youth survey are skill generalization and transition planning related to treatment.

⁷ The factor analysis orthogonal rotation attempts to create factors that are unrelated.

Table 2

Correlations Between Environmental Adherence Factors and Other Measurement Points (2012-2018)						
Variable Number	Survey	Factor	EA Youth	QA Youth	QA Staff	QA Family
1	EA	Environmental Adherence	1.00			
2	EA	F1: Structure of the environment	0.85*	1.00		
3	EA	F2: Engagement with youth	0.65*	0.32*	1.00	
4	EA	F3: Staff culture	0.74*	0.48*	0.25*	1.00
5	EA Youth	F1: Treatment quality	0.60*	0.50*	0.34*	0.50*
6	QA Youth	F1: Treatment quality	0.25*	0.20*	0.10	0.23*
7	QA Youth	F2: Skill generalization	0.26*	0.28*	0.06	0.18*
8	QA Family	F1: Communication with counselor	0.29*	0.24*	0.18*	0.17*
9	QA Family	F2: Understanding of DBT	0.23*	0.19*	0.08	0.19*
10	QA Family	F3: Skill generalization	0.21*	0.12*	0.20*	0.13*
11	QA Staff	F1: Staff and environment supportive of DBT	0.44*	0.37*	0.14*	0.43*
12	QA Staff	F2: Transition planning	0.10	-0.02	0.23*	0.08
13	QA Staff	F3: DBT effectiveness	0.29*	0.20*	0.17*	0.28*

Summary of Findings on DBT Implementation Data

Some interesting findings emerged from looking at the DBT-related data collected. First, the EA assessment has three unique factors that align closely with how the assessment is structured, meaning that it is measuring the dimensions that it is intending to measure. Additionally, the EA assessment scores are positively and significantly correlated with almost all of the factors from the four surveys. The one area that the EA assessment does not adequately measure is the level of DBT skill generalization and transition planning taking place within a unit. These dimensions could easily be added to the EA Youth Survey. The QA team has collected 9,916 unique surveys and conducted 1,342 observations since 2012.⁸ This analysis has shown that there is significant overlap in the five data collection instruments being used to collect information about DBT implementation quality. Across the four survey instruments, there was significant effort made twice a year to understand opinions from youth, staff, and family regarding how they feel about the treatment that is occurring.

What is noticeably missing from the DBT related data collection, however, is any measurement of the quality of three of the four treatment modes. Specifically, JR is currently not monitoring the quality or existence of individual sessions, skills groups, or consultation team modes of DBT treatment. The surveys indicate general opinions about the treatment as a whole, but there is only direct measurement

⁸ Each observation was 7 hours, totaling 9,394 hours of observations.

of milieu management (the social environment where youth and staff interact). Recommendations based on these findings will be provided at the end of the report.

Question Two: Examining the Effectiveness of DBT in JR

The second research question in this study, was DBT effective for youth committed to JR? As mentioned earlier, the original study design was to examine both the short term and long-term impact of DBT. We attempted to measure the short-term impact of DBT at the living unit level using the rates of incidents in living units over time. After significant data collection and analysis of all incidents since 2012, it was determined that incidents were not coded consistently over time or place. JR does not have clear definitions for how behaviors should be categorized in incident reports. As a result, when an incident report was created, similar incidents might be categorized differently in different living units over time, or a comparable incident may not be reported at all locations. Given the lack of reliable measure of incidents at the living unit level, we were not able to examine how DBT might impact behavior in the living unit. We were, however, able to proceed with the study of how DBT is related to recidivism after youth were released from their residential obligation.

Methodology

All the independent and control variables were extracted from the Automated Client Tracking (ACT) system, which is JR's client records management system. The outcome variables, recidivism, were compiled by the Washington State Administrative Office of the Courts.

Dependent Variables

The outcome being predicted in this study was recidivism. We measured recidivism in three ways: any offense, a felony offense, and a misdemeanor offense. All recidivism was measured by a conviction for an offense that occurred within 18-months of release from their residential obligation in JR. *Any recidivism* was any conviction within that timeframe, *felony recidivism* indicated a felony conviction within 18-months, and *misdemeanor recidivism* was a misdemeanor conviction within 18-months. Any recidivism included all those in the misdemeanor and felony category. If a youth committed both a felony and a misdemeanor, they were coded as a felony.

Independent Variables

There were three main independent variables in this study measuring the different treatment modes of DBT. The three measures of DBT implementation were EA, individual counseling sessions, and skills group counseling. One of these measures (EA) indicated the quality of treatment, while the other two were measures of quantity. While there were general standards of what should be included in the skills groups and one-on-one counseling sessions, there has not been any quality control, which has led to significant variation in the quality and level of adherence of these sessions.

The main QA measure used by JR to monitor implementation of DBT was the *EA assessment*. As mentioned earlier in the report, each living unit received an EA assessment twice a year. The assessments were conducted at the living unit level. To convert this into an individual level score, a weighted average was created for all youth released in 2014 and 2015. The EA score was multiplied by the number of days the youth was in the living unit. This was then divided by their total number of days in custody. The result was the average EA score they experienced, ranging from 0 to 3, with higher scores indicating a more therapeutic experience during their stay with JR.

The second measure of DBT implementation was the *average number of individual counseling sessions per month* for each youth. One-on-one counseling sessions are one of the main treatment modes of DBT. Individual sessions were tracked in ACT. A total of 142,990 were recorded between December 2009 and November 2016. A total of 41,256 of those individual sessions were related to the current study sample. There was a practice of notes being completed in order to document the reason sessions did not occur. A total of 2,301 (5.5 percent) case notes were deleted as they indicated the absence of a counseling session, for a final total of 38,955 unique individual counseling sessions. The notes ranged in characters (the number of letters in the note) from five to 7,871. There has not been any standardized QA of individual counseling sessions or of the resulting notes that were produced. A rate was calculated for each youth to determine the average number of sessions per month during their residential obligation.

To measure skills groups, we calculate the *average number of skills groups per month* for each youth. DBT skills groups were tracked through case notes in ACT. Skills groups notes started in May 2011 and continue as of April 2019. A total of 14,555 notes have been created, documenting a DBT skills group, of those 5,120 involved a youth in the study sample. A total of 470 (9.2 percent) notes were excluded because they indicated that a group did not occur.⁹ The skills groups are labeled as either an acquisition or a generalization group. The majority (68.7 percent) of groups were acquisition groups, compared to 31.3 percent being categorized as a generalization group.¹⁰ The skills group note allows us to identify the number of skills groups a youth has attended, however, it is important to highlight the variation in the length of narrative in the skills groups notes. Narratives range from 18 to 7,394 characters (the number of letters included). This suggests that sessions likely varied significantly in quality. Historically and currently, there has not been any standardized QA related to DBT skills groups (or individual counseling sessions). Although we can count the number of sessions that have occurred, we do not know anything about the quality or consistency of these groups over time. After all skills group notes were cleaned for non-occurring sessions, we identified all sessions attended by our study population. A rate was calculated to determine the number of sessions per month during their obligation. JR standard requires that each youth attend one skills group per week.

Control Variables

A number of control variables were used to ensure that the relationship between DBT implementation and recidivism was not caused by an external factor. Ideally, a randomized experiment would allow us to randomly place youth in a treatment and a control group, ensuring that we could isolate the effect of DBT. Since all youth in JR received some level of DBT, we controlled for the characteristics of the youth to isolate the relationship between the three measured treatment modes and recidivism. In the multivariate analysis, we control for gender, race and ethnicity, age at release, length of residential stay, parole, and initial risk score. Not all youth receive parole services after their residential commitment, controlling for parole will make sure the relationship between treatment and recidivism is not confounded by parole services. Similarly, we control for risk score on the Integrated Treatment Assessment (ITA). This assessment measures dynamic and historical risk and needs. By controlling for

⁹ The practice of documenting a skills group note that did not occur has occurred since the beginning of skills group tracking, similar to the practice of documenting individual sessions that did not occur. The research team brought this to the attention of JR leadership during the study and asked that the agency stop tracking both individual and group sessions that do not occur, or find a way to indicate which sessions did not actually occur.

¹⁰ It is not unexpected that the majority of skills groups were acquisition groups since skill acquisition is the focus before attempting generalization of those skills.

their initial score, which is determined within 14 days of admission, we are controlling for the youth's level of risk and needs.

Analytic Approach

To examine the effect of DBT treatment on recidivism, logistic regression models were used. Logistic regression is used when an outcome variable is dichotomous (yes or no), as is the case in the current study. Odds ratios will be reported to indicate the change in the odds of recidivism given a one-unit increase in the predictor variable. Odds ratios above one indicate an increase in the odds while odds ratios less than one indicate a reduction in the odds. All models were estimated in the statistical software package STATA, version 15. Robust standard errors are used in all models to produce unbiased standard error estimates. After the initial models were estimated, interaction terms were included to explore whether the effects of DBT vary across the levels of the control variables. To visualize any interaction effects, contour plots were produced using predicted probabilities from the full logistic regression models.

Findings

Table 3 shows the descriptive statistics for the variables used in the study. The sample in this study is 1,031 youth who were released in 2014 and 2015. The dependent variables are the three dichotomous recidivism variables: any, felony, and misdemeanor.

On average, youth left JR having experienced a 2.09 EA, this ranged from 1.08 to 3. Youth averaged 3.12 individual counseling sessions per month, with a range of 0 to 6.44. Youth averaged 1.67 skills groups per month, with a range from 0 to 10. The average age of release was 17.14. Youth of color made up 52.4 percent of the sample. Males were 88.9 percent of the sample. Just more than 50 percent of the sample received parole. The average ITA risk score was 81.7 and ranged from 6 (very low risk) to 175 (very high risk). The average length of stay was about 280 days and ranged from 13 to 1,812 (almost 5 years).

A total of 52.6 percent of youth released in 2014 and 2015 recidivated, with 28.3 percent recidivating with a felony conviction and 23.9 percent with a misdemeanor conviction within 18-months.

Table 3

Descriptive Statistics			
Dependent Variables	Mean/Percent	Minimum	Maximum
Any Recidivism (18-months)	52.6%	0	1
Felony Recidivism (18-months)	28.3%	0	1
Misdemeanor Recidivism (18-months)	23.9%	0	1
Independent Variables	Mean/Percent	Minimum	Maximum
Environmental Adherence	2.09	1.08	3
Counseling Sessions per month	3.12	0	6.44
Skills Groups per month	1.67	0	10
Control Variables	Mean/Percent	Minimum	Maximum
Age at release	17.14	11.12	21
Youth of Color	52.4%	0	1
Gender (male)	88.9%	0	1
Parole	50.5%	0	0
ITA Risk Score	81.7	6	175
Length of stay (days)	279.9	13	1,812
N	1,031		

Table 4 and Figure 3 shows how the level of DBT treatment was related to the JR DBT standards. Table 4 shows the four treatment modes, lists the published JR standard for this treatment mode, whether or not a QA plan exists for the treatment mode, and then a summary of the agencies adherence to the treatment mode for those released in 2014 and 2015. For individual counseling, the frequency standard is four sessions per month. There is not a QA plan for individual sessions, meaning they are not routinely monitored for quality or adherence to the model. Youth received 3.1 sessions per month, on average. Almost 24 percent of youth were released averaging at least four one-on-one counseling sessions per month. For EA, the standard is a 2.3 score. This is the only mode that currently has a QA plan. About 32.7 percent of living unit assessments since 2012 met this standard and youth experienced a 2.08 on average. According to DBT standard number 2, consultation teams should meet every other week. These sessions are not monitored for quality and the frequency is not tracked. We are not able to report on the implementation or impact of this treatment mode. The standard for skills groups is one per week (or just more than four per month). There is not a QA plan for skills groups. Youth received 1.68 skills groups per month, on average. Just less than 10 percent of youth were released having received at least four skills groups per month.

Figure 3 summarizes how many youths were released in 2014 and 2015, having received treatment that met DBT standards 1, 3, and 4 in Table 4. Consultation teams are not currently tracked so we were

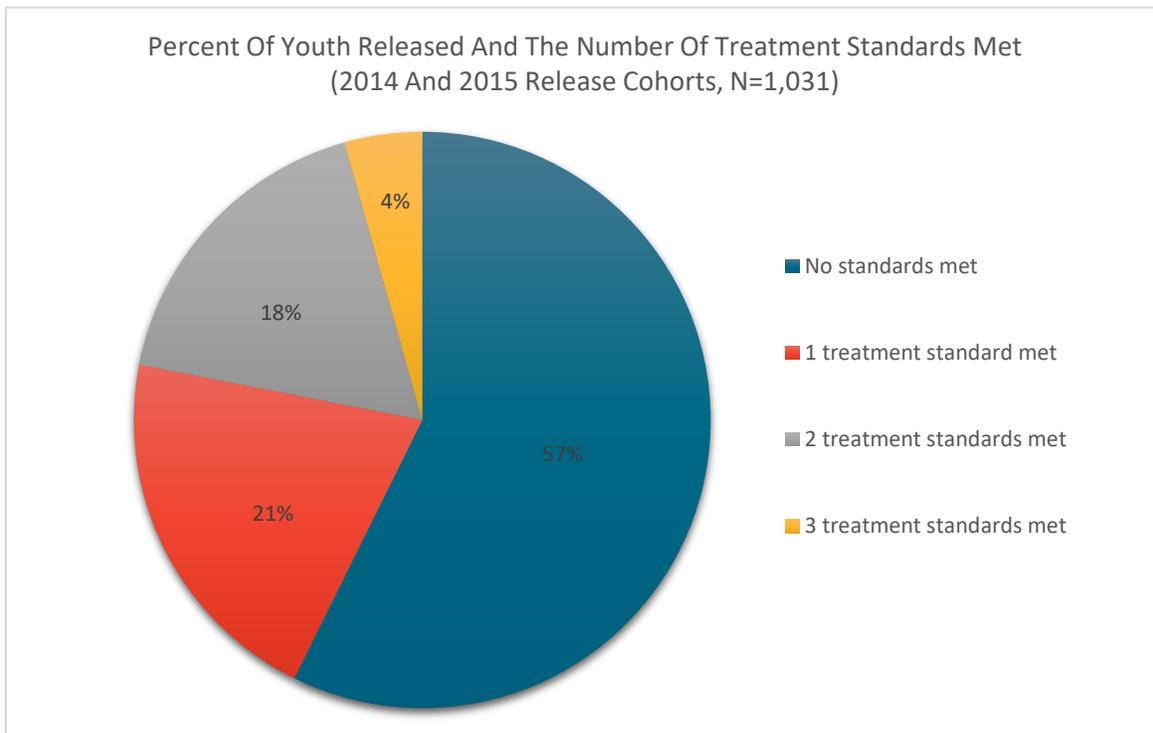
unable to measure the frequency, quality, or potential effectiveness. About 57 percent of youth released received DBT that did not meet any of the standards, 21 percent were released with treatment that met one standard, and 18 percent received treatment that met two standards. About 4 percent of youth released received treatment that met all three standards, meaning they experienced an average environment adherence of 2.3, had at least 4 individual counseling sessions and 4 skills groups per month.

Table 4

JR DBT Treatment Statistics Compared to DBT Standards			
Treatment Modes	JR DBT Standard	QA Plan	Adherence to Standard
Individual Counseling	Minimum of 4 sessions per month (DBT Std 1)	No	24% of youth are released with an average of at least 4 sessions per month; youth received an average of 3.1 sessions per month.
Consultation Team	Every other week (DBT Std 2)	No	Not tracked
Environmental Adherence	Score of 2.3 (DBT Std 3; JR Strategic Plan)	Yes	33% of living units since 2012 have achieved this level; Youth experienced a 2.1 on average
Skills Groups	Minimum 4 groups per month (DBT Std 4)	No	10% of youth are released with an average of 4 skills groups per month; youth received 1.7 skills groups per month on average;

Note: Adherence level for youth calculated using 2014 and 2015 release cohorts.

Figure 3



Multivariate Analysis

To understand the effect of DBT implementation on recidivism, multivariate logistic regression models were estimated. Table 5 shows the three full models, one model for each of the three recidivism measures. The first model is predicting any recidivism. Of the three DBT-related variables (EA, individual counseling, and skills groups), the only variable that is significantly related to any recidivism is EA. A one-point increase in EA corresponds to a 40.7 percent reduction¹¹ in the odds of any recidivism, controlling for all other variables in the model. Although the rate of individual counseling sessions and skills groups are not significant, we do not conclude that they are unimportant. We are unable to identify the true effect of high-quality individual and skills group sessions because of the lack of quality control that is performed on these treatment modes. Figure 4 shows the predicted probability of any recidivism across levels of EA, controlling for the other factors in the model. As the average EA increases, the likelihood of recidivism goes down. The average EA ranges from 1-3 since the lowest observed average EA is just about one. The rate of counseling sessions and skills groups were unrelated to recidivism. Youth of color, males, and those with higher ITA scores had an increase in the odds of any recidivism. Length of stay was significant, but not substantially, related to a decrease in the odds of any recidivism. Length of stay was measured in terms of days, making the odds ratio small and close to one.

The second model is predicting felony recidivism. Again, the EA measure is a significant predictor of decreased odds in felony recidivism. A one-point increase in EA corresponded to a 51.7 percent reduction in the odds of felony recidivism. Figure 5 shows the predicted probability of felony recidivism across levels of EA, controlling for the other variables in the model. The only other significant predictors of felony recidivism were youth of color (44.1 percent increase in the odds) and ITA risk score. A one-point increase in the ITA results in about a 2 percent increase in the odds of felony recidivism. This indicates that race and ITA are still related to recidivism, after controlling for the variables in the model. This finding does not indicate that EA is less valuable for youth of color or those with higher ITA scores. The third model shows the results predicting misdemeanor recidivism. None of the DBT-related variables were significantly related to misdemeanor recidivism. Of the control variables, three were related to misdemeanor recidivism, they were parole, ITA score, and length of stay. Interestingly, parole was associated with a 28.5 percent (1- 0.715) reduction in the odds of misdemeanor recidivism. This finding could be interpreted in a few different ways. First, it could indicate that youth on parole are more likely to get revoked instead of charged for lower level offenses. Alternatively, it could also indicate that parole support reduces misdemeanor related crime. Further analysis would be required to clarify this effect. Across all three models, the ITA risk score was a consistent and significant predictor of increases in recidivism. In these models, the ITA is operating how it was designed, to identify the factors that make youth at higher risk for recidivism.

¹¹ To calculate the reduction in the odds you can subtract the odds ratio from one. In this case, 1 minus the odds ratio in the model (0.593) equals 40.7.

Table 5

Logistic Regression Models Predicting Recidivism With DBT Treatment Measures						
	Any Recidivism		Felony Recidivism		Misdemeanor Recidivism	
	Odds Ratio	Robust SE	Odds Ratio	Robust SE	Odds Ratio	Robust SE
Independent Variables						
Environmental Adherence	0.593*	(0.145)	0.483**	(0.129)	1.025	(0.284)
Counseling Sessions Per Month	1.030	(0.083)	0.990	(0.088)	1.044	(0.092)
Skills Groups Per Month	1.073	(0.051)	1.086	(0.061)	0.999	(0.052)
Control Variables						
Age at release	1.038	(0.066)	1.131	(0.080)	0.917	(0.062)
Youth of Color	1.538**	(0.204)	1.441*	(0.213)	1.161	(0.174)
Gender (male)	1.769*	(0.486)	1.446	(0.468)	1.285	(0.392)
Parole	0.805	(0.109)	1.031	(0.154)	0.715*	(0.109)
ITA Risk Score	1.022**	(0.003)	1.019**	(0.003)	1.008**	(0.003)
Length of stay	0.999*	(0.000)	0.999	(0.000)	0.999**	(0.000)
N	1,031		1,031		1,031	
Wald chi-square	82.97**		81.15**		25.75*	
Pseudo R-square	0.124		0.114		0.035	
*p<.05, **p<.01						

Figure 4

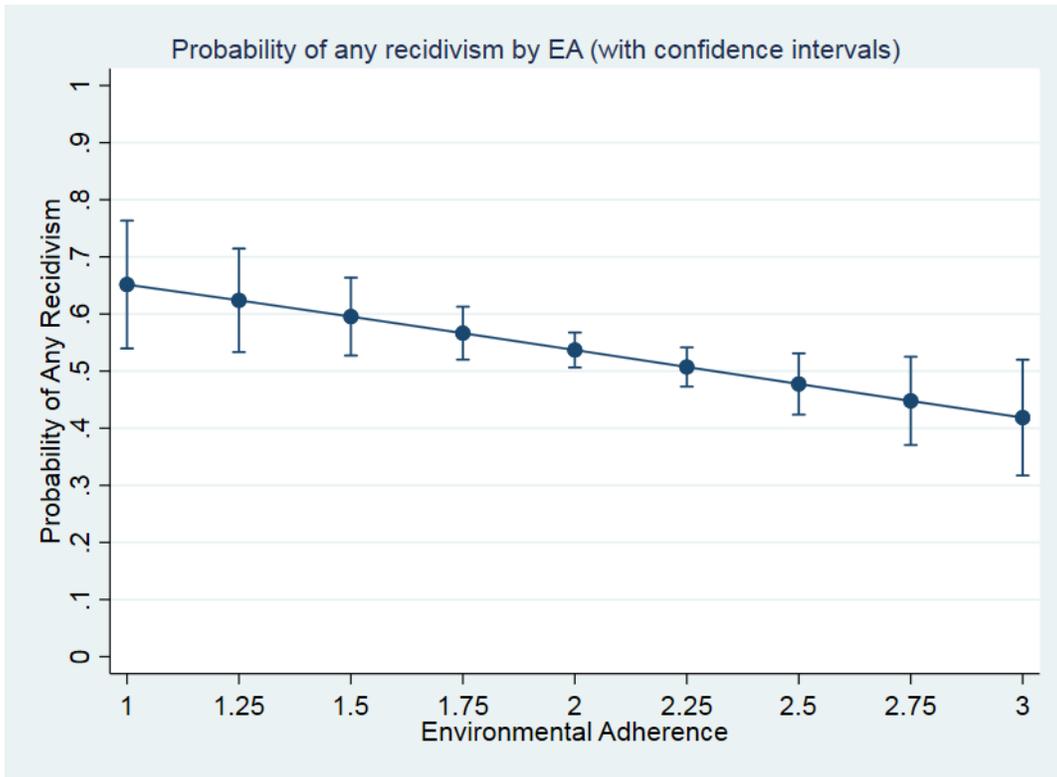
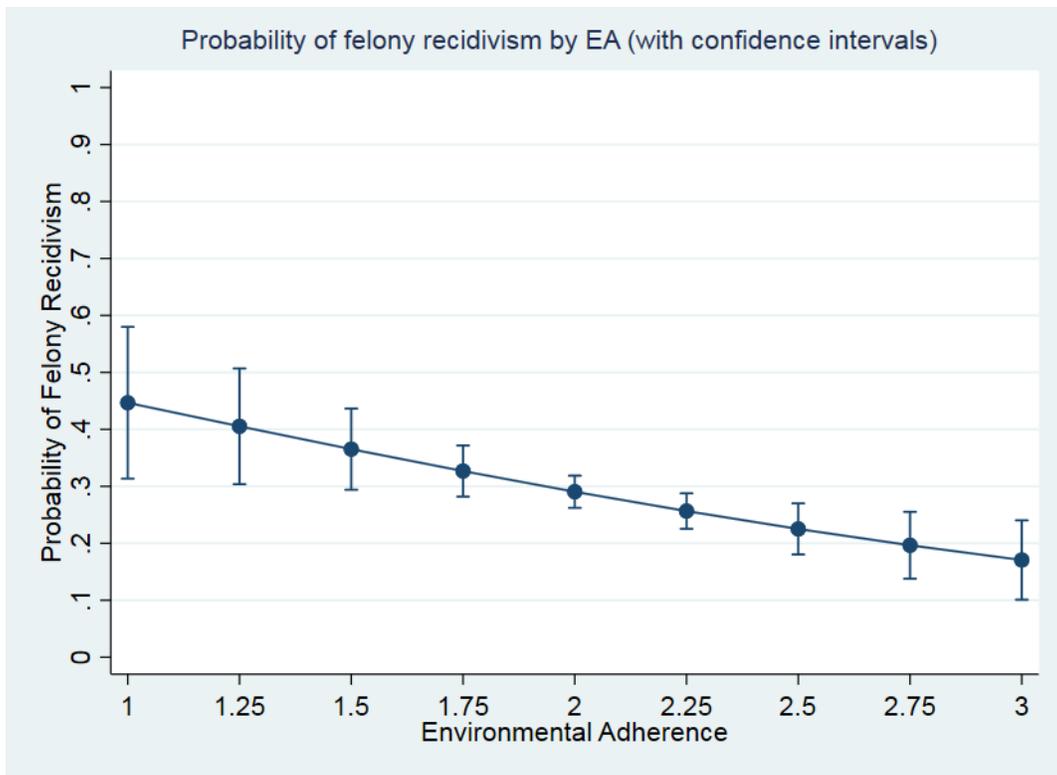


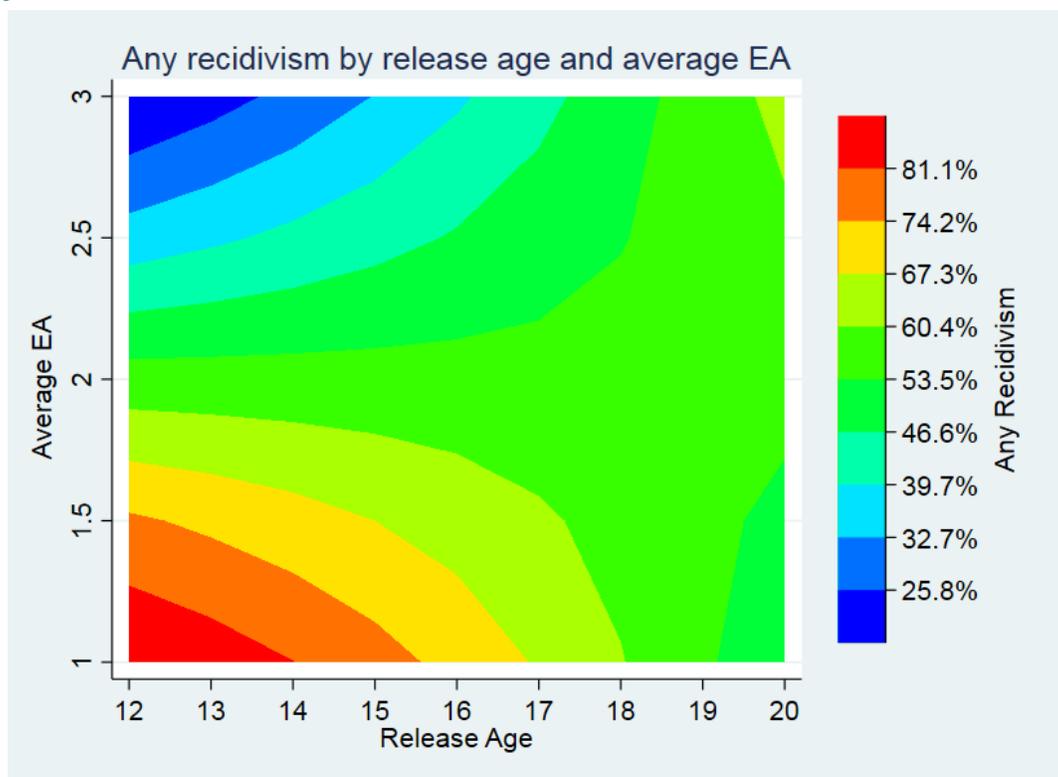
Figure 5



In an attempt to better understand the effect of EA, which was significantly and substantially related to a reduction in any and felony recidivism, we explored the interaction effects between the control variables and EA. This analytic strategy showed whether the effect was consistent across subgroups. Two significant interactions were identified: age and mental health risk¹² (See Appendix C for the full models with interaction effects). Mental health risk is a sub-domain of the ITA score and was explored individually since DBT was originally designed to treat those with significant mental health issues, specifically borderline personality disorder.

The following contour plot (Figure 6) helps visualize the interaction between age and EA.¹³ There are three variables involved in this visualization. Across the horizontal axis is youth’s age at release. The vertical axis is the level of EA the youth experienced. The color in the plot corresponds to the predicted any recidivism rate. As the age of the youth increased, the effect of EA decreased. This effect showed that EA was particularly important for younger youth. For example, a 13-year-old who experienced an average EA of 1.25 would have an 80 percent likelihood of recidivism, however, if the same youth had an average EA of 2.75, they would have about a 30 percent likelihood of recidivism. EA was important in reducing recidivism for all youth, but the importance seemed to lessen with age.

Figure 6

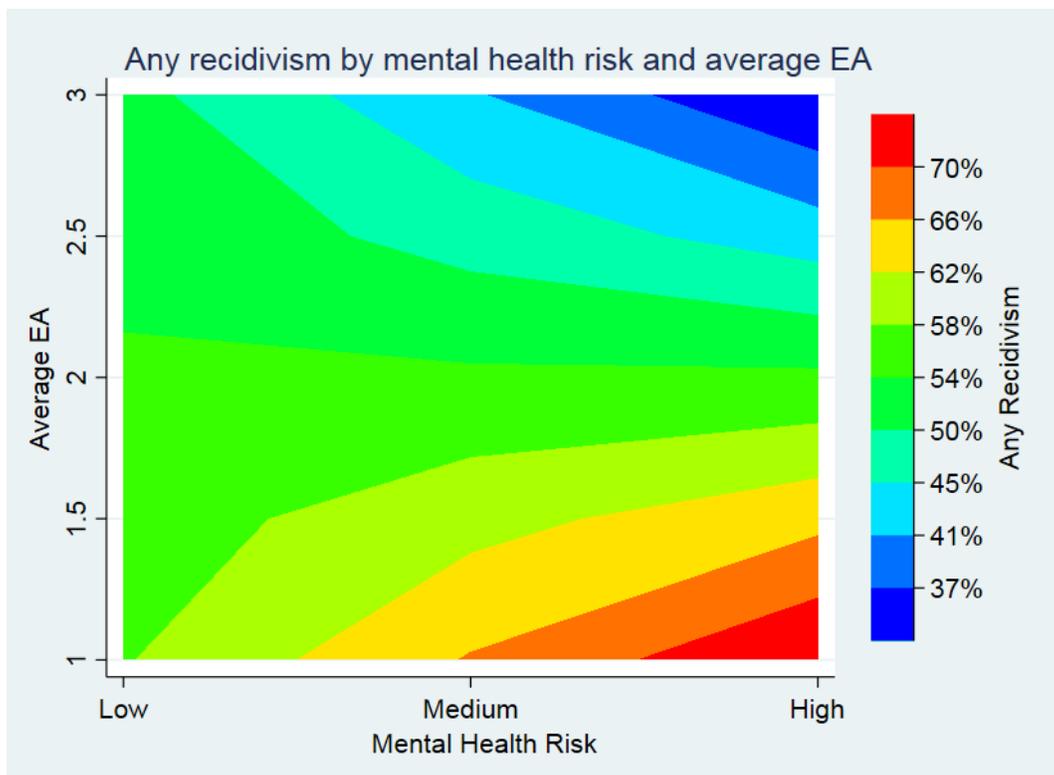


¹² Since mental health risk score is included in the overall ITA score, we removed the mental health risk from the score for the interaction models, so we could test the interaction between mental health and environmental adherence on recidivism.

¹³ There are not observations in all areas of Figure 6. Patterns are extrapolated to produce predicted probabilities for every combination of EA and age. For example, there are no observed cases with 12 or 13-year-olds with an average EA score of one. If this did occur, however, we would expect them to have a recidivism rate of about 80 percent based on the patterns in the data.

Figure 7 shows a similar contour plot with mental health risk across the horizontal axis. This plot shows that those with high mental health risk were significantly more sensitive to the level of EA. This finding makes intuitive sense. While all youth benefit from a therapeutic environment, those with high mental health risk required and benefited even more from a therapeutic environment. This can also be interpreted as showing that the absence of a therapeutic environment can be harmful to youth with high mental health risk. The inverse was also true, youth with low mental health risk seemed to be less impacted by low EA scores. The implications and recommendations related to these findings follow in the next section.

Figure 7



Summary of Findings on the Impact of DBT

There was significant variation in the quality and quantity of DBT treatment experience for youth releasing from JR. Few leave JR having received the DBT treatment outlined by JR standards. Overall, there has not been a measurable effect of individual sessions or skills groups on recidivism, however, increases in EA were significantly related to reductions in recidivism. Further, the impact of high-quality EA is most impactful for younger youth and those with high mental health risk.

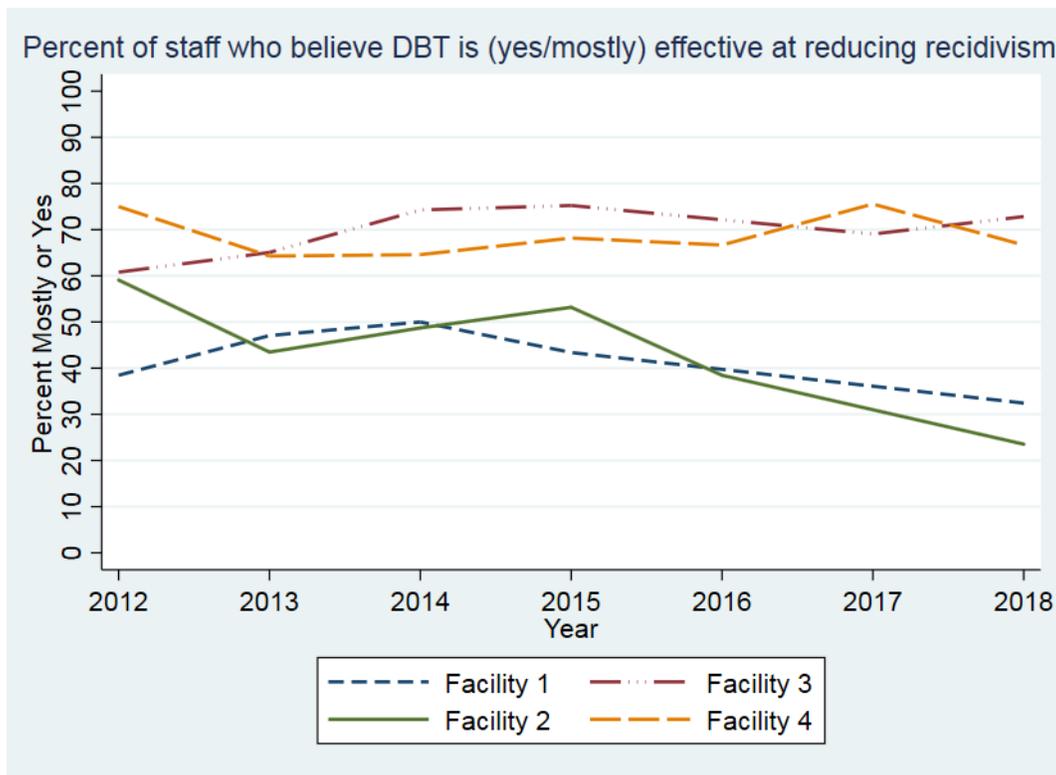
Discussion

Before interpreting the results, the limitations of this study should be recognized. First, there has not been consistent standards or QA related to individual session or skills group session documentation. We know if they happened, but we do not know anything about the quality of these sessions. Based on interviews with key stakeholders, the variation in training over time, the significant turn over in staff,

and the variation in the amount of information tracked in each note, it is likely that the quality of these sessions varies significantly. Future research should be extended with a measure of quality or an assurance that all sessions meet or exceed a specific level of quality.

As we interpret the findings, there are a few contextual factors to consider. The two main factors that should be understood are staff buy-in and staffing levels. Staff buy-in varies across the continuum. At the facility with the lowest level of EA, only about 8 percent of counseling staff indicated they believe that DBT could effectively reduce recidivism, according to the Quality Assurance Staff Survey. Figure 8 shows the proportion of staff that indicated DBT was an effective tool (yes or mostly) at reducing recidivism. There are four lines in the graph, one for each of the three institutions and one aggregating the community facilities. At two of the locales (institution or aggregate of community facilities), in 2014 which was the first year of the study, about 50 percent of staff believed DBT was at least mostly effective at reducing recidivism, and this is trending in a negative direction. At two other locales (yellow and red in Figure 8), the belief that DBT can effectively reduce recidivism consistently hovered between 60 and 80 percent. First, it is important to note the variation by the facility, this shows the variation in the culture around DBT that might exist across JR. These numbers are undoubtedly related to training and resources. If staff are not effectively trained in the DBT model and do not have the staffing level to implement the treatment, this likely influences their perception about whether DBT is effective.

Figure 8



Second, staffing levels in many of the living units simply do not allow for staff to conduct individual sessions or skills groups. A recent study of JR staffing clearly found that staffing levels and availability of professional training are significantly related to DBT implementation. “With current staffing levels, they [JR] are not able to meet the minimum standards for the provision of Dialectical Behavior Therapy (DBT),

which is JR's core residential treatment modality that emphasizes individual counseling and group skills training classes" (Hyzer, 2018; pg. 2). Even with adequate staff in the residential facilities, it is not clear that staff have the necessary training to implement high-quality DBT individual and skill group sessions. Staffing and training issues are related to staff buy-in and need to be addressed.

A final point, before providing recommendations, is an interpretation of the strong and significant effect of EA on recidivism. The main effect is from the measure of EA. Essentially, that is a measure looking at the extent to which the living unit is a therapeutic community. This is not necessarily unique to DBT, but it is clear that it matters. A recent study by Auty and Liebling (2018) examined the social climate in prisons in England and Wales. The authors concluded, "that where prisoners feel safe, treated fairly, and where their relationships with staff are both competent and supportive, they feel able to make progress, or find their way onto a positive trajectory according to their own understanding of their condition" (pg. 16). The more the JR living units resemble therapeutic environments, where the focus of the environment is on treatment and the staff are supported to provide treatment, to engage youth in a respectful and empathetic manner, and to form a staff culture focused on treatment, the better the anticipated outcomes.

There is still a lot of work to be done to understand the impact of DBT on youth in residential facilities. The work of adapting materials, finding the right dosage levels, and tracking the short and long term outcomes must continue. The stakes are too high. It is time for significant and intentional change to how JR implements and monitors DBT. Improvements should be made in monitoring the quality of treatment of all the treatment modes. If we do not have the resources to implement to fidelity in all units, JR should prioritize those units dedicated to acute mental health needs and those serving younger residents. JR employs individuals with vast knowledge and experience in DBT, however, DBT monitoring and implementation need to be prioritized and organized in a way that is feasible within current resource levels.

Recommendations: A Path Forward

JR now has almost two decades of experience providing DBT to youth in residential facilities. With time comes numerous internal experts and lessons learned. Yet there is still room to improve. There are two major areas to focus on for the next steps. First, redesigning the QA protocols. The QA team is spending too much time on client, staff, and family surveys that do not increase our understanding of the effectiveness of DBT. Efforts other than these surveys could be better suited to monitor how the model is being implemented. Second, JR should focus on getting implementation up to standards in the acute mental health units, and then expand to other units as resources become available.

1. *Revise the DBT QA protocols to include a measurement of quality for all treatment modes.*
 - a. The EA tool provides valuable information about the quality of the therapeutic environment that youth are experiencing. The QA team should continue to use this instrument; however, *the QA team should reduce the number of assessments per living unit to once per year.* Given the resources available to the QA team and the number of areas in the JR ITM that currently have no QA, twice-annual EA assessments are not an efficient use of resources. QA insight is needed for the other three areas as well.
 - b. Reconsider treating each wing at Green Hill School (GHS) as a different living unit, for the purpose of reporting DBT QA. Instead, *QA should approach the scoring for each*

building as one living unit. For example, Hawthorn living unit at GHS would get one DBT QA score. Observations can still be conducted at the wing level, but the overall score should be aggregated to the building. Since each wing has the same management structure (one program manager), this will make it easier for management to implement one set of improvements. Further, the data indicated that there is very minor variation over time between wings within the same building.

- c. Currently, the QA team conducts three observations twice a year for every living unit. *The QA team should start with two EA observations per living unit* (this will need to be more at GHS, we suggest one or two per wing, but that the results get aggregated to the building). After the initial observations, the assessors should meet to discuss the domain scores on the EA instrument and see if they can come to a consensus. If the two scored the unit significantly differently, a third observation should be scheduled. Each living unit should get only one score per domain, which would be the average of the observations.
 - d. *The QA team should continue to conduct debriefs with staff at the end of an EA observation.* The QA team began testing the process in 2019 of briefing staff in living units at the end of the EA observation. This type of immediate feedback is valuable and important for line-level staff. The QA team should not engage in any additional training of staff outside of this debrief. As much as possible, allow the DBT consultant team to conduct DBT training and technical assistance.
 - e. *Continue the use of the EA youth survey with some modification.* Work to reduce the number of questions related to EA quality and add empirically driven questions related to individual counseling and youth skill acquisition and generalization.
 - f. *Begin QA scoring of individual counseling session notes.* A clear and achievable coding form should be developed for individual session notes. The QA team should develop a sampling plan of session notes that can be reviewed during the same month of scheduled EA observations.
 - g. *Begin QA scoring of skills groups session notes.* Develop a coding form that is clear and mirrors the sampling plan of the individual session notes.
 - h. *Discontinue the collection of the QA staff, family, and youth surveys.* Currently, these three are collected twice a year. They do not provide much value above and beyond the EA observation and the EA youth survey. Surveying is resource intensive so we recommend using these valuable resources to provide QA on the other three treatment modes (individual counseling sessions, skills groups, and consultation teams). Additionally, JR currently collects surveys in the same months through Performance-Based Standards. These surveys offer much of the same information and facilities can use these data to monitor youth opinions about current practices.
 - i. *JR leadership should closely monitor DBT QA reports.* If living units are not able to meet the DBT standards, particularly acute mental health units, efforts should be made in terms of training and staffing to improve implementation as soon as possible. There are living units that have never achieved the minimum 2.3 EA score since 2012. *Multiple consecutive low scores on EA should trigger action by JR leadership.*
2. Full DBT adherence is not currently possible with the resources available so attention should be focused on *providing adherent DBT to the living units serving youth with high mental health*

needs. General units could be designated as providing "DBT-informed" environments, while mental health units should attempt fully adherent DBT. JR should commit to providing high-quality treatment and be realistic about the resources that are available.

3. *Create an achievable DBT training plan.* JR has created and implemented a number of DBT training, however, they are not administered with consistent frequency. Once the training standard is established, leadership should closely monitor the percent of the workforce that has completed the required DBT training.
4. A list of skills groups should be created and treatment staff should track which groups youth have completed. JR has recently implemented a "skill of the week" structure that includes an email with resources for staff to use in their skills groups that week. This is a step in the right direction. Along these lines, *JR should create a skills group completion definition and track the progress a youth makes toward completion.*
5. *Redesign the incident reporting process.* The original study design included analysis on whether DBT implementation fidelity had an impact on living unit behavior, particularly behavior related to youth dysregulation. However, due to data quality issues, the research team could not complete this line of analysis. In the current study, we were not able to use incident reports as an outcome measure of behavior at the living unit level because of data quality and consistency issues. Most importantly, the incident report lacks clear definitions for staff. An incident in one location might be categorized by a variety of checkboxes, but the same incident at another residential facility might end up being categorized differently or not at all. A common set of definitions about incidents is needed.
6. During the process of collecting and cleaning data for this study, it was discovered that staff was completing individual counseling session and skills group notes that indicated the session did not occur. The data required significant cleaning to eliminate the notes that were not indicative of an actual treatment session. Leadership quickly directed staff to stop this practice. *JR should codify the elimination of the practice of completing individual and skill group sessions that do not occur.* If there is an agency-wide need to track sessions that do not occur (and the reason they were canceled), this functionality should be built in the ACT. An alternative option would be to create a field where staff can indicate the length of a session. If the session was zero minutes, we will know it did not occur and the note simply serves as an update. This will also allow for tracking of dosage in terms of the time the youth spent in an individual counseling session and a skills group.
7. One of the main findings from this study was that EA is related to reductions in recidivism. One of the key components of EA is engagement with youth, that is, whether staff listen to and convey genuine regard for the youth. The findings in this study suggest that engagement with youth has a significant impact on their future success. This finding can and should *inform hiring practices.* Empathy and the ability to connect to youth matters and a short assessment of a person's level of empathy could be included in the hiring process. One important feature of effective treatment is trust between the client and counselor. If that trust results in a healthy, therapeutic, and working relationship, we are more likely to see improved outcomes for youth (Proctor and Herschman, 2015). It is not just the treatment model, but the method of delivery that matters. Hiring the right staff and training them for success should be prioritized.
8. *A committee, including youth and community partners, should be established to review DBT-related materials.* One of the challenges with implementing DBT with youth in residential

facilities is ensuring the materials and examples are culturally-relevant (Shelton et al., 2011). JR should review the materials and explore ways to make the treatment modules as relevant as possible. This should be seen as an ongoing and iterative process.

9. Since DBT is the main residential treatment model in JR, *an updated evaluation of implementation quality should be conducted every four years, at a minimum*. If a more robust QA protocol is adopted, future evaluations can be conducted in a brief format, showing the level of implementation and effectiveness of the treatment.
10. JR should *implement data-driven subscriptions* to help monitor a youth's individual session and skills group participation as well as their average EA for each obligation. A data-driven subscription can email staff and leadership showing the statistics of youth who are on their caseload, or on caseloads of staff they supervise. This information can be calculated and reported to counselors, program managers, and leadership on a routine basis (weekly or monthly) to ensure early identification of youth who are receiving treatment that does not meet the DBT standards. Resources can then be directed to youth who need additional treatment to ensure treatment meets the standards.

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APPENDIX A

Data collection instruments:

- (1) Environmental Adherence assessment,
- (2) EA Youth Survey,
- (3) Quality Assurance Youth Survey,
- (4) Quality Assurance Staff Survey, and
- (5) Quality Assurance Family Survey



**JRA DBT QUALITY ASSURANCE
ENVIRONMENTAL ADHERENCE CODING FORM**

Engagement With Youth

1. Staff Are Respectful In Their Communication With Youth

Principles:

- Building a therapeutic rapport; client/therapist relationship is a genuine relationship
- Motivating and Engaging
- Modeling effective interpersonal skills
- Maintaining a climate of radical genuineness

Behavioral anchors for a 3:

Across the shift team(s), interactions display the following:

- a. Staff address issues discretely as to not embarrass youth
- b. The whole staff team is communicating in a normal talking tone to youth and allow the youth to talk normally with them
- c. Staff are radically genuine within communication (being kind and real, not having a "one up" relationship)
- d. Staff block or warn against maladaptive behavior (being firm) while encouraging more effective behaviors (maintaining collaboration) in a friendly and supportive manner
- e. Staff are even-handed in treatment with youth
- f. Banter or playful talk is blended skillfully with treatment or more serious communication

Behavioral anchors for a 2:

- a. Most of staff are communicating in a normal talking tone to youth and allow the youth to talk normally to them within reasonable proximity
- b. Youth are referred to by first or last name, or an agreed upon nickname, or "Mr./Ms____" in a warm and respectful manner
- c. Interactions are respectful and staff display a supportive manner with youth and families
- d. When contingencies need to be laid out, they are clearly laid out in a matter of fact tone

Behavioral anchors for a 1:

- a. Staff are short with residents- don't allow residents to express their point of view
- b. Overly rigid in formality (residents addressed primarily as Mr.____/Ms____), not only in addressing by surnames but lack of supportiveness and genuineness
- c. Staff clearly plays favorites (only attends to certain youth, reinforcers/contingencies are not related to

- treatment progress or principles)
- d. Interaction are formal, business-like or directive in nature
 - e. Low frequency of communication observed
 - f. Communication observed is through a barrier (booth, door office)
-

Anti DBT:

- a. Staff speak about youth in derogatory terms
 - b. Staff yell at residents, publicly embarrasses youth or cut youth off when youth are trying to talk (as opposed to trying to talk with youth)
 - c. Staff uses sarcasm with youth in a way that belittles youth.
 - d. Staff use nicknames that appear demeaning, have implied power value, or are overly affectionate
-

2. Staff Convey Genuine Regard And Liking Toward Youth

Principles:

- DBT is a relationship based treatment
 - Engaging youth in treatment
 - The youth will more openly receive problem solving strategies and support from unit staff when they feel liked and respected
 - Role modeling interpersonal effectiveness skills to youth
 - Phenomenological Empathy Agreement (search for empathic and non-pejorative interpretations of youth's behavior)
 - Staff believe that a youth can be successful each day
-

Behavioral anchors for a 3:

Across the shift team(s), interactions display the following:

- a. Staff regularly initiate dialogue with youth (as opposed to youth having to approach staff to begin conversations)
 - b. Staff convey enthusiasm while working with the youth
 - c. Youth and staff seem to enjoy interactions with each other
 - d. Staff employs a sense of humor with each other and residents
 - Humor is light hearted and not directed at the expense of others
 - Humor increases staff and client engagement and motivation in programming
-

Behavioral anchors for a 2:

- a. Positive attitude and energy concerning unit program, activities, and youth participation (smiling, high energy, encouraging, presence)
 - b. Verbal behavior is hopeful and encouraging to staff, residents and families
 - c. Staff conveys warmth towards other staff, residents and families through verbal and non-verbal communication
 - d. Smiling, easy voice tones, relaxed posture
 - e. Staff soothe youth when they are experiencing distress
 - f. Youth may sometimes have to initiate conversations with staff in order to speak
-

Behavioral anchors for a 1:

- a. There is a low frequency of behaviors where staff engage the youth
 - b. Youth have to initiate conversations with staff in order to speak with them and non supportive and unengaged towards youth
 - c. Communication is directive, business-like
 - d. Interactions with youth are low in frequency
-

Anti DBT:

- a. Some of the staff's verbal behavior is in a loud or harsh voice tone, body posture could be viewed as intimidating (wearing search gloves while working the floor in a normal situation, rigid or inflated posture-challenging or 'puffed out chest')
- b. Staff repeatedly use humor at the expense of the youth (could be construed as "being picked on" by the youth or an observer)
- c. Staff members engage in significant amounts of complaining or negative commentary
- d. Staff communications glorify or express entertainment in the physical handling of youth

3. Staff Demonstrate That They Listen To Youth

Principles:

- DBT's emphasis on "the therapeutic relationship is essential to the treatment"
 - Positive relationships will help the counselor maintain a working alliance with the youth
 - Validating youth effectively positively effects change strategies and helps youth identify what is valid within themselves
 - Being responsive to youths concerns helps them learn to resolve their own problems, achieve their goals and improve their lives
 - Staff assist youth in addressing their needs effectively and in a timely manner
-

Behavioral anchors for a 3:

Across the shift team(s), interactions display the following:

- a. The staff team as a whole listens to youth concerns in a responsive and genuine manner demonstrating level six validation
 - b. Staff assist youth in getting their needs met effectively, which may be coaching the youth on getting their needs met at a different time or in a different context
 - c. The staff team patiently listens to youth concerns and reflects or paraphrases the message back to the youth, demonstrating their concern was heard and understood
 - d. Staff members seek out youth for feedback regarding their concerns and helping youth to resolve their problems
-

Behavioral anchors for a 2:

- a. Most members of the team listen to youth in a genuine manner, demonstrating multiple validation levels (mindfully listening, paraphrasing, etc)
- b. Staff team members rarely respond to youth with judgment
- c. Staff members acknowledge youth concern by some type of verbal or non verbal behavior, (good eye

- contact with a nod of the head would be sufficient)
- d. Staff team members use patience allowing youth time to explain their concern without cutting youth off or disregarding their issue (this is contextual)
 - e. There are opportunities for youth to communicate concerns to staff and staff convey wanting to help youth resolve them (community meetings, feelings check groups or youth complaint/comment boxes, etc.)
-

Behavioral anchors for a 1:

- a. Staff respond to youth , but appear to rush youth to explain
 - b. Staff are in a hurry to move on to another task, not displaying genuine interest in youth concerns
 - c. Staff appear uninterested in helping youth resolve their concerns
 - d. Youth need to approach or seek out staff in order for them to be listened
 - e. Staff allow youth to continue engaging in a conversation when youth is supposed to be attending to something else or it is not the proper time to get this need met
-

Anti DBT:

- a. Staff team members are observed dismissing and pejoratively judging youth concerns
- b. Staff team members regularly cut youth off from speaking their concerns

4. Behavior is Described in an Empathetic, Objective and Nonjudgmental Way

Principles:

- Phenomenological empathy- the belief that youth are doing the best they can and want to improve
 - Objective, non-judgmental behavioral descriptions assist youth in developing and practicing reflective and compassionate communication styles for both youth and staff of their own
-

Behavioral anchors for a 3:

Across the shift team(s), interactions display the following:

- a. Communications and documentation across the staff team with youth is non-judgmental
 - b. Behavior is described and documented in terms of skill deficits, drivers and functions
 - c. Staff acknowledge that youth and families are doing the best that they can given their current conditions
 - d. When judgmental labels arise, the team highlights it and works to redefine in a non-judgmental behaviorally specific manner
 - e. Behavior is described objectively
 - f. Staff demonstrate empathy with gentle eye contact, nodding, appropriate proximity, mirrored positioning, open gestures, smiles, relaxed facial expression, non-interruption and by being present,(i.e. not rushing off or giving "mixed " messages)
-

Behavioral anchors for a 2

- a. Staff members avoid judgmental labels for youth and behaviors by clearly separating the person from the behavior
- b. Staff assess behavior through the context of the youths race, gender, class, family or offense
- c. Staff members are generally positive in discussing youth and families
- d. The verbal and nonverbal content of staff communication match

Behavioral anchors for a 1

- a. Staff lecture youth
 - b. Staff communicate stereotypes and make decisions based on stereotypes regarding race, gender, class, family or offense
 - c. Communication within the milieu does not nurture positive behavior change
-

Anti DBT:

- a. Staff yell, lose their temper, use profanity, or ignore youth
- e. Staff communications glorify or express entertainment in the physical handling of youth
- b. Staff blame, threaten, make unreasonable demands towards youth
- c. Staff use labels and broad psychological constructs frequently (i.e. terms such as needy, manipulators, attention seeking, power/control or other broad psychological constructs)
- d. Staff communicate that youth's situation is hopeless

Structure the Environment

5. Program is Structured in a Way That Ensures Treatment is Occurring

Principles:

- Structuring the environment to provide a space for skill acquisition and generalization
 - Motivation and Engagement
 - Providing a space to model and coach skill usage
 - Youth and staff are aware of treatment opportunities to prepare for success
-

Behavioral anchors for a 3:

Across the shift team(s), interactions display the following:

- a. Schedule is followed. When it needs to be changed youth are oriented to the change (note: specifics of why the change is taking place don't always need to be oriented to)
 - b. Staff orients youth to extra, new or special activities encouraging youth to do behaviors that would allow them to attend
 - c. A current schedule of program and activities is posted and visible
 - d. Individuals programs or behavioral programs are available or posted in the living unit
-

Behavioral anchors for a 2:

- a. There is a schedule outlining structure of shift or a verbal orientation to shift occurs (Groups , recreation, activities, etc)
 - b. There is a flexible schedule for staff to meet with youth (1 hour per youth)
 - c. Flexible schedule that allows groups to run without blocking the milieu from running
 - d. In a less restrictive environment youth have schedules to structure their day, yet may be individualized
 - e. Schedule is usually followed, orientation doesn't happen regularly, but does happen when the schedule is changed
 - f. Staff make active efforts to rotate programming for youth due to emergent situations (staffing issues, etc.)
-

Behavioral anchors for a 1:

- a. There is not a schedule for staff to meet with youth on caseload
- b. Group schedule is not present and/or not followed
- c. Schedule is regularly not followed and orientation to changes in the schedule is rare
- d. Schedule is vague, not specific, anything can happen on the shift

Anti DBT:

- a. Running scheduled groups requires shutting down the milieu
- b. Staff inform the youth they are not following the schedule
- c. Staff find reasons for shutting down the program
- d. Youth are scheduled in their rooms for the majority of the shift

6. Youth Have Structured Programming On The Floor (Behavior Permitting)

Principles:

- Creating a structure for skill practice and generalization
- Creating a safe environment to be successful
- Involving youth in normative behaviors
- Build mastery

Behavioral anchors for a 3:

Across the shift team(s), interactions display the following:

- a. Staff actively facilitates treatment with the youth (coaching, role playing, etc)
- b. Staff actively leads residents in structured learning activities (skills groups, community goals, and making lots of teaching moments for the group in all activities, recreation activities, assisted study time, etc) for a majority of the time
- c. Staff involves the youth in structuring their environment
- d. Staff actively works with youth who are in room confinement, isolation or not programming to get commitment, use skills, clarify contingencies, coaching, assessing, etc
- e. Living unit/community facility may utilize external human resources (recreation/art staff, etc) to diversify programming on a daily, weekly, or monthly schedule. In these instances staff not occupied with other duties participates in the activity or assist visiting leader.
- f. Staff remains in close proximity, as appropriate, and if an issue arises staff assist youth in problem solving if necessary or at least check with youth as to the outcome

Behavioral anchors for a 2:

- a. Schedules indicate youth are out of their room for waking hours (Minus quiet times)
- b. Staff are leading residents in structured activities
- c. The shift has a mix of staff lead activities and independent activities as appropriate to the population (you would need to see both to score a 2)
- d. Residents who are not registered in school or in a community setting have a structured individualized

- program throughout the day (vocation, assisted study times, working to get back in school, recreation)
- e. Staff are in close proximity to the youth
-

Behavioral anchors for a 1:

- a. No structured activities; youth activities look more like 'free time' rather than led by staff (free time with staff intermingling is not 'staff led activity')
 - b. Staff are involved as participants in activities rather than leading/structuring and coaching activities
 - c. Most staff spend the majority of their shift away from the youth, in the office, booth or out of unit and are typically monitoring the youth
 - d. Staff are not encouraging or supporting the youth to structure their own time
 - e. Structured activities are limited to one or two quick activities which seem to be a "task" to complete, rest of the time is "free time."
-

Anti DBT:

- a. Residents are in their rooms the majority of waking hours
- b. Residents programming ends prior to 8pm

7. Important Treatment Specific Information Is Communicated Among Staff Daily

Principles:

- Communication is needed and used to sustain an effective treatment program for each youth
 - Ongoing communication of treatment information helps to structure and preserve a safe therapeutic milieu
-

Behavioral anchors for a 3:

Across the shift team(s), interactions display the following:

- a. Program staff work together to ensure that clinical information is communicated efficiently to all staff working with youth. Clinical information shared is specific, detailed and target behavior focused (daily am/pm shift change briefings or log book documentation of staff communicating changes in youth baseline behavior, treatment information or contingency management)
 - b. Staff members communicate relevant clinical information each day (verbally and document) details of youth conduct such as youth behaviors or changes in baseline behaviors, vulnerabilities, functions and drivers, risk and protective factors, contingency plans.
 - c. When possible communication is shared in close proximity to youth displaying behavior in order to support effective interventions
 - d. Staff members verbally communicate current treatment information in a behaviorally specific and nonjudgmental manner; documentation is also found to be specific and nonjudgmental
-

Behavioral anchors for a 2:

- a. Clinical information is communicated amongst staff
- b. Staff communicate information in a behaviorally specific and nonjudgmental manner
- c. Staff intervene/correct if sensitive treatment information is shared in a public manner
- d. There is a designated structure for staff to document or communicate important youth related treatment information (individual conversation, legal logs, daily sheets, etc). The designated structure is accessible to

staff, but not the youth

- e. Majority of the treatment information that is communicated identifies risk/protective factors, vulnerabilities, drivers, functions and references baseline behaviors

Behavioral anchors for a 1:

- a. Mostly non-clinical information is communicated; usually incomplete or vague information shared
- b. Locations where important shift-specific clinical information (physical structures) is kept are visible to residents, not consistent, inaccessible to staff, or are irregularly used
- c. Limited communication between shifts, no evidence of shift change meetings or limited staff available
- d. Staff communicate sensitive information where youth or non staff can listen
- e. Majority of treatment information communicated is primarily around the youth exhibiting high level behaviors. Other youth's reports are not as behaviorally specific or less detailed
- f. Custody only information is communicated

Anti-DBT:

- a. Staff communications are judgmental , not behaviorally specific, and are not treatment oriented
- b. Communication around youth demeans the skills or principles associated with the model
- c. Potentially shaming or confidential information is kept in an area that is visible to other residents
- d. Communication around/or about youth is only in regards to negative behavior

Skill Generalization

8. Program Effectively Reinforces Behaviors

Principles:

- Reinforcement is a powerful/effective way to sustain behavior change
- Reinforcements are designed increase desirable behavior and decrease undesirable behavior
- Youth understand what behavior they are receiving reinforcement for
- Youth should be moving from extrinsic reinforcements to intrinsic reinforcements that will match to the youth's environment
- Effective reinforcement is in close proximity to the desired behavior
- Reinforcers are assessed and targeted based off of youth's needs and goals
- Reinforcers are valued by the youth
- Reinforcement schedules are adjusted as youth's behavior generalizes
- Staff follow through on promised reinforcements

Behavioral anchors for a 3:

Across the shift team(s), interactions display the following:

- a. After assessment, if a youth or group of youth need a highly structured token economy to address behavior change, the plan is visible and communicated amongst the staff team
- b. If needed, tokens are issues at a high frequency for target- specific behaviors (Example: on a visit an observer should be seeing multiple staff giving out tokens for specific behaviors to youth)
- c. The majority of staff are observed reinforcing youth across the shift (4 to 1)

- d. Staff are reinforcing youth in a variety of ways (verbal's, non-verbal, tangibles, activities, tokens, natural reinforcers, relationships, etc.)
 - e. Youth are observed reinforcing each other for pro-social behavior
 - f. There are visual reinforcements present in the living unit
 - g. Reinforcements are paired and within close proximity to targeted behaviors and/or youth's goals
 - h. There is a system in place to identify individual youth reinforcement programs (door forms, binder sheets, etc.)
 - i. Staff highlight positive outcomes associated with skillful behaviors
 - j. Staff engage parents in strengthening and supporting reinforcement
-

Behavioral anchors for a 2:

- a. There is reinforcement present in the milieu, but limited reinforcement for targeted behaviors
 - b. Reinforcement is present, but not used by all staff
 - c. Staff observe, highlight and/or reinforce positive behaviors at a higher frequency than attending to behaviors that are not desirable
 - d. Staff are highlighting natural reinforcers
 - e. Reinforcement is generally given in close proximity
-

Behavioral anchors for a 1:

- a. Focus for youth is on what they are doing wrong more often than what they are doing effective
 - b. The majority of reinforcement is based on compliance
 - c. Low frequency of reinforcement is observed
 - d. Behavioral targets are not identified for individual youth to reinforce
 - e. Reinforcement is only used for group behavior
 - f. Staff has a low frequency of reinforcement, or staff reinforce compliant or 'under the radar' behavior rather than drag skills out of youth to reinforce
-

Anti-DBT:

- a. Staff punish skillful behavior
 - b. Staff dismiss reinforcement as ineffective or not appropriate for the juvenile justice population
-

9. Staff Structures The Milieu To Actively Engage Youth In Generalizing Skills

Principles:

- Programming is dependent on individual youth and program needs
 - Staff create a safe and supportive environment for youth to try new behaviors
 - Staff role model skillful behavior and normative interpersonal skills
 - The milieu is an engaged environment for youth and staff
 - Every interaction is an opportunity for a teaching moment
-

Behavioral anchors for a 3:

Across the shift team(s), interactions display the following:

- a. Staff take opportunities to coach youth on using skills in a variety of institutional and community situations
 - b. Staff engage youth in skill generalization for re-entry into community
 - c. Staff utilize effective contingency management on the floor: highlight effective and pro-social youth behavior, and decrease dysfunctional behavior
 - d. Youth who require frequent staff interaction are addressed, and most staff attention is paid to youth who are exhibiting positive behavior
 - e. Staff model willingness— step out of comfort zone to respond flexibly to youth needs and appropriate youth requests
 - f. Staff expect willingness from youth, and are seen coaching youth to overcome reluctance to try new things
 - g. Skill references for both youth and staff are visible in the unit
 - h. Youth are observed engaging other youth who are struggling and encourage effective behavior
-

Behavioral anchors for a 2:

- a. Staff actively engage and work with youth on generalizing skills
 - b. The staff team is aware of all youth in the milieu and engaging as many youth as possible; not playing cards or other games with a handful of youth and allowing the rest to be without any interaction
 - c. Staff engage youth in treatment conversation or structured treatment activities
 - d. Staff engage youth in behavioral interventions through-out the shift, but there were opportunities missed or this was not observed across the staff team
 - e. Skill references are visible for the youth
-

Behavioral anchors for a 1:

- a. Staff spend most of milieu period playing games with a small number of youth or addressing individual youth concerns
 - b. It is apparent that certain youth are in need of coaching or help with regulating their emotions and are not receiving any help
 - c. Low frequency of staff observed interacting with youth around behavior
 - d. Interventions from staff are vague (i.e. use your skills)
-

Anti DBT:

- a. Staff are off the floor during milieu time (unless protected off the floor time), or conversing amongst themselves without youth involvement
- b. Structure for the shift is the TV

10. There is A Clear Programmatic Structure That Pairs Privileges To Treatment Performance

Principles:

- Each youth has individual behaviors they need to improve and/ or remove to build a life worth living
- If privileges are perceived by youth as reinforcing, they are more likely to work towards earning them

- Reinforcement is given systematically to move youth towards individual goals
- Reinforcement is given for behaviors that require youth to "stretch" towards treatment goals
- Privileges are desired by youth and are linked to treatment goal progress/achievement

Behavioral anchors for a 3:

Across the shift team(s), interactions display the following:

- a. Observations (such as interactions, behaviors, documentation) indicates that the youth earn privileges based on their treatment performance
- b. Privilege are assessed on an individual basis with input from the youth, the counselor and treatment team
- c. Privileges indentified by individual youth as desirable are matched with treatment performance that the counselor and treatment team identify as desirable for that individual youth
- d. Privileges are awarded in a manner that avoids satiation and keeps youth yearning to earn additional privileges (it would be a problem if youth earned enough privileges to not be motivated to earn more)
- e. There are relatively few 'freebies' in the living unit- television access, video games, etc. are a part of the earned rewards system and not a substitute for programming

Behavioral anchors for a 2:

- a. Privileges are assigned based on completion of treatment goals
- b. There is a structure for staff and individual youth to be informed of what is needed to earn privileges
- c. Privileges are paired with treatment commitment and progress as opposed to general compliance
- d. Privileges are suspended vs. being lost when youth are displaying problematic or ineffective behavior
- e. Privileges are regained through a clearly defined process which includes assessment of behaviors and commitment to work on identified skills
- f. Privileges are tied to achieving treatment related goals and generalizing new behaviors/skills necessary for the youth to successfully return to the community

Behavioral anchors for a 1:

- a. Privileges are gained in correlation with amount of consecutive time a youth displays compliant behavior (days without bad tracking, good time)
- b. The program awards privileges based on a standardized set of "treatment milestones" across all youths targets (example: all youth must complete a BCA with their staff on their targeted behavior before they get a level of privileges, then all youth must move down the treatment hierarchy to get the next privilege level)
- c. The privileges earned and earned and the behaviors needed to earn them are the same across all youth
- d. A high number of 'freebies' in the living unit compete with the reinforcement program
- e. Privileges are lost or suspended for arbitrary amounts of time (example: getting kicked out of class always means the youth is off program for 4 hours regardless of behavior currently being exhibited by youth)

Anti DBT:

- a. Staff appear to be purposefully punishing skillful behavior

11. Staff Help Youth Accomplish Treatment Goals (Things that are important to the youth)

Principles:

- Motivation and Engagement: linking goals to treatment

- Building a life worth living
 - Consultation to the client
 - Building mastery
 - Helping youth become good problem solvers
 - Validation
 - Setting and attaining goals are important to a life worth living
-

Behavioral anchors for a 3:

Across the shift team(s), interactions display the following:

- a. Staff discuss youth behavior related to treatment goals; acknowledging and validating current emotions, thoughts, and feelings and highlighting the positives of a different/more favorable behavior
 - b. If there is a group goal in unit; staff cue behaviors and remind youth of group goals
 - c. Staff help youth identify appropriate shaping steps to take towards goals in the milieu
 - d. Staff lead goal setting groups or other goal setting activities
 - e. Staff are observed coaching youth to use their skills in various scenarios that the youth might face in the community while remaining effective
 - f. Staff celebrate with youth when goals are achieved
 - g. Staff are observed acknowledging the difficulty of reaching goals and continue to work to engage the youth and increase motivation to achieve goals
 - h. Staff assists youth in developing plans to reach goals in multiple environments (JRA, Community, Education, Employment, Family, etc.)
-

Behavioral anchors for a 2:

- a. Staff members are approachable and listen to youth concerns in genuine manner- Validation levels 1,2,3, and 6
 - b. Staff communicate their commitment in helping the youth reach their goals- partnership
 - c. Staff intermittently check in with youth on individual treatment goals and skills to support forward progress
 - d. Staff and youth are observed coaching on ways to remain effective when goals are blocked
 - e. References to current goals are present in the milieu
 - f. There is a structure in the living unit that is accessible by staff with treatment goal information on each youth in the program
-

Behavioral anchors for a 1:

- a. Staff only highlights the negative outcomes of the youth's behavior and does not highlight positive outcomes of doing a different behavior
 - b. Staff do not check in with youth about daily programming or treatment to assist them in achieving their goals
 - c. There is a low frequency of staff interaction related to youth's goals observed through-out the shift
-

Anti DBT:

- a. Staff work against youths treatment goals
 - b. Staff indicate to youth that their goals are unimportant-using sarcasm, negativity , or criticism
-

- c. Staff members are rude, ignore youth who needs help or do not assist in troubleshooting barriers to reach their goals

12. Staff Apply DBT Strategies in the Milieu

Principles:

- Staff assess doing and use strategies appropriate for intervention
- Youth cannot fail in DBT
- Youth and staff work in collaboration to build a life worth living
- Youth are experts on themselves and their goals and staff are the experts on the DBT model
- Significant change in behavior can be accomplished by attending to small increments of improvement
- Through repetition, behavior becomes stronger and, therefore more readily available for use

Behavioral anchors for a 3:

Across the shift team(s), interactions display the following:

- a. There is a dialectical approach observed amongst the staff team in approaching youth
- b. There is a balance of validation and change reflected in communications
- c. Multiple levels of validation are observed being matched appropriately to youth
- d. Staff strategically use change strategies to intervene with youth behaviors and youth thoughts
- e. Staff uses contingency management (both formal and relational) to increase skillful behavior or decrease behavior in youth
- f. Staff use motivation and engagement strategies to increase youth's involvement in their treatment
- g. Staff work towards consulting to the youth when possible
- h. A variety of behavioral interventions (extinction, contingency management, blocking, cognitive modification, etc...) are observed being effectively matched to behavior and executed

Behavioral anchors for a 2:

- a. Not all staff observed are applying strategies as documented in the milieu
- b. Validation and change strategies are present, but not effectively matched to youth behaviors
- c. Staff highlight strategies and interventions and relation to success in the community
- d. Behavioral intervention may lack some variety, but are matched effectively to youth's behavior
- e. Staff uses praise in interactions with youth to reinforce desired behaviors
- f. Staff builds hope by acknowledging improvements in youth overall behavior or just noticeable improvements/reduction in their target baseline behaviors

Behavioral anchors for a 1:

- a. Staff address groups of youth for individual behaviors
- b. Staff miss opportunities for validation
- c. There is a lack of balance between validation and change
- d. There is a low frequency of interaction between staff and youth
- e. Staff are obviously (but not intentionally) extinguishing skillful behavior

Anti DBT:

- a. Staff appear to be purposefully punishing skillful behavior
- b. Staff engage in constant 'power struggles' with the youth
- c. Staff engage in unplanned and/or un agreed upon exposure in the milieu

Team Commitment to Milieu Mode

13. Staff Support Each Other In Delivering The Treatment With Fidelity

Principles:

- Staff who are committed to DBT become more effective in providing model services for the youth
- Staff collaboration promotes continuous learning, teamwork and development
- Staff non judgmentally keep each other in the therapeutic frame to provide effective treatment delivery (Phenomenological Agreement)
- Staff uses mistakes as opportunities for learning and correctly practicing the treatment model--(Consistency Agreement)
- Staff do not treat each other as fragile when the model is not being followed--(Fallibility Agreement)
- Staff help correct/or reframe each other in the milieu to decrease staff treatment-interfering behaviors-- (Fallibility Agreement)

Behavioral anchors for a 3:

Across the shift team(s), interactions display the following:

- a. Staff regularly discuss, share and teach each other treatment related terms, strategies or ideas. There is a culture among staff to continually learn and follow the treatment model
- b. Staff team members willingly support peers demonstrating a balance of accepting peers as they are, while helping them to effectively problem solve
- c. Staff team members reinforce each other by validating, praising, highlighting treatment supportive behaviors
- d. Staff members are observed correcting and reminding each other to reframe judgmental or vague descriptions of youth treatment related information communicated

Behavioral anchors for a 2:

- a. Staff teams voice, tone and body language is respectful in the milieu, modeling interpersonal effectiveness skills to youth and with each other
- b. Treatment staff communicate about youth and support structure of milieu
- c. Staff members encourage and hold each other adherent to DBT without judgment or blame
- d. Staff team members praise and identify one another's strengths while also encouraging growth
- e. Staff support each other in implementing and maintaining the treatment model
- f. Staff members in the milieu equally share their responsibilities to sustain model fidelity
- g. Staff help guide co-workers who ask for consultation on their caseload
- h. If staff engage in harmful or egregious behaviors, another staff quickly intervenes to resolve the issue

Behavioral anchors for a 1:

- a. Low sense of support, respect for one another or teamwork among staff

- b. Staffing levels do not support teamwork
 - c. Staff members ignore or refuse to address staff treatment interfering behaviors (i.e. youth programmed in rooms for majority of the shift, business practices that are not supportive of treatment principles)
 - d. Across the staff team, members treat each other as fragile, avoid addressing the issue
 - e. Staff members intervene during staff treatment-interfering behaviors, but the intervention is no better than what the staff initially attempted to stop
-

Anti DBT:

- a. Staff are observed judging and blaming each other for mistakes and offering no support
- b. Staff members ignore potentially harmful behaviors in the milieu
- c. Staff publicly make comments that are mocking the model

An Evaluation Of Dialectical Behavior Therapy In Washington State's Juvenile Rehabilitation

JRA # _____ Living Unit _____ Facility _____

The purpose of this questionnaire is to provide information to JRA about your perspective of the treatment services you are receiving in your living unit. Your responses will be combined with other youth responses so that your responses are confidential.

Please take a moment to complete the questionnaire; making sure to choose one answer to each question as accurately as possible, looking at your living unit from the last 30-60 days and the staff team as a whole. The data collected from this questionnaire will be stored in a data base that is accessible to QA managers and Administrators. Your information will help JRA leadership make decisions that will help improve treatment services. If you have any other questions, please feel free to ask the staff administering the questionnaire. Thank you for participating in this data collection project.

1. When a youth is not following staff directives, does the staff's voice tone remain firm and supportive?
 Always Mostly Sometimes Rarely Never
2. Would you describe staff as "excited to work with youth" when they interact with you?
 Always Mostly Sometimes Rarely Never
3. Is staff working with you to accomplish your treatment goals?
 Always Mostly Sometimes Rarely Never
4. Do staff assist you in resolving treatment concerns you may have?
 Always Mostly Sometimes Rarely Never
5. Are you practicing new skills to earn reinforcements from staff?
 Always Mostly Sometimes Rarely Never
6. Did staff explain to you how to earn privileges?
 Always Mostly Sometimes Rarely Never
7. Do you know what structure/activities to expect on a daily basis?
 Always Mostly Sometimes Rarely Never
8. Do staff lead activities in the program?
 Always Mostly Sometimes Rarely Never
9. Do staff help coach you on how to use your skills?
 Always Mostly Sometimes Rarely Never
10. Do staff work with you on how to apply skills to your community/home setting?
 Always Mostly Sometimes Rarely Never

Facility: _____

Date: _____

This survey is designed to assess case manager's knowledge, confidence with, and use of Dialectical Behavior Therapy (DBT). The results of the survey will be used to evaluate the support and resources counselors have in applying DBT. Feedback will be given to clinical supervisors, managers and administrators on counselor's responses concerning DBT knowledge, commitment, training and environment.

DBT KNOWLEDGE / COMMITMENT

1. Are you confident in your DBT knowledge?
 Yes Mostly Partly No
2. Do you feel comfortable discussing issues relating to culture and background with the youth you counsel?
 Yes Mostly Partly No
3. Do you believe DBT can effectively reduce target hierarchy behaviors?
(*Self Harm* → *Quality of Life*)
 Yes Mostly Partly No
4. Do you believe DBT can effectively reduce recidivism?
 Yes Mostly Partly No
5. Do you share youth's treatment plan information with youths' families?
 Yes Mostly Partly No
6. Is improving treatment delivery a focus in your workplace?
 Yes Mostly Partly No

TRANSITION PLANNING

7. Is there a focus in treatment and case management to support generalization of DBT skills upon return to their families, communities, friends, etc.?
 Yes Mostly Partly No
8. Does the ITM offer skills that are useful for all youth regardless of their race, gender, culture, etc.?
 Yes Mostly Partly No
9. Do you make contact with supports in the community around transition?
 Yes Mostly Partly No
10. Do you help connect families with supports available to youth post residential stay?
 Yes Mostly Partly No

11. Are you confident in your ability to connect youth to services in their community?
 Yes **Mostly** **Partly** **No**
12. Is there a focus on preparing youth for transition to their home community's through-out their stay?
 Yes **Mostly** **Partly** **No**
13. What barriers impact your ability to focus on transition for youth and families?
Comments:

RESOURCES & TRAINING

14. Are resources (i.e. DBT related books, manuals, handouts and videos) available to you at work?
 Yes **Mostly** **Partly** **No**
15. How often do you participate in didactics within your team to learn treatment principles?
 1x a week **2x a month** **Monthly** **Less than Monthly** **Never**
16. Are your staff meetings a safe place to ask for and give feedback regarding your unit's DBT program?
 Yes **Mostly** **Partly** **No**
17. Do your supervisors reinforce treatment principles?
 Yes **Mostly** **Partly** **No**
18. What has made you a more effective counselor?
Comments:
19. Has your JRA training equipped you to understand the backgrounds, beliefs and customs of the youth you counsel?
 Yes **Mostly** **Partly** **No**

20. Do you have access to your local treatment consultant(s) when needed?
 Yes **Mostly** **Partly** **No**

WORKPLACE ENVIRONMENT

21. Does your living unit provide a supportive environment for our youth?
 Yes **Mostly** **Partly** **No**
22. Do you discuss youth's treatment information with co-workers?
 Yes **Mostly** **Partly** **No**
23. Does your work environment support you in implementing DBT?
 Yes **Mostly** **Partly** **No**
24. Does your consultation team support you in adherence to treatment delivery?
 Yes **Mostly** **Partly** **No**

Additional Comments:

JRA #: _____ Facility: _____

Living Unit: _____ Date: _____

This survey is designed to gather information about your experience with JRA, and your view of the treatment services JRA is providing you. The results of the survey will help JRA administrators make decisions that will improve treatment services. Please think about the last 30-60 day experience when answering these questions. Your responses will be combined with other youth within JRA and no reports of this information will include your name specifically. If you have any questions about the survey, please feel free to ask the staff administering the survey.

1. Can you approach your counselor with problems?
 Yes Mostly Sometimes No
2. Does your counselor care about helping you reach your goals?
 Yes Mostly Sometimes No
3. Does your counselor seek to understand who you are?
 Yes Mostly Sometimes No
4. Does your counselor respect you as a person?
 Yes Mostly Sometimes No.
5. Do you respect your counselor as a positive role model?
 Yes Mostly Sometimes No
6. Does your counselor try to assess or understand your behavior prior to assigning skills or coming up with a plan to change your behavior?
 Yes Mostly Sometimes No
7. Do you meet with your counselor every week to work on your target behaviors?
 Yes Mostly Sometimes No
8. Are you learning new behaviors/skills that will lead you towards your goals?
Yes Mostly Sometimes No
9. Does your counselor help you learn skills?
 Yes Mostly Sometimes No
10. Do you attend DBT skills group every week?
 Yes Mostly Sometimes No

11. Do you practice using your skills in a way that will transfer to situations you will face in your home community?
 Yes **Mostly** **Sometimes** **No**
12. Are the skills you are learning helping you in JRA?
 Yes **Mostly** **Sometimes** **No**
13. If you use skills after you leave JRA, do you believe they will help you?
 Yes **Mostly** **Sometimes** **No**
14. Can you see yourself using the skills in your neighborhood?
 Yes **Mostly** **Sometimes** **No**
15. Can you see yourself using the skills with your family?
 Yes **Mostly** **Sometimes** **No**
16. Do you feel that staff have been working with you so you can be successful returning home?
 Yes **Mostly** **Sometimes** **No**
17. Do you feel JRA has supported your educational goals?
 Yes **Mostly** **Sometimes** **No**
18. Do you have access to attend cultural activities?
 Yes **Mostly** **Sometimes** **No**
19. Have staff arranged for additional community supports for your release?
 Yes **No**
20. Do you think your counselor shares your same race?
 Yes **No** **I do not know**
21. Do you think having a counselor that is the same race as you would be more helpful for treatment?
 Yes **No**
22. Does your counselor share your same gender (male/female)?
 Yes **No**
23. Do you think having a counselor of the same gender as you would be more helpful for treatment?
 Yes **No**

Comments:

Youth's Name: _____ JRA Number: _____

Facility: _____ Date: _____

This survey is designed to gather information about your experiences with JRA and your view of the treatment services JRA is providing to your child. The results of this survey will help JRA determine how well we are communicating with families, educating families about JRA's treatment model, services offered and the involvement of families in JRA's treatment process.

All of the family responses received will be combined to give administration an overall view of the family's view of JRA's treatment.

1. How many times are you in communication with your child's current counselor on average every month?
 4 or more 3 2 1 0
2. Has your child's counselor explained how the treatment services in JRA can help with your child's specific needs?
 Yes Mostly Partly No
3. Has your child's counselor explained how JRA's treatment model can help with your family's goals?
 Yes Mostly Partly No
4. Do you feel like you are an equal partner with your child's current counselor in helping your child while in JRA?
 Yes Mostly Partly No
5. Does your child's counselor respect your opinions about how to best work with your child?
 Yes Mostly Partly No
6. Did your child's counselor ask what goals you want your child to work toward in treatment?
 Yes Mostly Partly No
7. Does your child's counselor seek to understand your family?
 Yes Mostly Partly No
8. Does your child's counselor seek to understand your child's life experiences leading up to JRA?
 Yes Mostly Partly No
9. Do you feel that your child's counselor is working to connect your child with community resources that would be beneficial to your child?
 Yes Mostly Partly No

10. Did your child's counselor teach you the skills your child is learning in treatment?
 Yes Mostly Partly No
11. Can you see yourself supporting the DBT skills your child has learned at home?
 Yes Mostly Partly No
12. Do you respect your child's counselor as a positive role model in your child's life?
 Yes Mostly Partly No
13. How hopeful are you that the skills your child is learning in JRA will help them reach their goals after JRA?
 Yes Mostly Partly No

Comments:

APPENDIX B

Factor analysis and internal reliability of instrumentation

Appendix B

Table B.1: Factor analysis and internal reliability of the EA Youth Survey

EA youth survey (n=4,036)	Cronbach's Alpha	Eigenvalue	Factor Loading
<i>Factor 1: Treatment Quality</i>	0.904	4.91	
Question 1: When a youth is not following staff directives, does the staff’s voice tone remain firm and supportive?			0.627
Question 2: Would you describe staff as “excited to work with youth” when they interact with you?			0.737
Question 3: Is staff working with you to accomplish your treatment goals?			0.642
Question 4: Do staff assist you in resolving treatment concerns you may have?			0.649
Question 5: Are you practicing new skills to earn reinforcements from staff?			0.786
Question 6: Did staff explain to you how to earn privileges?			0.531
Question 7: Do you know what structure/activities to expect on a daily basis?			0.768
Question 8: Do staff lead activities in the program?			0.790
Question 9: Do staff help coach you on how to use your skills?			0.621
Question 10: Do staff work with you on how to apply skills to your community/home setting?			0.802

Table B.2: Factor analysis and internal reliability of the QA Youth Survey

QA Youth Survey (n=2,536)	Cronbach's Alpha	Eigenvalue	Factor Loading
<i>Factor 1: Treatment quality</i>	0.909	4.91	
Question 1: Can you approach your counselor with problems?			0.664
Question 2: Does your counselor care about helping you reach your goals?			0.798
Question 3: Does your counselor seek to understand who you are?			0.782
Question 4: Does your counselor respect you as a person?			0.730
Question 5: Do you respect your counselor as a positive role model?			0.729
Question 6: Does your counselor try to assess or understand your behavior prior to assigning skills or coming up with a plan to change your behavior?			0.752
Question 7: Do you meet with your counselor every week to work on your target behaviors?			0.561
Question 8: Are you learning new behaviors/skills that will lead you towards your goals?			0.522
Question 9: Does your counselor help you learn skills?			0.683
Question 10: Do you feel that staff have been working with you so you can be successful returning home?			0.502
<i>Factor 2: Skill generalization</i>	0.883	3.50	
Question 1: Do you practice using your skills in a way that will transfer to situations you will face in your home community?			0.637
Question 2: Are the skills you are learning helping you in JRA?			0.701
Question 3: If you use skills after you leave JRA, do you believe they will help you?			0.804
Question 4: Can you see yourself using the skills in your neighborhood?			0.808
Question 5: Can you see yourself using the skills with your family?			0.758

Table B.3: Factor analysis and internal reliability of the QA Staff Survey

QA Staff Survey (n=1,449)	Cronbach's Alpha	Eigenvalue	Factor Loading
<i>Factor 1: Staff and environment supportive of DBT</i>	0.860	3.42	
Question 1: Is improving treatment delivery a focus in your workplace?			0.613
Question 2: Are your staff meetings a safe place to ask for and give feedback regarding your unit’s DBT program?			0.705
Question 3: Do your supervisors reinforce treatment principles?			0.717
Question 4: Do you discuss youth's treatment information with co-workers?			0.535
Question 5: Does your work environment support you in implementing DBT?			0.759
Question 6: Does your consultation team support you in adherence to treatment delivery?			0.692
<i>Factor 2: Transition planning</i>	0.824	2.11	
Question 1: Do you make contact with supports in the community around transition?			0.760
Question 2: Do you help connect families with supports available to youth post residential stay?			0.784
Question 3: Are you confident in your ability to connect youth to services in their community?			0.643
Question 4: Is there a focus on preparing youth for transition to their home community's through-out their stay?			0.530
<i>Factor 3: DBT effectiveness</i>	0.857	1.52	
Question 1: Do you believe DBT can effectively reduce target hierarchy behaviors?			0.790
Question 2: Do you believe DBT can effectively reduce recidivism?			0.786

Table B.4: Factor analysis and internal reliability of the QA Family Survey

QA Family Survey (n=1,895)	Cronbach's Alpha	Eigenvalue	Factor Loading
<i>Factor 1: Communication with counselor</i>	0.914	3.92	
Question 1: Do you feel like you are an equal partner with your child’s current counselor in helping your child while in JRA?			0.667
Question 2: Does your child’s counselor respect your opinions about how to best work with your child?			0.740
Question 3: Did your child’s counselor ask what goals you want your child to work toward in treatment?			0.536
Question 4: Does your child’s counselor seek to understand your family?			0.755
Question 5: Does your child’s counselor seek to understand your child’s life experiences leading up to JRA?			0.730
Question 6: Do you respect your child’s counselor as a positive role model in your child’s life?			0.627
<i>Factor 2: Understanding of DBT</i>	0.833	2.46	
Question 1: Has your child's counselor explained how the treatment services in JRA can help with your child's specific needs?			0.690
Question 2: Has your child's counselor explained how JRA's treatment model can help with your family's goals?			0.702
Question 3: Did your child's counselor teach you the skills your child is learning in treatment?			0.535
<i>Factor 3: Skill generalization</i>	0.630	1.02	
Question 1: Can you see yourself supporting the DBT skills your child has learned at home?			0.513
Question 2: How hopeful are you that the skills your child is learning in JRA will help them reach their goals after JRA?			0.509

APPENDIX C

Full regression models with interaction terms

Appendix C.

Table C.1: Logistic regression models predicting recidivism with DBT treatment measures, age and EA interaction

	<i>General Recidivism</i>	
	Odds Ratio	Robust SE
<i>Independent Variables</i>		
Environmental Adherence	0.006*	(0.012)
Counseling Sessions per month	1.023	(0.083)
Skills Groups per month	1.092	(0.053)
<i>Interaction</i>		
Average EA X Age at release	1.314*	(0.160)
<i>Control Variables</i>		
Age at release	0.576*	(0.157)
Youth of Color	1.551**	(0.206)
Gender (male)	1.962*	(0.558)
Parole	0.818	(0.111)
ITA Risk Score	1.022**	(0.003)
Length of stay	0.999	(0.000)
N	1,031	
Log pseudo-likelihood	-659.96	
Wald chi-square	87.41**	
Pseudo R-square	0.131	

*p<.05, **p<.01

Table C.2: Logistic regression models predicting recidivism with DBT treatment measures, Mental Health and EA interaction

	<i>General Recidivism</i>	
	Odds Ratio	Robust SE
<i>Independent Variables</i>		
Environmental Adherence	0.844	(0.249)
Counseling Sessions per month	1.031	(0.049)
Skills Groups per month	1.074	(0.052)
<i>Interaction</i>		
Average EA X Mental Health Risk	0.658*	(0.130)
<i>Control Variables</i>		
Mental health risk level	2.517*	(1.081)
Age at release	1.032	(0.066)
Youth of Color	1.538**	(0.212)
Gender (male)	1.574	(0.438)
Parole	0.786	(0.108)
ITA Risk Score (minus Mental Health Risk)	1.023**	(0.003)
Length of stay	0.999	(0.000)
N	1,031	
Wald chi-square	87.09**	
Pseudo R-square	0.131	

*p<.05, **p<.01