Risk Reduction through Family Therapy (RRFT): Exposure-Based Treatment for Co-Occurring PTSD and Substance Use Problems among Adolescents

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"*I am the master of my fate; I am the captain of my soul*." – William Ernest Henley, *Invictus*

Overview

This chapter's opening quote is the closing line of Henley's 19th century poem, *Invictus*, which has become famous for its message of courage, resolve, and resilience in the face of adversity. RRFT is built on that same spirit of self-empowerment and fortitude. RRFT was born from a desire to aid youth in navigating the challenges of recovery from trauma exposure, especially when those challenges manifest beyond avoidance and re-experiencing symptoms characteristic of posttraumatic stress disorder (PTSD). Although research has consistently demonstrated that youth exposed to trauma are at heightened risk for substance use problems across the lifespan—and, in turn, a significant portion of youth and adults in substance use treatment report having experienced a history of trauma in their childhood (e.g., [1]; [2]), the options for empirically-supported treatment targeting these co-occurring problems in youth remains very limited ([3]). Progress in this field has been slow for numerous reasons, such as societal compartmentalization of these fields (see below) and clinical lore suggesting it may be dangerous to engage in exposure-based PTSD treatment with substance-using youth—due to concerns that imaginal exposure to trauma-related cues and memories would increase urges to use substances and hence substance use. RRFT was developed to address this void and has been undergoing rigorous evaluation over the past decade to answer key questions about the safety and effectiveness of this approach, inclusive of the use of exposure, in treating co-occurring traumatic stress and substance use in youth. After briefly reviewing the barriers that have faced the field in integrated treatment approaches for adolescents, this chapter is dedicated to informing clinicians, researchers, and consumers about the basics of the RRFT treatment model, the state of the science with regard to its evaluation, and recent steps in its dissemination (training) and implementation

in community settings.

Socialized to be Separate: Systemic Barriers to Integrated Treatment

Despite the high degree of overlap between mental health (e.g., PTSD) and substance use disorders (SUD) among people who have experienced trauma, treatments have historically tended to focus on one diagnostic category or the other. Accordingly, people with both PTSD and SUD are often referred to sequential courses of treatment where one disorder is treated at a time – often by separate therapists – or to parallel treatment where patients participate in two entirely different courses of therapy. Both of these models are associated with increased burden to patients, poor care coordination, and increased risk of treatment drop-out ([4]). Integrated treatment approaches, where both PTSD and SUD are addressed together in a single course of treatment by a single therapist, are less common but offer a more streamlined, and often client-preferred ([5]), approach to care. Several system-level barriers have contributed to slow progress in developing, evaluating, and implementing integrated treatments ([6]; [7]). This siloed system of care makes it challenging for youth with co-occurring PTSD and SUD to access and receive high quality, efficient treatment services in most communities.

At the state and federal level, for example, separate administrative agencies, licensing boards, and funding organizations are dedicated specifically to mental health or substance use. For example, the Substance Use and Mental Health Services Administration (SAMHSA) maintains separate branches for Mental Health and for Substance Abuse and the National Institutes of Health (NIH) maintain separate Institutes for substance abuse (National Institute on Alcohol Abuse and Alcoholism [NIAAA] and National Institute on Drug Abuse [NIDA]) and for mental health (National Institute on Mental Health [NIMH]). On a smaller scale, many clinics are designated as exclusively focused on mental health or substance use treatment and have strict eligibility policies

for enrollment in their services. Such policies result in youth with co-occurring problems being routinely referred out to other services – perhaps never receiving either. Therapists tend to be trained and credentialed in treatments designed for either mental health problems or SUDs, resulting in a workforce that is not equipped to deliver integrated treatments. Indeed, a recent survey conducted with 138 clinicians who work with teens in a variety of mental health and substance use treatment settings indicated that respondents found it more difficult to work with teens with PTSD+SUD than teens with either disorder alone; insufficient training in SUD was identified as a key challenge in treating PTSD+SUD, especially for clinicians working in mental health clinics ([8]).

Another barrier to integrated treatment is the clinical lore that surrounds dual diagnosis. As noted above, one example is the belief that youth with co-occurring PTSD and SUD need to be abstinent from substances before engaging in exposure-based PTSD treatment, out of concern that patients may become distressed during a course of PTSD treatment and use substances more heavily and dangerously (i.e., to cope). One of the chief tasks of clinical research is to subject untested assumptions to careful, systematic evaluation and determine which are myths to be debunked and which are facts to be disseminated. To date, RRFT is the only exposure-based integrated treatment for posttraumatic stress disorder symptoms and substance use problems in adolescents with published data from a randomized controlled trial (RCT), supporting its utility. Considered alongside research from other rigorous trials in adults (e.g., [9]), our work has provided evidence that integrated exposure-based treatments can be safe, effective, and even preferred by patients, thereby underscoring the need for additional work in this area. Below we describe RRFT and our team's current efforts to evaluate the safety, efficacy, and effectiveness of RRFT in trauma-exposed youth.

What is RRFT?

Risk Reduction through Family Therapy (RRFT) is an integrative, exposure-based, ecologically informed approach to addressing co-occurring symptoms of PTSD, substance use problems, and other health risk behaviors (e.g., risky sexual behaviors) often experienced by trauma-exposed adolescents. RRFT is novel in its integration of these components given that standard care for trauma-exposed youth often entails treatment of substance use problems separately – in different clinics, by different providers, at different times – from treatment of other trauma-related emotional and behavioral health problems.

RRFT is also integrative in that it incorporates components, skills, and principles from existing, empirically supported treatments for adolescents, primarily Trauma-Focused Cognitive Behavioral Therapy (TF-CBT; [10]), which is an empirically-supported (20 RCTs to date) and widely disseminated treatment for PTSD, depression, and behavior problems for youth who have experienced trauma, and Multisystemic Therapy (MST; [11]), which is an empirically-supported and widely disseminated treatment for SUDs and other disruptive behavior problems (e.g., Conduct Disorder) among youth. RRFT also integrates principles and techniques derived from other empirically-supported behavioral treatment models that target specific cluster of mental health or substance use symptoms—but are unsuitable in isolation to address the diverse problems experienced by trauma-exposed youth concurrently and perhaps have not been designed with sensitivity to the unique developmental needs and challenges faced by adolescents. RRFT was developed to fill this gap.

A variety of risk and resiliency (or protective) factors contribute to a person's health and behavior. These influences—also termed, *maintaining factors or drivers*—vary from person to person, and can be classified across several systems or "levels" of one's ecology ([12]). For

adolescents, key levels include (a) individual, (b) family, (c) peers, (d) school, and (e) community. By focusing on drivers of trauma-related mental health, substance use, and risk behaviors across these levels of ecology for each adolescent, implementation of RRFT is highly tailored and can be adapted for a wide variety of trauma types and presenting clinical problems. RRFT is individualized to the needs, strengths, developmental factors, and cultural background of each adolescent and family. This tailored approach is incorporated throughout all components of treatment.

RRFT involves seven intervention components: Psychoeducation and Engagement, Family Communication, Substance Abuse, Coping, Posttraumatic Stress Disorder (PTSD), Healthy Dating & Sexual Decision Making, and Revictimization Risk Reduction. The pacing and ordering of RRFT intervention components is flexible and is determined by the needs and priorities of each family, as well as the intensity or severity of symptoms in each domain. Each component has several defined goals to accomplish during the course of therapy (see Table 1). For certain components, such as the PTSD and Substance Abuse components, goals include reducing symptoms associated with mental health disorders. To determine whether progress is being made in this regard, symptoms are monitored throughout RRFT using standardized assessment tools (Time Line Follow Back [TLFB]; [13]; National Stressful Events Survey PTDS Short Scale; [14]). This helps therapists and families track treatment progress and guide clinical decision-making. The average frequency and duration of RRFT depends on the symptom level of each youth, but typically involves 16-20, weekly, 60-90 minute sessions with periodic phone or text message check-ins between scheduled appointments as warranted.

[Insert Table 1 about here.]

Who should Receive RRFT?

The RRFT model is appropriate for adolescent girls and boys who have experienced any form of trauma, including but not limited to sexual abuse and assault, physical abuse and assault, exposure to domestic violence, community violence, and traumatic grief.

With regard to symptoms, RRFT was developed to address co-occurring emotional and behavioral problems associated with traumatic stress. Youth most likely to benefit from RRFT demonstrate (a) clinically significant symptoms of posttraumatic stress, and (b) past or current substance use. Youth with markedly elevated risk for future substance use (e.g., strong family history of substance abuse, affiliation with substance using peers, inadequate parental monitoring, etc.) also may benefit from the risk reduction elements of RRFT. Notably, youth are not required to meet full diagnostic criteria for PTSD or SUD to be eligible for RRFT. Adolescents may also have other emotional and behavioral problems, such as depression, non-suicidal self-injury, and risky sexual behavior. Youth do not need to demonstrate all the different types of challenges or problems represented by the RRFT intervention components for RRFT to be used; each component is emphasized to varying degrees based on the needs of each youth and family.

RRFT is not appropriate for youth who have (a) no known trauma history, (b) no clinically significant mental health issues related to traumatic event history, (c) severe cognitive disabilities, autism, or (d) other problems that would make it impossible to participate in cognitive behavioral therapy. In general, youth with psychosis, acute mania, or imminent safety concerns (e.g., active suicidality with plan and intent) that warrant inpatient treatment should receive more intensive services to stabilize their symptoms before beginning RRFT.

To date, RRFT has been implemented in a variety of practice settings, including outpatient clinics, residential treatment facilities, and school- and home-based outreach services. Because RRFT is a family-oriented intervention, it is important to identify a caretaker—often a parent or

family member—as well as any other responsible adult mentors or advocates, who will be involved in the youth's treatment. In circumstances where no caregiver can be identified, RRFT therapists still work with clients on family-related issues— to help cope with or manage current challenging family circumstances as relevant (e.g., to live in a home with a caregiver who will not participate in treatment) and to help prepare for future family-related issues that youth may face (e.g., youth in foster care who plan to return to their biological parent when turning 18).

RRFT Fundamentals

An overarching goal of RRFT is to equip youth with the knowledge and skills to embrace the notion that, despite the challenges they have faced, they are in control of their lives. Given that RRFT draws from existing evidence-based treatments like TF-CBT and MST as noted above, the foundational principles of those models pertain ([10]; [11]). There are several key concepts – fundamentals – that are important for RRFT therapists to keep in mind as they deliver the treatment. These fundamentals are summarized by the mnemonic, CAPTAIN (with a nod to Henley's poem, *Invictus*):

Confident. A hallmark of being an effective trauma-focused therapist is being able to demonstrate to the youth and the family that the therapist is confident that the exposure-based therapy will be—not only tolerable--but also successful in achieving the treatment goals. As it applies to both the exposure-based intervention for PTS symptoms and the challenges in implementing substance use-related interventions (e.g., establishing contingences tied to random urine drug screens administered by a caregiver), an RRFT therapist has to exude confidence that treatment will work – largely because he or she has confidence in the teens and their families and their ability to achieve their goals. The therapist also inspires that sort of confidence in others, including the teens, caregivers, case workers, probation officers, school officials, and other

stakeholders involved in the teens' lives. This can be challenging given the severity and complexity of symptoms and circumstances many RRFT clients bring to therapy—when caregivers may be questioning their ability to successfully implement the interventions to address these symptoms. Being confident in one's clinical abilities and decisions, as well as in the treatment model, also is particularly important in interactions with adolescents who may be skeptical or doubtful that treatment could work for them. This may be especially important for youth who have participated in previous instances of psychotherapy that were ineffective. In such cases, RRFT therapists work with families to understand why prior courses of therapy may not have been effective and highlight the ways those limitations will be addressed or overcome in RRFT. Having and conveying confidence also can help increase families' motivation and buy-in and instill hope. It is reasonable to acknowledge and anticipate potential barriers and slips, but it is important to consider strategies for overcoming those barriers and problem-solve the best ways to help each family make progress toward their goals. As with most intervention models, sometimes it takes a few tries to find the best solution, but an RRFT therapist is confident that a solution will be found and models patience and persistence in seeking it out.

Authentic. Authenticity comes in at least two forms in RRFT. First, therapists need to be authentic and sincere in their concern for their clients' well-being. Consistent with principles of interventions that focus on enhancing motivation to change a target behavior (e.g., motivational interviewing) and other empirically supported approaches to working with youth who may be ambivalent about making changes in their lives ([15]), RRFT therapists are encouraged to adopt a supportive, non-judgmental stance that honors the autonomy of the teen and the caregivers in making their own decisions. At the same time, RRFT therapists are sincere in their optimism that by participating in treatment, youth can build resilience, regain lost control, and make positive

strides toward their goals that would be less likely in the absence of treatment. Authenticity of this sort is easier to convey when therapists interact with clients in ways that are natural and comfortable. This can be challenging for some clinicians who work mainly with younger children or adults, who in an attempt to be developmentally appropriate, may over- or under-correct in their interactions with adolescents. Whether a therapist tends to have a fairly subdued, matter-of-fact style or a more expressive one, it is important to be authentic to build rapport and avoid damaging credibility with clients in an effort to "act cool."

Second, the activities used in session to help clients make progress toward treatment goals should be authentic, or ecologically valid. By this, we mean that activities should be designed to increase the likelihood that clients will be able to apply new skills in the real world. For example, one goal of the Substance Abuse component is for youth to develop a set of realistic refusal skills. With a bit of coaching from therapists and caregivers, most teens are able to generate several potential phrases they could give in response to someone offering them drugs. And there is value in rationally evaluating these lists with respect to their pros and cons as well as the likelihood that the teens would be able to use any given response in their daily lives. In RRFT, therapists go a step further and work with teens to create opportunities to practice applying those skills in situations that approximate the real world contexts in which they are likely to arise based on their understanding of the drivers of the teens' substance use. This may mean inducing mood or cravings via guided imagery exercises, playing music or background sounds that the teen identifies as part of the "scene," bringing in candles or essential oils that approximate the scents the teen associates with situations where refusing drugs is challenging, bringing other identified cues or triggers into the therapy room, etc, all as part of role play exercises. The premise underlying this principle is

that more realistic or authentic practice in session will translate into more effective application of knowledge and skills outside of session.

Put it to paper. It may seem obvious, but there is value in making thoughts concrete by writing them down on paper. This process starts early in RRFT during case conceptualization and treatment planning, when therapist and families work together to map out the various drivers underlying a given behavior. Functional assessments of traumatic stress, substance use, and health risk behaviors often yield a complex set of causes and consequences that may be targeted, leveraged or at least measured in RRFT. Literally sketching out these functional connections on paper often demystifies the complex associations between traumatic stress and substance use, while also making it easier to prioritize treatment activities and focus in on specific intervention targets. These maps can be revisited and refined over time as risk factors are reduced and protective factors are bolstered. Using worksheets and handouts in session and at home to practice skills has several potential benefits, one of which is to generate examples of progress over time (see Tangible progress below). This fundamental manifests itself at the close of every session, when therapists and clients review action lists for homework and future session agendas. There can be a lot to keep track of in an integrated treatment targeting co-occurring problems, and writing down tasks, goals, questions, and action plans can facilitate overall fidelity to the treatment model by helping therapists remember what has been done and what goals remain to be addressed. Inaccurate and unhelpful thoughts and beliefs that extend from traumatic event experiences are also put to paper during the PTSD component, which typically involves some sort of trauma narrative that can be expanded, repeated, and revised systematically over time once its written down. Putting plans into writing can also have the effect of formalizing or codifying expectations that were otherwise assumed among various people involved in treatment, increasing both understanding and

accountability. As another example of a 'putting to paper' strategy in RRFT, structured RRFT supervision forms are utilized where the RRFT therapist documents progress towards treatment goals through fit circles, identifies which RRFT component (or components) on which a given session focused, and lists questions for the RRFT supervisor. A supervision form is completed for each client seen—and is sent to the supervisor prior to supervision. Putting the progress and questions to paper helps the RRFT therapist manage the various targets of treatment with fidelity and focus.

Tangible progress. Progress is not always obvious to teens, their families, or to therapists, and given the 'two steps forward, one step back' process that often occurs with this population and the tendency of clients and caregivers to attend more to set-backs rather than achievements, it is critical to measure and highlight concrete evidence of success. Achievements in RRFT treatment can be small, incremental, or non-linear—but each one captured provides an opportunity to build efficacy among the youth and the caregiver that they can and will build strengths and decrease symptoms. As with other behavioral therapies, RRFT emphasizes the importance of identifying and operationalizing specific behaviors that can be observed, measured, and tracked over time, providing the opportunity to capture these achievements. Some of these behaviors – such as substance use – are monitored via multimodal assessment batteries (urine drug screens, self-reported use on TLFB calendars, parent observation, etc.). Having measures that are sensitive even to small changes or trends over time can be helpful not only in tracking progress or identifying potential treatment barriers, but also to helping clients or other stakeholders see when improvements are made even when they are slower or less dramatic than they would like. This can be especially important in substance use treatment, where the ultimate goal may be abstinence, but the pathway to abstinence involves setting reduction goals—and documenting the reductions

as they are successfully achieved. For example, even though a teen may be using drugs and/or alcohol frequently or at high volumes initially, rather than being discouraged by ongoing use, a caregiver or caseworker or teen or therapist may be encouraged to observe a 20% reduction in substance using days, followed by further reductions. Other behaviors – such as those related to academic performance – also may be derived from existing, ongoing data collection in other settings, such as school attendance, number of graded homework assignments, or number of detentions logged in a teen's academic file. RRFT therapists work with families and other stakeholders to identify markers of treatment progress beyond typical clinical measures and help families recognize when gains are being made.

Agenda. There are often competing demands during the course of RRFT that could make it easy to veer off course in session, particularly when teens are struggling with complex challenges associated with traumatic stress and substance use on top of the other challenges associated with being a teenager. Starting each session by collaboratively setting an agenda communicates that there is important information or tasks that need to be addressed that day in order to help the patient meet his or her goals. Teens should be encouraged to contribute to each session's agenda, either by adding new items or by providing feedback on a recommended agenda from the therapist. Agendas are helpful in avoiding drift from the treatment model due to so-called "crises of the week" (COWs) and other acute stressors. Most COWs can be reframed in terms of ongoing treatment goals or opportunities to apply or practice a skill covered in a previous session. By having an agenda in mind going into each session, RRFT therapists can be prepared to validate and respond to acute stressors while also maintaining positive treatment momentum.

Investment. RRFT is a time-limited, outpatient intervention that aims to have lifelong benefits on youths' health and wellbeing. To promote these long-term gains, it is critical that

therapists and families do all they can to make the most of treatment – especially in light of systemic challenges many youth face in accessing mental health or substance use treatment services that may impede opportunities for future treatment. From the RRFT therapist's point of view, there is often need to invest more time and attention in the initial days and weeks of treatment to establish rapport and promote the families' engagement than there may be with some other treatment models or populations. As treatment progresses, homework activities are assigned every week in RRFT as a way for teens and their caregivers to practice applying skills in their daily lives. These homework activities are considered key elements of treatment. When families do not complete the activities, they are not getting the "full" treatment. RRFT therapists are encouraged to keep in contact with families in between sessions to promote adherence to these tasks. For example, RRFT therapists are encouraged to take a few minutes to call or text clients between sessions to check in on how the homework is going. These brief conversations demonstrate the therapist's investment in the teen's treatment and also create opportunities to either reinforce the teen for completing activities or to problem-solve barriers (motivational, structural, etc.) that are getting in the way of them receiving the maximal "dose" of intervention. This fundamental follows from MST Principle 7 "Continuous Effort," which refers to the notion that optimal, durable treatment effects are the result of daily, ongoing effort from all parties involved – including the teens and their caregivers. Many youth who participated in the RRFT evaluation trials and demonstrated improvements in PTSD symptoms, substance use, and overall well-being had prior experience with ineffective therapy or counseling. When asked what made the difference in RRFT, a common refrain is that RRFT therapists never give up on their clients – that they were invested in their lives.

Novelty. No two RRFT sessions should look the same. Bringing in new examples and strategies for demonstrating concepts and skills and creating new opportunities for youth to apply and practice skills in their daily lives keep the treatment process fresh and engaging. Each client will have a unique set of strengths, needs, goals, hobbies, priorities, and interests. An effective RRFT therapist leverages that diversity to tailor and personalize the activities used in any given session to make them salient to the teen and his or her caregivers.

State of the Science of RRFT

Published Clinical Trials

TF–CBT and MST—the primary progenitors of RRFT – have undergone rigorous evaluation ([16]; [17]) supporting their use in adolescents. It is critical for RRFT also to undergo careful evaluation to determine its effects on intended clinical outcomes. Feasibility, safety, efficacy, and effectiveness of new treatments are best tested through a series of carefully designed randomized controlled trials (RCTs). An open pilot trial (n=10 girls aged 13-17; [18]) and a small feasibility RCT comparing RRFT to treatment as usual (TAU) (n=30 girls and boys aged 13-17; [19]) have been completed in diverse samples of adolescents with histories of childhood sexual abuse/assault. Although youth in those trials were required to have experienced at least one memorable sexual assault in their lifetime, approximately seventy percent of participants had experienced multiple traumatic events. Results from the open pilot trial indicated RRFT was feasible to implement in clinic and community settings and yielded post-treatment reductions in substance use and associated risk factors (e.g., family conflict), PTSD symptoms, and depression symptoms that were maintained through 6-month follow-up. Results of the pilot RCT replicated the open trial results among youth assigned to receive RRFT. Moreover, youth in the RRFT condition demonstrated significantly greater reductions in

substance use and associated risk factors, PTSD, depression, and general internalizing symptoms compared to youth who received usual care. There were no areas in which treatment as usual outperformed RRFT, and RRFT treatment gains were maintained through the six-month follow-up. These pilot trials provided key foundational data to guide the design of the ongoing clinical trial described below.

Current Trial

A NIDA-funded larger scale RCT is near completion at the time of the writing of this chapter. Although the primary outcomes of the full trial will not be analyzed until all participants (N=135) have completed follow-up assessments, planned interim analyses point to three primary findings. First, as emphasized throughout the chapter, this population of teens who have experienced trauma and report substance use or substance use risk factors present with complex, multi-faceted clinical needs (e.g., heterogeneity across symptoms, polyvictimization as part of their trauma history, risky sexual behavior) ([20]). Second, RRFT is feasibility administrated with promising outcomes for both substance use and PTSD among treatment completers –and emotional suppression may serve as a mechanism of action underlying RRFT in addressing substance use problems and PTSD ([21]). Third, the safety of implementing exposure intervention strategies with this adolescent trauma-exposed population that also presents with substance use problems continues to be supported ([22]).

RRFT Training and Implementation

RRFT is intended to be delivered by licensed mental health professionals (psychiatrists, psychologists, social workers, licensed counselors) who work with teens and families impacted by interpersonal violence and other types of traumatic events. A strong foundation, including successful completion of training in TF-CBT, is a prerequisite for providers to take part in RRFT

training.

Training in RRFT follows a learning collaborative model, an adaptation of the Institute of Healthcare Improvement's Break-through Series Collaborative ([23]). A more general description of the Learning Collaborative is provided in this next section of the chapter, followed by a description of how this is applied in RRFT.

Training and consultation: What works best?

Few dispute the need for high quality delivery of evidence-based treatments for youth who have experienced trauma and report substance use and their families. However, an ongoing challenge is to determine the most effect methods to train therapists treating this population so that they have the knowledge and skills to deliver EBTs with high fidelity. Thus, researchers have become increasingly focused on identifying the specific strategies and training/consultation models that result in strong fidelity and sustained use of EBTs in real world community-based settings. It is now widely recognized that attendance at a one-time training workshop is not sufficient to actually change practice or to sustain use of any particular EBT over time. While these types of 'one shot' trainings may increase therapists' knowledge and positive attitudes towards EBTs, they do not influence the level of clinical skill specific to the EBT or increase its use in regular practice ([24]). As a result of these findings, training models, including that for RRFT, have shifted to emphasize longer duration of an initial training (up to a week) that includes reliance on active learning principles (e.g., case vignettes, problem-based learning, behavioral rehearsal, clinical role plays), and ongoing coaching or consultation via telephone, web or in-person after the initial training. Some models, including RRFT, also incorporate an advanced or 'booster' training that occurs after participating therapists have had the opportunity to deliver the EBT with youth and caregivers. Not surprisingly, coaching and consultation are

associated with increased use of an EBT, as well as skill enhancement and higher levels of EBT fidelity ([25]). Nadeem and colleagues (2013, [26]) identified specific components of consultation that appear to be critical for successful delivery and long-term implementation of an EBT including: continued training to build skill mastery, direct support during EBT delivery, problem solving about barriers to implementation, provider engagement, accountability, and planning for sustainability. It is also important to note that consultation (i.e., consultation calls) appears to be most helpful when guided by a set protocol ([27]). As such, RRFT consultation calls are a critical element to promote successful implementation among newly trained RRFT therapists.

In addition to these specific training strategies, it has become evident that agency-level support for the EBT, as well as provision of clinical supervision, are crucial components for sustained EBT delivery with fidelity. Agency-level factors identified in the research literature include strong leadership, tangible supports, such as the time and space for consultation calls, ([26]; [28]), as well as reduced productivity requirements to allow for participation in training activities.

Learning Collaboratives (LC's)

As noted above, the Learning Collaborative is an adaptation of the Institute for Healthcare Improvement's (IHI, 2003) Break-Through Series Collaborative, which was initially used in health care to support change across multiple levels of an agency and thereby spread best practices. Learning Collaboratives have been widely used by the National Child Traumatic Stress Network (NCTSN), which has been funded by the Substance Abuse and Mental Health Services Administration since 2000, as a framework to support and sustain implementation of trauma-focused EBTs for youth.

An overarching objective of Learning Collaboratives is to bring together teams from different agencies and organizations that will work together to learn a targeted EBT and sustain its use over time. Agency teams are typically comprised of a senior leader, such as the executive director, clinical supervisor(s), and front-line clinical providers. Once teams are selected, initial pre-work activities are completed to provide baseline knowledge in the targeted EBT and maximize the in-person training time, where the focus is on skill acquisition. Participants also typically complete pre-training questionnaires to assess knowledge and attitudes related to the targeted EBT. Questionnaires are administered again post-training to help trainers evaluate the effectiveness of training activities.

Learning sessions are designed to be interactive and incorporate adult learning principles that includes opportunities for skill practice, discussion of case vignettes and training in quality improvement strategies, such as Plan-Do-Study-Act (PDSA) cycles, which emphasize small tests of change that can be implemented by an individual participant, regardless of their professional level (i.e., front-line provider, supervisor, senior administrator) within their respective organization. In-person training or learning sessions (usually 2-3 days, depending on the specific EBT) are interspersed with 'Action Periods,' where therapists take on cases and deliver the EBT with ongoing consultation by a treatment expert, usually by telephone, on a monthly or bi-monthly basis and conduct small tests of change using the PDSA strategies. Consultation calls are designed to promote fidelity by providing didactic information and sharing case presentations to identify implementation barriers and problem-solve solutions as practitioners learn the targeted EBT. Senior leaders also participate in consultation calls, usually on a monthly basis, to identify strategies that will strengthen agency infrastructure and support sustained implementation of high quality EBTs. When possible, a separate group for clinical supervisors can facilitate their abilities

to learn the model themselves and determine the best ways to provide supervision in the EBT. It is important to highlight that supervisors must, themselves, participate in the training activities, including attendance at learning sessions, enrollment of their own training cases and participation in consultation calls, so that they can deliver the treatment with fidelity and enhance their supervisory skills. Finally, additional in-person advanced or booster sessions may be offered by the trainers depending on demand from participants and available resources.

As noted above, Learning Collaboratives have become a frequent framework for EBT training and implementation, with studies now examining their effectiveness. For example, one study indicated that agency staff viewed the learning collaborative as a useful methodology for learning and sustaining an EBT, and that participation was associated with an increased use of the EBT as well as sustained use over time [23]. This is an emerging area of research, and, as noted in a review by Nadeem and colleagues (2013, [26]), important issues that need to be addressed are to 'unpack the black box,' so as to clearly define and measure the 'active ingredients' needed for successful and sustained EBT implementation. These efforts are underway with the completion of the most recent large scale RCT evaluation of RRFT noted above.

The Community-Based Learning Collaborative (CBLC)

One limitation of the Learning Collaborative model is its emphasis on training mental health practitioners in an EBT and its focus on teams from single agencies. While this does increase the supply of trained clinicians, it has limited impact on the overall service delivery system because it does not include a method to increase awareness and demand for the EBT. Thus, based on experience with the NCTSN Breakthrough Series and the existing implementation research literature, the LC was adapted as a way to increase both the supply of

mental health providers trained to deliver an EBT with fidelity and the demand for the EBT by other professionals within a targeted community. This resulting implementation framework, the Community-Based Learning Collaborative, was developed and is being evaluated as part of Project BEST (Bringing Evidence-Supported Treatments to South Carolina children and their families; Saunders & Ralston, Project Co-Directors; www.musc.edu/projectbest)) funded by the Duke Endowment, to implement and sustain trauma-focused mental health practices for abused or traumatized children and their families across South Carolina. In brief, the CBLC includes both clinical and non-clinical or 'broker' professionals whose primary job responsibilities are to identify, screen, and refer a target population for mental health treatment services as well as to provide ongoing monitoring of treatment progress. Additional unique components of the CBLC include: 1) targeting a community rather than a set of individual clinicians or a single agency, to build capacity for sustained EBT delivery; 2) inclusion of brokers in all training and implementation activities; and 3) an emphasis on building and supporting relationships across professionals within the community as a way to enhance implementation and sustainability The phases of the CBLC are similar to those of the LC described above (pre-work requirements, in-person learning sessions, action periods that include consultation calls, pre/post assessments, and on-going metrics).

A total of 13 CBLCs were completed across three phases of Project BEST; the third phase, the South Carolina Child Trauma Practice Initiative (SCTPI), involved a partnership between Project BEST and the South Carolina departments of mental health and social services. SCPTI included completion of six CBLCs from 2014-2016. We conducted an additional 10 CBLCs, two of which focused on RRFT, as part of our SAMHSA funded NCTSN *Program on Adolescent Traumatic Stress* (PATS; Hanson, PI). While comprehensive evaluation is currently

underway, preliminary and anecdotal data suggest that the CBLCs strategies to build, support, and sustain collaborations amongst multiple professionals appear to be critical. Table 2 provides the organizational flowchart provided to RRFT CBCL participants to aid in training and implementation success.

[Insert Table 2 here (separate file)].

As a brief summary, in the RRFT learning collaboratives, participants 1) build knowledge and practice skills concerning RRFT, 2) implement and use those skills effectively on a daily basis with their own clients, 3) identify and overcome barriers to adolescents receiving RRFT, 4) regularly monitor their progress, and 5) sustain the use of RRFT in their communities over time. Therapists participate in an intensive, in-person 3-day RRFT workshop led by a certified trainer. Training sessions include didactic and interactive components that cover the fundamentals of RRFT. Therapists learn about the theoretical and empirical underpinnings of RRFT, as well as the current evidence supporting its use with adolescents. Trainers then provide an overview of the RRFT guiding principles followed by detailed instruction in each treatment component. A strong emphasis is placed on understanding the goals of each component – rather than specific activities – so that therapists learn how to tailor the model to each patient and deliver the treatment flexibly while adhering to the fundamental aspects of treatment. Group discussions, role plays, and other interactive elements are incorporated to help therapists begin to apply the principles to hypothetical cases and to practice several RRFT skills in a training context with feedback from trainers and their peers. Strategies for identifying and overcoming barriers to using RRFT are also reviewed.

After the in-person training, therapists return to their home clinics where they implement RRFT with their own patients. As part of the learning collaborative, therapists participate in a minimum of 12 bi-monthly consultation calls with the trainers. These calls are meant to provide

ongoing support and clarification on how to implement RRFT with real cases and troubleshoot any questions or concerns that arise. Additional in-person advanced or booster sessions may be offered by the trainers depending on demand from participants and available resources. Given the challenges faced when provided an integrated treatment with this population, agencies may elect to extend calls beyond the initial 12.

Conclusion

Historically, there have been many barriers to integrated treatment for co-occurring PTSD and substance use problems among adolescents, particularly approaches that involved exposure interventions. RRFT is an intervention that integrates existing evidence-based treatments and, to date, is the only exposure-based approach with published RCT support for targeting co-occurring PTS and substance use problems among teens. RRFT emphasizes several 'fundamentals' as part of its implementation, such as enhancing the ecological validity of the therapy session (e.g., incorporating tangible substance using cues, such as certain song, smells, images) to promote generalizing of realistic substance refusal skills and documenting weekly progress to increase self-efficacy and accountability around treatment goals (e.g., reduction of avoidance, reduction of substance use). With the pending completion of the NIDA-funded RCT evaluation of RRFT, next steps will involve publication of the trial outcomes and publication of the manual. In addition, in future studies of the treatment model, we will seek to examine: 1) Best approaches to implementation of RRFT in various settings; and 2) Mechanisms of action for the treatment at the neural and physiological levels (e.g., how RRFT may impact neural circuitry related to threating processing and reward systems). These findings, in combination with RRFT's personalized approach to tailoring treatment to the youth's individual strengths and risk behavior drivers, will

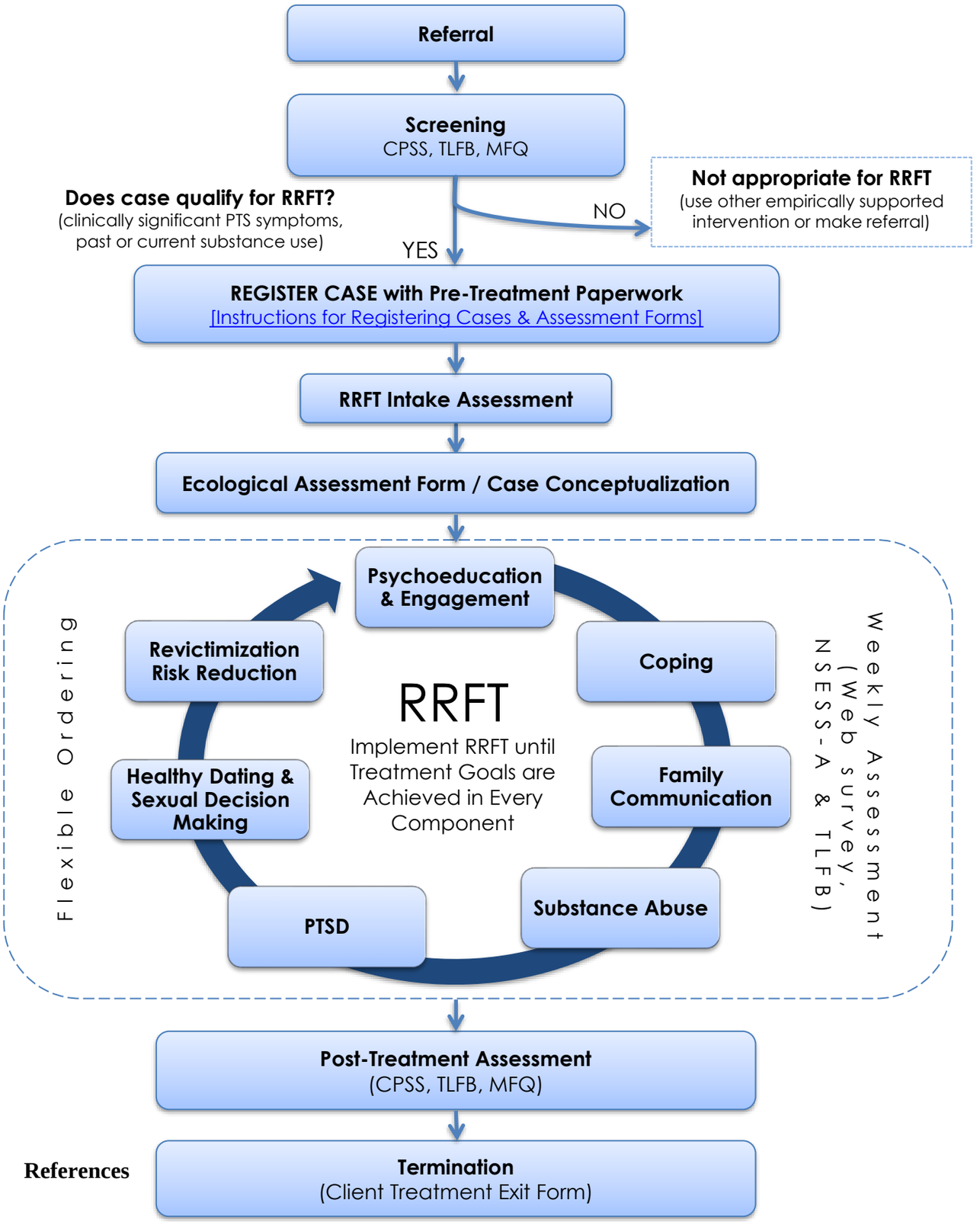
help ensure our young people who experience such adversity indeed learn to become the master of their fate and the captain of their soul.

Table 1. Components and Key Concepts and Objectives of RRFT

Component	Key Concepts and Objectives
Psychoeducation and Engagement	• Review privacy and confidentiality • Review RRFT Intake assessment feedback • Personalized goal-setting • Identify treatment motivators for youth and caregiver ("finding the carrot") • Identify and address anticipated barriers to RRFT session attendance and engagement • Safety planning as needed, including run-away risk assessment and protection plan as relevant • Education about (a) trauma and traumatic stress, (b) mental health impacts of trauma, (c) substance abuse and connection of trauma, (d) risky sexual behavior and connection to trauma; e) resiliency • Provide overview of RRFT treatment components and expectations • Prioritize intervention components per family needs
Family Communication	• Review and/or set family rules, as well as contingencies tied to following or breaking these rules • Assess family's communication norms (e.g., eye contact, language) • Teach effective communication skills (e.g., active listening, "I statements") • Implement strategies for increasing family cohesion • Role play solutions for common conflicts
Coping	• Define coping and differentiate between healthy and unhealthy coping (e.g., substance abuse, self-harm) • Emotion identification, labeling • Emotion acceptance (less reactivity, emphasis on building distress tolerance) • Anxiety reduction, relaxation • Change thoughts via cognitive processing • Effective communication • Problem-solving
Substance Abuse	• Identify drivers or factors contributing to substance use • Contingency management to reduce substance use • Increase caregiver and school monitoring

	• Increase prosocial activities (monitored, with non-using peers, etc.) • Teach realistic refusal skills • Discuss links between trauma and substance use and importance of completing PTSD component • Harm reduction goal setting • Prevention (i.e., of future use, relapse, etc.)
Posttraumatic Stress Disorder (PTSD)	• Review PTSD symptoms • Exposure to trauma-related memories and cues/triggers through trauma narrative or similar strategies • Address inaccurate and unhelpful beliefs • Share trauma narrative or 'story' with appropriate caretaker • Skill building to reduce risk of future PTSD
Healthy Dating & Sexual Decision Making	• Address healthy vs. unhealthy relationships • Sexuality and sexual decision-making • Education about prevention of teen pregnancy and sexually transmitted infections (STIs), with emphasis on HIV • Education on proper, consistent condom use as appropriate • Role-play assertiveness in dating relationships • Continued coordination with caregiver • Referrals for medical appointments and testing as needed
Revictimization Risk Reduction	• Education about risk for revictimization • Identify risky situations, people, places • Develop safety plan as needed • Role-play strategies for how to respond to risky situations

RRFT Clinical Flowchart



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Additional Information is Available at the [RRFT [insert state] Learning Collaborative Website]

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