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Implementation Science and Fidelity Measurement: A Test of the 3-5-7 Model™

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Key Findings

- The DREAMR project used the 3-5-7 Model™, which was implemented to increase relational competence and well-being in current and former foster youths ages 12–21.
- Self-reports show slight increases on fidelity indices at 6- to 12-month measurement periods.
- Correlational analyses show promising trends between fidelity measures and youths' well-being outcomes.
- Although independent raters achieved a substantial level of agreement when scoring the implementation of the 3-5-7 Model™, there is a need for more testing and revisions of the Team Observation Measure (TOM) component of the fidelity system.

Abstract

Children and youths engaged with the child welfare system can experience grief and loss as a result of trauma, broken relationships, and inadequate attachments. Interventionists are often challenged to implement effective strategies that help youths to reestablish trusting relationships and to promote overall psychological well-being. A 5-year federal demonstration project funded by the U.S. Department of Health and Human Services, Children's Bureau, guided by an implementation science model, sought to increase well-being in youths age 12–21 who were involved in the child welfare system. The 3-5-7 Model™, a strengths-based approach that empowers children, youths, and families to engage in grieving and integrating significant relationships, was studied. A fidelity system was created in order to test the model. Important lessons about implementation science guided the work of the demonstration project. Although definitive conclusions could not be reached, several indicators of psychological well-being were found to be associated with high levels of fidelity to the 3-5-7 Model™. Suggestions for future research are offered.

Introduction

The foster care journey often begins with youths being removed from the most important relationships they have with parents, siblings, and peers, and youths often begin to question why they had to be removed. Did they do something wrong, did their parents do something wrong? Unfortunately this pattern of interfering with relationships continues while youths remain in foster care through placement changes, school changes, and never achieving permanency. Over the past decade, the number of youths who aged out of foster care has steadily risen every year. About 17,188 foster youths had a goal for emancipation in the year of 2015 (AFCARS, 2016), an upward annual increase from a low of about 2% of the population in 2012 aging out to 6% in 2016 (AFCARS).

DREAMR Demonstration Project

A 5-year federal demonstration project funded by the U.S. Department of Health and Human Services, Children's Bureau, guided by an implementation science model, sought to increase well-being in youths age 12–21 who were involved in the child welfare system. The project, titled Determined, Empowered, Adolescent, Mentoring, Relationships (DREAMR), was sited in Clark County, Nevada, and was run administratively by the Clark County Department of Family Services. By increasing the youths' relational competency skills, the DREAMR project targeted the reduction of multiple risk factors, including teen pregnancy, depression, anxiety, stress, and other indicators of adverse psychosocial well-being. The 3-5-7 Model™, which is a strengths-based approach that empowers children, youths, and families to engage in grieving and integrating significant relationships, was the approach under study. The 3-5-7 Model™ incorporates three tasks, five conceptual questions, and seven interpersonal skill elements to support this work. The three tasks of the model engage children, individuals, and families, guiding practices that support their work of grieving and building relationships. This issue brief highlights the process of implementing the 3-5-7 Model™ and summarizes the testing and outcomes associated with the fidelity system that was developed to support model implementation.

Establishing Trust, Connections, and Relationships

In Clark County almost half of the foster youths age 15 and older have a permanency plan of emancipation (Wooldridge, 2016). This fact challenged the DREAMR team to design a service structure that would address the needs of youths who transition out of care. This meant

that for the DREAMR project there was an immediate need to help youths to learn how to reestablish trusting relationships with adults as a primary implementation strategy not only to decrease pregnancy but to also increase the overall core components for well-being (healthy development, protective mechanisms, resiliency, relational competency, and protective factors). The research has supported, and alumni of the foster care system have echoed that supportive, caring adults and peers as well as connections to their family of origin lead to more positive outcomes in almost every area of well-being, including educational, fiscal, and emotional aspects of health (Ahrens, Dubois, Richardson, Fan, & Lozano, 2008; Collins, Spencer, & Ward, 2010; Gowen, 2011; Greeson & Bowen, 2008). We knew that many of the youths involved in the DREAMR project would have a permanency goal of Other Planned Permanent Living Arrangement permanency (OPPLA). Ironically, OPPLA became an allowable permanency goal through the Adoptions Safe Families Act (ASFA) that was enacted in November 1997 (ASFA, P.L. 105-89). One of the primary goals of the ASFA legislation was to increase achieving permanency for youths in foster care specifically through adoption. OPPLA was the permanency goal of last resort and could only be approved as a permanency goal if there was a finding of compelling reasons why reunification, adoption, guardianship, and long-term relative placement was not an option (Spar & Shuman, 2008). Unfortunately, in Nevada, for youths age 14 (the age that a youth must give consent for adoption) and older, OPPLA has become the most common permanency goal. Therefore, our focus for the DREAMR project became helping youths to develop healthy relationships with the significant adults currently in their lives as well as focusing on helping them to develop skills to form healthy future relationships.

Foster Youths' Experiences With Grief and Loss and Other Risk Factors

Experiencing separation and loss is arduous at any stage of life, and its repercussions are varied. During the teen years, grieving a relationship, a death, or even one's home environment can be particularly painful from the added pressures of adolescence. In Western society, adolescence is viewed as a period of exploration, uncertainty, and in some instances, defiance. The search for identity at this stage of life is crucial because so much emphasis is placed on the process of becoming. "Who am I?"— is a question pondered by teenagers, many times in secret, so as not to disclose attachment vulnerabilities or inhibitions. Taking this notion into consideration, with the added challenge of being in foster care, teenagers may impose an emotional wall or artificial safeguard to shield themselves from any feelings of hurt or mental discomfort. As a result, the question for helping professionals becomes, what visible signs of separation and loss shine light on adolescent grieving? Central to understanding this treatment conundrum is the belief that all children placed in out-of-home care, in any form, experience separation and loss.

The placement process itself is fertile ground for confusion about one's well-being and the absence of past relationships. Hence, manifestations of the emotional grieving process can range from outward signs of sadness, frustration, and bewilderment to more subtle reticence, compulsivity, and unrequited euphoria.

Assessment of foster youths who are grieving must be ongoing with special attention given to facilitating a safe milieu for sharing and accepting the recognition of loss in their life. Additionally, canvassing who can be tapped as a support system and where they can be found in an adolescent's familial and social network is an essential task that must be addressed. Adolescent development can be a challenging phase of maturation. Although separation and loss are unavoidable for youths in foster care, the experience does not have to be shattering. Full acknowledgment is needed of such difficult issues as parting from one's parents, siblings, or close friends; having to resettle in a different neighborhood; and missing familiar sights and sounds of a previous dwelling. These tangible displays of loss speak to grieving realities routinely faced by teens who might otherwise be viewed as problematic. Lending credence to the effect of separation and loss in a foster youth's life is vital to successful treatment planning and service execution.

The 3-5-7 Model™

Overview

The 3-5-7 Model™ is a state-of-the-art, evidence-informed practice that supports the work of children, youths, and families in grieving their losses and rebuilding their relationships toward the goals of well-being, safety, and permanency. The 3-5-7 Model™ is the core of child welfare practice, incorporating theoretical underpinnings from child development, attachment, separation and loss, trauma, family systems, and relationship development. In 2012, the Administration on Children, Youth and Families (ACYF) underscored the importance of promoting social and emotional well-being for children and youths receiving child welfare services (ACYF, 2012). This desired well-being relates to the teachings of Erikson, understanding how maltreatment affects child development (Erikson, 1963); Kubler-Ross, understanding grief (Kubler-Ross, 1969); Maslow, understanding the hierarchy of needs and a sense of belongingness (Maslow, 1943); and other well-known experts on attachment and relationship building.

The 3-5-7 Model™ is a strengths-based approach that empowers children, youths, and families to engage in grieving and integrating significant relationships. Family Search and Engagement activities, Family Group Decision Making, Signs of Safety, and other practice models can be woven into the three tasks of the 3-5-7 Model™. The model uses tools (e.g., life books, loss/life lines) to support work around issues of separation and loss, identity formation, attachment, and building relationships, and it also supports deeper therapeutic work around abuse, abandonment, and neglect experiences. Practice applications can be made throughout ongoing case management services, from intake to child protective to placement services. The 3-5-7 Model™ supports kinship, foster, and adoptive family relationships and is also an engagement strategy that can be used with birth families.

History of 3-5-7 Model™

The 3-5-7 Model™ was first developed by Darla L. Henry as a compilation of her extensive work and experience in child welfare. The tasks of the model (clarification, integration, and actualization) were first described by Dr. Henry's colleague Kay Donley-Zeigler (1996). Dr. Henry's doctoral research on resiliency in children (Henry, 1999) was the basis for the development of the five questions of the model. The seven skills have been identified as an important set of strategies that workers can use to promote the work of grieving losses and rebuilding relationships.

A 2005 review of the literature showed that no standard approach to preparing children for permanency had been established. That same year, Dr. Henry described the 3-5-7 Model™ framework (Henry, 2005). Since then, Dr. Henry's work in both public and private agencies across North America continued to inform, develop, and evolve the model.

3-5-7 Model™ Framework

The 3-5-7 Model™ incorporates three tasks, five conceptual questions, and seven interpersonal skill elements to support this work. The three tasks of the model engage children, individuals, and families, guiding practices that support their work of grieving and building relationships and guide our interventions with children, youths, and families in working with them toward improving well-being and readiness for permanency. These three tasks provide the methodology to ensure readiness of children and their families to determine permanent relationship opportunities. They indicate where each individual is in reconciling and grieving losses and in moving toward rebuilding relationships. The 3-5-7 Model™ takes the “guess work” or the “we hope it works” approach out of permanency decision making. Children and youths, as well as families, know when they are ready to actualize placements. Decision making is then based on this readiness.

Three tasks. The model entails three fundamental tasks that youths navigate: Clarification: Exploring life events providing opportunities to reconcile losses; Integration: Focusing activities on rebuilding relationships through the attachment process; and Actualization: Assisting in visualizing future goals establishing permanent connections.

Five conceptual questions. The questions support the work of the three tasks and address the following:

- Who am I? —identity formation;
- What happened to me? —separation and loss; the grieving process;
- Where am I going? —trust and safety in relationships; attachment cycle;
- How will I get there? —recognizing those who will continue to provide support; relational permanency; and
- When will I know I belong? —feelings of safety, well-being, and a readiness for future.

The five conceptual questions provide the frames of reference to explore the issues of identity, loss, attachment, relationship building, and permanency/safety/belonging. An individual's reactions may include anxiety, regression, physiological symptoms, denial of feelings/events,

confused attachments to rejecting or unreliable parents, rebellious behaviors, delayed expression of feelings, self-blame for being in placement, and conflicting loyalties to all parent figures in their lives. Exploring the issues identified in these five questions organizes the work to be done through various activities and techniques. The behaviors and comments of individuals provide clues to the work that still remains towards resolution of the painful events and relationships of their lives.

Seven skill elements and interpersonal abilities.

The seven skills guide the efforts of professionals and caregivers to support the work of children, youths, and families to grieve losses and rebuild relationships. The seven skills include:

- Establishing the perception of safety through authentic listening, physical location and continuity of time spent with child/youth/family
- Providing opportunities to explore feelings and understanding of life events;
- Being present to the exploration;
- Listening to the stories;
- Affirming current perceptions;
- Briefly speaking in response to questions, comments, and reactions of child/youth;
- Recognizing and accepting that current behaviors reflect grief responses.

When workers provide support to youths for the tasks of clarification, integration, and actualization, youths can explore their feelings and understand the painful experiences in their lives. In Pennsylvania, a survey was conducted with county and private agency workers after the initial implementation of preparation services and the use of the 3-5-7 Model™. It was reported that caretakers developed empathy to assist youths in their care to deal with grief instead of reacting to behavior issues; some youths were able to discuss and acknowledge the past; improved self-identity was observed; there was an increased understanding of youths' stories and reasons for placements; and youths became more self-sufficient and empowered, having a better understanding of options for decision making in establishing permanent relationships (Henry & Manning, 2011). In Delaware, the 3-5-7 Model™ is delivered through a contract with several private agencies. Since February 28, 2011, the program, referred to as MY LIFE, has served over 500 youths (Delaware Division of Family Services, 2016). Initially, youths served were those who were legally free with a court-ordered goal of adoption, legally free children with a status of Another Planned Permanent Living Arrangement, and youths who did not have Termination of Parental Rights (TPR) but where the state Permanency Planning

Committee had recommended a goal of TPR/Adoption. Over the years, referrals have expanded, with the ultimate goal of expansion of services to children with goals of reunification. As stated in the 2017 Annual Program and Services Report (Delaware Division of Family Services, 2016), “(t)he goal is to assist children in foster care with their difficult work of grief and loss so that they are more ready to accept permanency decisions, whatever those may be, and to be able to form more trusting relationships in the future” (p. 34). A program in Connecticut, early in the process of implementing the 3-5-7 Model™ with youths as well as with adults with developmental disabilities, has found the model and the activities that are used as part of the process “evoked so many emotions, and our clients often came back the following week (or maybe weeks later) and reported what they remembered, what they “thought,” often translating to what they felt...” (AuYang, personal communication, December 29, 2016).

Implementation Science and the Creation of a Fidelity Measurement System

Implementation Drivers

As a demonstration project, the DREAMR project was largely a study of the implementation of the 3-5-7 Model™. We adapted the view espoused by Bhattacharyya, Reeves, and Zwarenstein (2009) in which we embraced the notion that implementation research has four purposes: translate knowledge or exchange results as a deliberative process between producers and users of research; distill knowledge and find core evidence that can be used to guide practice; combine ethical applications and values with clinical effectiveness to determine and promote reasonable interventions and paths; and improve services in an effort to promote better health and social well-being of a population. Increasingly, there is a desire to use evidence-informed models and practices in child welfare. However, it is our contention that in the field of child welfare there is a disconnect between what is “known” (evidence, science, proven strategies) and what is actually done or delivered (services). Therefore, our work was advanced based on a set of assumptions, including that organizational culture and leadership influence service implementation; process data and information about the context in which a project is implemented is just as critical as the outcome data itself; the study of a model’s implementation should be done with the express intent to translate, communicate, and inform audiences and stakeholders of the effectiveness and efficiency of an approach; and an implementation evaluation should be a deliberate process and the chosen methodology should adequately address the model’s phase of development.

Maintaining and Measuring Fidelity

Prior to the DREAMR demonstration project, the effectiveness of the 3-5-7 Model™ had not been assessed in an empirical manner using a randomized control trial over time. However, to test the model, we needed to first create a fidelity system. A methodological strategy for monitoring and enhancing the reliability and validity of the model was lacking. Early on it was recognized that no valid tests existed for operationalizing and implementing the practice approach. It was agreed that a test of fidelity was critical for replication purposes, to ensure that the intervention was administered properly, for quality assurances purposes, for consistency in service delivery, and ultimately to remain ethical and accountable to children and families so that we might determine if the model was of benefit to them. Given that we needed to understand whether the model was applied with accuracy and as it was intended to be used, we undertook an extensive pilot study that enabled us to develop measurement tools prior to the actual implementation study. The fidelity system was developed in collaboration with the DREAMR team, the purveyors of the model, external methodologists, clinicians, and the host implementation site. A team of 22 panelists worked over a 2-year period (planning year and pilot testing year) to operationalize model constructs, to devise training protocols, to train evaluators and interventionists in implementation measurement, to inform the development of supervision and coaching protocols, and to measure and track adherence to the model. In 2012 and 2013, a total of 54 youths were enrolled in the demonstration project to test the implementation protocols and fidelity system that were developed.

Fidelity Tools

The 3-5-7 Model™ fidelity system includes three measurements: Fidelity Index—Youth Version, Fidelity Index—Worker Version, and the Team Observation Measure. The first two measures are very similar in language; each comprises scales totaling 41 items and consisting of a series of statements that are reflective of the five theoretical constructs found in the five conceptual questions (i.e., identity, loss, attachment, belongingness, and relationship building) relevant to the 3-5-7 Model™. These two surveys use a 3-point scale system and ask the respondent to answer the series of statements/questions by selecting “Yes”, “Sometimes or Somewhat,” and “No.” Although similar in content, the self-report surveys aim to measure the perceived implementation of the seven skills elements from various perspectives. For example, the Fidelity Index-Youth Version asks the youths (the recipient of the 3-5-7 Model™) to reflect on their experiences with their interventionist and report whether or not the seven skills elements of the model are present in their

interactions. On the other end, youth workers provide the vantage point of the interventionist by reporting the extent to which they use the seven skills as intended by the model structure. For these surveys, the average total percentage of the seven indicators is reported.

The third measure is a 31-item instrument designed to provide direct observation of an interventionist (e.g., youth worker) working with a youth. The observation measure is completed by two independent raters who attend a site visit with the interventionist and the youth in order to evaluate the interaction and qualify the perceived behavioral attributes of the model (i.e., the seven skills of the model). Observers evaluate the interventionist, guided by a list of questions and statements; if the behavior is present, the observers circle “Y” (Yes) for that particular question and circle “N” (No) if it is not present. A score of 0 indicates that none of the indicators were present for a particular skill, a score of 1 suggests some of the indicators were present, a score of 2 means half of the indicators were present or observed during the observation, a score of 3 shows more than half of the indicators were present, and a score of 4 indicates that all the indicators were present. After each skill is scored, all values are added to create a total score that ranges from 0–28 (the higher the score, the better).

Fidelity Monitoring and Tracking

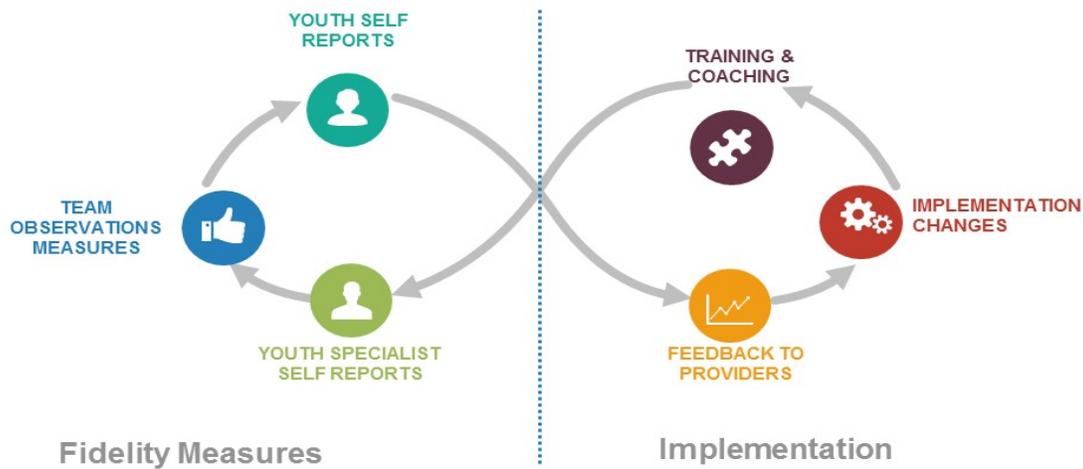
The fidelity measures are administered at 6 months and at the end of the year-long program to indicate whether the fidelity criteria were met; in other words, whether the content of the model covered or certain activities were completed (e.g., Life Book or Time Line). In order to reduce respondent burden, all fidelity measures (with the exception of the observation measure) were completed electronically using tablet computers or through a web-based application.

Durlak and Du Pre affirm that having single composite scores often undermines the differences in implementation among providers (2008); therefore, given the importance of each perspective, we analyzed each data source individually to track progress and make comparisons. Furthermore, research has shown that self-report measures may be subject to bias (Hansen, Bishop, & Bryant, 2009); consequently, we triangulated data from providers and program participants with a third, perhaps more objective, source—the observational measure. However, due to the nature of the 3-5-7 Model™ structure in which interventionists follow a general framework that allows for flexibility in activity selection, during the initial testing of the fidelity measures, low levels of agreement were present during several observations. In most cases it proved to be difficult for an observer to evaluate an interventionist and document the presence of the seven skills of the model given that many interventionists implement the 3-5-7 Model™ in different ways and styles. In this context, in order to make observational data reliable, the evaluation team created a rater manual that describes the observation protocol and provides instruction in the reliable administration of the observation measure. The manual has enabled our independent raters to identify the seven skills of the 3-5-7 Model™ and better understand its theoretical structure and purpose.

Once implementation data were collected, the evaluation team analyzed them periodically and presented findings to advisory board members and service providers during data summits. The purpose of these data summits was to provide ongoing feedback and support to the intervention team in making adjustments (if needed) that could help them further develop the behavioral attributes of the model. Program adaptation is often needed to meet the needs of the model’s recipients. In the DREAMR project, program adaptation meant increasing support and coaching services for the interventionists (see Figure 1).



Fig. 1 Implementing the 3-5-7 Model™



Coaching, Supervision, and Monitoring

Coaching is critical to the success of the practice of the 3-5-7 Model™. The purpose of coaching is to ensure that concepts learned in the training environment are integrated into practice, and transfer of learning is supported through ongoing feedback to promote practice change and prevent “practice drift” by supporting system regulation toward a “new normal”—new homeostasis. During coaching sessions, new practitioners of the 3-5-7 Model™ are provided guidance to promote deeper learning.

Development of a coaching plan occurs in communication with supervisors and key team members. Frequently, specific examples from case presentations and debriefings are used as the platform for discussions. Coaching with regular frequency allows for the building of a relationship between the 3-5-7 Model™ coach and the organization’s staff that will support helping staff address practice issues and integrate and implement the model. Hundreds of hours of coaching have been provided on the 3-5-7 Model™ over the past several years. Workers who participate on calls have reported that the sessions help reduce their stress by providing needed direction and focusing on additional learning and skill building (Lipsett, personal communication November 7, 2016). Workers participating in coaching sessions often state that they have obtained several ideas that can be incorporated into their next steps with the youths and families they discussed during the session. The skills that workers already have and are using are also recognized during calls, with the intention to help build worker confidence. “(S)ometimes just the validation

that we were on the right track reduced stress” (AuYang, personal communication, December 29, 2016).

Coaches also help workers recognize the sometimes unseen results of their work. A frequent statement during coaching sessions is “I didn’t do the 3-5-7 Model™.” Discussion during sessions helps workers to see the evidence more clearly regarding how the activities they are using with youths are in fact prompting and supporting the Clarification, Integration, and Actualization work. Coaching helped workers to recognize “the subtle ways the youths were responding to the interventions” (AuYang, personal communication, December 29, 2016).

Coaching sessions provide support in the following areas:

- Feedback regarding fidelity of the 3-5-7 Model™;
- Problem-solving assistance and feedback related to decision making;
- Acquisition of new skills/strategies;
- Sounding board for ideas, handling stress, or seeking balance between personal and professional life;
- Reduce practice drift associated with bringing a new practice into organizations; and
- Objective observation of readiness for practice change.

Typical agenda items for initial coaching calls following the training phase include:

- Follow-up Questions from Training
- Ways to Get Started with Youths
- Overview of 3-5-7 Model™ Skills Development Guide
- Overview of 3-5-7 Model™ Readiness Continuum
- Review of Case Consultation/Coaching Form
- Debriefing of Use of Activities

Coaching is facilitated by a 3-5-7 Model™ coach for direct staff to provide application feedback and prevent practice drift. Two basic types of coaching sessions are provided. In addition to coaching for newly trained practitioners, coaching for supervisory-level professionals is provided to enhance supervision of direct workers and to provide feedback to ensure decision making and policy and procedure development is consistent with the 3-5-7 Model™ approach. Coaching sessions are typically provided using web-conferencing technology in a group format. Technical challenges were experienced with regard to web-conferencing, and therefore 3-5-7 Model™ coaching sessions in the DREAMR project were conducted via teleconference.

We delivered the initial training on the 3-5-7 Model™ in the third quarter of Year 2 and the first quarter of Year 3 of the project. Coaching sessions began thereafter with a frequency of once per month sessions. In addition to these sessions, weekly coaching with the then Clark County Program Manager began in September 2013. This weekly format continued until the time of this manager’s departure in February 2014. In the second half of Year 3 (quarters three and four), we increased the frequency of coaching sessions for youth specialists to twice per month, while we decreased the frequency of supervisory coaching. During sessions, case presentations were made by youth specialists and support was given to promote applications of the model. We conducted sessions in a group format to promote peer discussion and learning opportunities.

Beginning in Year 4, fidelity measures data that were collected by the research team were used to drive the content of coaching sessions. More specifically, the results of the Team Observation Measures were analyzed to determine which specific skills areas were in need of improvement so that these skill areas could be a focus of the discussions, with the goal of supporting continued skill development in these specific areas. In addition, the 3-5-7 Model™ Readiness Continuum was introduced to the youth specialists and their supervisors in coaching sessions. The 3-5-7 Model™ Readiness Continuum is a decision-support tool that is used to help make visits with children and youths more meaningful and purposeful. The tool is used to help workers identify where children are located in their work on the three tasks of the 3-5-7 Model™, which allows for the preparation of activities that are more closely aligned with the location of the youths within the tasks and conceptual questions of the model.

Nearing the end of Year 4 (approximately 2 years post-training), we changed the coaching sessions from a group format to individual sessions with each youth specialist and their supervisor. This allowed each youth specialist

to be provided with more individualized time for specific instruction and support on their caseloads as well as on their skill development. Sessions were scheduled at a frequency that was intended to meet each youth specialist’s needs as determined by the youth specialist, their supervisor, and the 3-5-7 Model™ coach (ranging from “as needed” to twice monthly, 30–60 minutes in duration).

Over the course of the project, coaching sessions evolved from being instructional in nature, with the 3-5-7 Model™ coach providing more direction and guidance around task identification and activity selection, to a reinforcing approach, with the 3-5-7 Model™ coach affirming the youth specialist’s identification of task and activity selection. Through the provision of continuity in coaching, youth specialists were able to maintain gains achieved in practice applications and expressed greater confidence in their skills.

Outcomes

Self-Reports

Figure 2, based on the percent of agreement among the total sample, displays the extent to which youths and youth specialists at two measurement periods (6 and 12 months), conveyed that the behavioral attributes associated with the model were present. Based on youths’ responses, at 6 months, about 77% felt that their team used the 3-5-7 Model™ in their interactions with them. After 12 months of project involvement, youth participants reported a slight increase in the implementation of the model. In addition to the youth self-reports, the research team also measured the extent to which the interventionists reported using the model with their assigned youths. As expected, youth specialists were more likely to report a higher degree of agreement that model elements are present in their work than were the youths (91–93%).

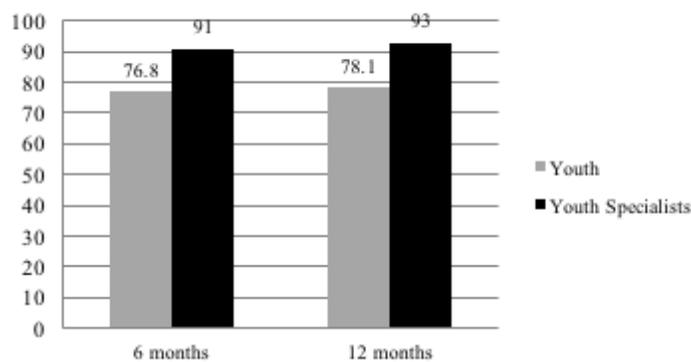


Figure 2. Fidelity scores: Self-reports (%).

Team Observation Measures

Inter-rater variation can be measured in a situation in which two observers are evaluating the same thing. We used the Pearson correlation coefficient to assess inter-rater agreement. The calculation is based on the difference between how much agreement is actually present compared with expected agreement. The Pearson coefficient lies between -1 to 1, where 1 is perfect agreement, 0 is expected agreement by chance, and negative values indicate disagreement beyond chance. As seen in Table 1, correlation coefficients at 6 and 12 months suggest a substantial level of agreement between the two observers.

Table 1
TOM Scores Correlations —Fidelity Scores

TOM scores	Coefficient
Rater 1 and Rater 2 at 6 months	.724** N = 37
Rater 1 and Rater 2 at 12 months	.770** N = 28

** Correlation is significant at the 0.01 level (2-tailed).

Fidelity Measures and Well-Being Outcomes

The research team conducted a series of correlational analyses to further explore associations between fidelity measures used to track the implementation of the 3-5-7 Model™ and other outcomes (i.e., depression and stress indicators, and elements from an adapted version of the Psychological Well-Being [PWB] tool; Ryff & Keyes, 1995) collected for the DREAMR project. Correlational analyses found positive associations between fidelity measures and several variables. For example, after 6 months of project involvement we observed a moderate but negative association between fidelity scores on youth self-reports and self-perceived stress. In other words, as fidelity scores increased, perceived stress decreased. We also saw moderate positive correlation between fidelity scores on youth self-reports and psychological well-being variables, such as purpose in life, self-acceptance, and autonomy (see Table 2).

Table 2
Correlations Between Fidelity Scores and Youths' Psychological Well-Being Outcomes

Measure	Correlation Coefficient
Positive relations with others and fidelity score at 6 months	-.394** N = 52
Self-acceptance and youth fidelity rating at 6 months	.29* N = 52
Self-acceptance and youth fidelity rating at 12 months	.497** N = 44
Stress score and youth fidelity rating at 6 months	-.353* N = 51
Stress score and youth fidelity rating at 6 months (case series)	-.565** N = 26
Autonomy and youth fidelity score at 12 months	.366* N = 44
Purpose in life and youth fidelity score at 12 months	.453** N = 44
Connectedness score and youth fidelity score at 12 months	.711** N = 18

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Note. Highlighted sections display counterintuitive correlation coefficients.

Table 3
Correlations Between TOM Scores and Psychological Well-Being Outcomes

Measure	Correlation Coefficient
Autonomy scale and TOM fidelity score at 6 months	-.372* N = 35
Purpose in life rating and TOM score at 6 months	-.503** N = 35
Purpose in life and TOM score at 12 months	.702* N = 9
Youth connectedness and TOM score at 12 months	.571* N = 14
Stress scale rating and TOM score at 12 months	.670* N = 9

* Correlation is significant at the 0.05 level (2-tailed);

** Correlation is significant at the 0.01 level (2-tailed).

Note. Highlighted sections display counterintuitive correlation coefficients.

Finally, both youth and youth specialists' fidelity scores were negatively associated with the subcategory of positive relationships with others at 6 months. This subcategory measures the extent that youths have trusting relationships. Why do we see this trend? Is it related to the work that interventionists are doing with youths? Is the process of making sense of past experiences possibly affecting the way youth participants interact with others? These are some questions that future researchers should attempt to answer.

Table 4
Correlations Between Youth Specialist Fidelity Scores and Youths' Well-Being Outcomes

Measure	Correlation Coefficient
Positive relations with others and fidelity score at 6 months	-.625* N = 16
Self-acceptance and youth specialist fidelity rating at 12 months	-.768* N = 7
Stress rating and fidelity score at 12 months	.869 N = 7

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Note. Highlighted sections display counterintuitive correlation coefficients.

The youth specialists' self-reports also revealed strong positive correlations between the implementation of the 3-5-7 Model™ and levels of connectedness reported by treatment participants. However, unexpectedly, TOM scores and youth specialists' scores displayed negative associations with a number of psychological well-being outcomes. This is counterintuitive to our theory of change. Theoretically, as fidelity to the model increases, one should expect an increase in PWB scores (for this particular tool, higher scores reflect greater well-being). There are possible explanations for this unanticipated correlation. First, the samples are too small to determine if these correlations will hold with a more representative sample. Second, as described above, TOMs are conducted by two researchers in the presence of a youth and a youth specialist. Observers were advised to find a location for the visit that was unobtrusive, and youth specialists reminded youth participants that any information shared during the visit was confidential. Still, this level of exposure could perhaps have limited the interventionist's work. The presence of an outsider can diminish the work or inhibit conversations they would typically have in other situations. Perhaps these results can be used to reformat the administration of fidelity measures, particularly the team observation measure. Also, an important difference between TOMs and self-reports is that self-reports are completed by individuals involved in the intervention. By the time researchers completed the first round of observations, these individuals had already built rapport and established a safe connection. We think there is a relational component that influences the answers on self-reports that is not fully captured in the layout of the TOM. Future researchers should develop and test several iterations of this measure and perhaps reconsider the implementation format of this tool, for example, video-record sessions and have two researchers watch the tape and evaluate independently.

Lessons Learned and Conclusion

3-5-7 Model™ and Youth Relational Competence

The DREAMR project sought to address the issue of relational competence using the 3-5-7 Model™ and mentoring to address the issues that prevent youths from forging and sustaining safe and meaningful relationships. The 3-5-7 Model™ describes the process through which youths are empowered to explore the events of their lives and the important people and relationships they have been a part of. Through the tasks of Clarification, Integration, and Actualization, young people can develop protective factors and relational competencies ongoing throughout their lives and particularly during their transition to adulthood. The DREAMR project explored whether the approach would give the youths the ability to address the grief and loss of losing their biological family and previous foster families, assist the youths in developing their identity, increase the youths' attachment to others and belongingness, and increase the development of healthy relationships in the youths' life. The 3-5-7 Model™ provides a frame of reference to guide the work that children, youths, and families must do to establish permanency in their relationships. Despite the challenges for professionals and resource families to guide and support this work, allowing young people to grieve losses and rebuild relationships represents a shift from placement-driven services to family-driven services. If this shift is made, the result will be more meaningful permanency relationships for young people.

Implications

Although the study was unable to substantiate discernable differences between treatment and control group youths and several of the correlations run counter to theory, several indicators of psychological well-being were found to be associated with high levels of fidelity to the 3-5-7 Model™. For example, at 6 months, youth self-report scores showed a weak negative association with scores on the Perceived Stress scale. Also, youth self-report scores showed a weak positive relationship with the subscale for Self-acceptance. After 12 months of project involvement, youth self-reports showed a weak to moderate positive relationship with several subcategories in the Ryff scale (i.e., Autonomy, Self-Acceptance, and Purpose in Life). Finally, after 12 months, youth self-report scores showed a strong positive relationship with score values from the Youth Connection Scale. Fidelity scores increased only after the level of coaching, support, and supervision received by interventionists increased. Relational models like 3-5-7 Model™ require high levels of monitoring and support for implementation to be effective. Child welfare jurisdictions considering the use of the model will need to plan beyond the investment and support required to train staff. Interventionists and supervisors must be trained to fully implement the model after training, such as coaching. Training and a train-the-trainers approach should be a consideration. Above all, other jurisdictions considering the implementation of aspects of the DREAMR project, especially the 3-5-7 Model™, will want to keep in mind the following:

- Determine organizational-level and executive-level commitment to the implementation of innovative, multiagency-involved endeavors and continue to update the assessment throughout the life of the project.

- Illustrate how new projects and community innovations align with each partner agency's own goals and missions so as to keep the commitment and momentum for the grant-funded project going.
- From a research vantage point, it is important to identify strong support from agencies through a strong data-driven culture and making sure all stakeholders understand the value of evaluation in improving practice.

Future Research

The DREAMR project is the first instance when the 3-5-7 Model™ has been examined using a randomized control trial study method. The results of this study represent a solid first step in establishing the efficacy of the model. A fidelity system was created and research results show promising but not definitive outcomes. For example, this study detected slight increases in fidelity scores on the indices from 6- to 12-month measurement periods as rated by the interventionists and foster youths. Likewise, correlational analyses between youths' and interventionists' fidelity scores and well-being indicators showed moderate positive relationships (i.e., increase in model fidelity was associated with increases/improvements across various outcomes). However, to advance the science surrounding the model, future projects should expand and work to increase the psychometric properties of the fidelity system tools. Utilizing larger sample sizes, future research studies should focus on inferential analyses to isolate the effects of the 3-5-7 Model™ intervention. Finally, there is a need to revise the observation measure in order to fully capture the relationship between the youths and interventionists.



Suggested Child Welfare Resources

Developing Strategies for Child Maltreatment Prevention. This guide provides information to practitioners who must conduct a community needs assessment and also helps practitioners develop intervention strategies while selecting evidence-based programs (EBPs). Guidance to serving populations in need and weighing the potential costs and benefits of adapting EBPs are also discussed.

Department of Family and Protective Services and Child & Family Research Institute. (2016). Developing strategies for child maltreatment prevention: A guide for adapting evidence-based programs. Available at http://sites.utexas.edu/cfri/files/2016/02/Adaptation-EBPs_FINAL.pdf.

Keys to Quality Youth Development. This guide discusses critical elements to healthy habits and skills needed by young adults. Stimulating, challenging, and encouraging youths and adults to work together to plan, conduct, and evaluate quality experiences are all targeted outcomes.

Almquist, P., Brekke, B., Croymans, S., Fruechte, K., Matlack, M., McAndrews, . . . Zurcher, T. (2016). Keys to quality youth development. Available at <http://www.extension.umn.edu/youth/research/keys-to-quality-youth-development>.

Risk and Protective Factors. Biological and psychological characteristics that increase the possibility of people being vulnerable or resilient are discussed. This report assists individuals in selecting appropriate interventions that focus on reducing risk factors and strengthening protecting factors.

Substance Abuse and Mental Health Services Administration (SAMHSA). (2015). Risk and protective factors. Available at <http://www.samhsa.gov/capt/practicing-effective-prevention/prevention-behavioral-health/risk-protective-factors>.

Youth/Adult Relationships Spectrum. Adults play a vital role in the lives of young adults. Several different types of relationships adults maintain with youths and the effects these relationships may have on youths are discussed in this tool.

Fletcher, A. (2016). Youth/adult relationships spectrum. Available at <https://freechild.org/youthadult-relationships-spectrum>.

Strengthening Family Relationships. This report presents suggestions for improving and strengthening families. The need for relationships to be nurtured and qualities presented by strong families are discussed.

Matthews, D. (2000). Strengthening family relationships. Available at <http://www.advocatesforyouth.org/publications/1229-strengthening-family-relationships>.

Suggested Implementation Science and Fidelity Resources

Assessing Program Fidelity and Adaptations. The report assists program implementers, evaluators, and developers to assess changes or adaptations made to a program upon implementation. This report also helps implementers anticipate potential adaptations and can assist funders to evaluate the appropriateness of changes necessary for the success of programs.

Cummins, M., Goddard, C., Education Development Center (EDC), Inc., Formica, S., Cohen, D., & Harding, W. (2003). Assessing program fidelity and adaptations. Available at <http://www.promoteprevent.org/sites/www.promoteprevent.org/files/resources/FidelityAdaptationToolkit.pdf>.

Fidelity in Evidence-Based Practice. This website offers a variety of articles to help implementers preserve the components that help to make practice effective and directly affect the success of desired outcomes. Case examples, analyses, and evidence-based practice methods and activities are discussed.

Available at <https://www.childwelfare.gov/topics/management/practice-improvement/evidence/implementing/fidelity>.

Measuring Implementation Fidelity. This brief introduces five dimensions of fidelity: adherence, exposure, quality of delivery, participant responsiveness, and program differentiation. Program performance and incorporating an assessment of implementation fidelity are critical components of a comprehensive evaluation. This brief aims to greatly enhance a program's understanding of the strengths and areas in need of improvement.

James Bell Associates. (2009). Measuring implementation fidelity. Available at http://www.jbassoc.com/ReportsPublications/Evaluation%20Brief%20-%20Measuring%20Implementation%20Fidelity_Octob%E2%80%A6.pdf.

Implementing and Adaptation. This report discusses the importance of identifying and addressing implementation barriers or changes that may affect implementation. Implementers must keep communication with and ensure cooperation from staff and stakeholders by keeping them informed and evoking feedback. Using evaluation data to illustrate positive outcomes and adaptations are also discussed on the site. Available at <http://youth.gov/evidence-innovation/implementing-adapting>. This report discusses the importance of fidelity; how it is assessed; stating four measures, three of which have been made operational and available online; and what implementers can expect for the future. Supporting youths and families and strengthening the outcomes of care and services through collaborative efforts are the main components of this report.

Youth and Family Training Institute. What is fidelity? Available at <http://yftipa.org/pages/what-is-fidelity>.

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Website Link

<http://dreamrproject.org/>

YouTube Channel

<https://www.youtube.com/watch?v=PXc6Domec24&t=60s>

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