Foundational Plan: Preliminary Outcomes of Scaling a Tier-One Intervention

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Introduction

- The Foundational Plan (FP) is tier one component of a Response-to-Intervention (RTI model) aimed at improving treatment implementation and reducing barriers to learning skills, including interfering behavior (Hughes & Dexter, 2011).
- The FP is designed to set a therapist and client up for success by thoroughly outlining the steps taken to build high levels of trust and rapport through antecedent and consequence interventions.
- Through the implementation of FPs, data has supported it as a successful standalone intervention for some clients with significant drops in high intensity and dangerous behaviors.
- Large-scale implementation of ABA begins by tying behavioral science to outcomes that are highly valued by society, decreasing interfering behavior is socially valid (Horner & Kittelman, 2021.)
- The purpose of this study is to show the outcome of both small and large-scale adoption of Foundational Plans on high intensity and dangerous interfering behavior across both individual clinician (BCBA) and their clients and multiple clinicians (BCBAs) and clients.

Methodology

Participants

- Synchronous and asynchronous training was provided by a Director of Functional Assessment and Treatment implementation who developed the FP and has been a BCBA for 4 years.
- 11 total clients who participated in the study were all diagnosed with Autism Spectrum Disorder (ASD). Five female clients age ranged from 5-7years old. Six male clients ages ranged from 3-7 years old.
- There were five Board Certified Behavior Analysts participated. The length of time they had been credentialed varied from 1-7 years. The clinicians' positions in the company varied and consisted of: Clinical Director, Clinical Leadership Resident and Supervising Clinician.

Setting

- The study took place in an Applied Behavior Analysis (ABA) clinic in the Midwest that serves young children with an ASD diagnosis.

Targeted Behaviors

- Total Count per Hour of High Intensity and Dangerous Interfering Behavior. 13 topographies of interfering behaviors were observed across the 11 clients (see Table 1).

Procedure

The Clinicians received training on the Foundational Plan in one of two formats:

1. Two- hour synchronous company wide training on FP from Vice President of Functional Assessment and Treatment. This was a web-based training.
2. Four weeks of FP development via synchronous training and asynchronous fidelity checks with feedback and FP approval.

   OR

   An 8-hour synchronous in person FP workshop. At the end of the 8 hours the goal was for each clinician to have completed two FPs.
3. Continued mentorship and asynchronous fidelity checks with feedback from Clinical Lead Resident and/or Clinical Director and FP approval.
4. Center wide training provided to Registered Behavior Technicians (RBTS) on STEAM (See Figure 2).
5. The Clinicians reviewed the FP with the Clients' RBTS.
6. Implementation of Foundational Plan in every therapy session. This included therapy session with Client's assigned RBTs and substitute RBTs.
   - Supervision for each client was conducted weekly ranging from 2.5-4 hours per week
   - Behavior Skills Training was used to train the staff. The components of the FP were described, modeled, and allowed opportunities for implementation followed by feedback. At the end of session reflective practice was used to identify areas of strength and opportunity for the next session.

Methodology (cont.) & Results

Figure 1
Components of the Foundational Plan

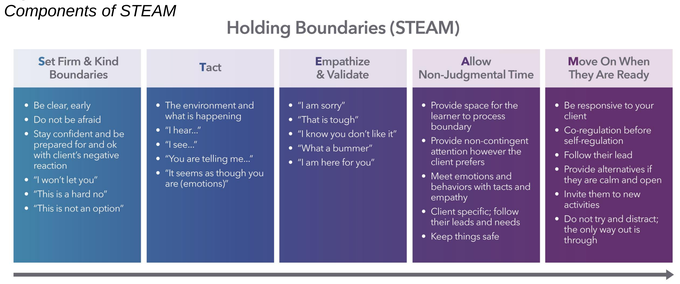
Note. Each component of a FP is provided with global considerations and directions for individualization for the client.

Table 1
Topographies of Interfering behavior included in aggregate data

Topographies
Self Injurious Behavior
Physical Aggression
Tantrum
Property Destruction
Elopement
Disrobing
Mouthing
Spitting
Biting Others
Biting Objects
Meltdown Tantrum
Ingesting Non-Edible Items
Unsafe Climbing

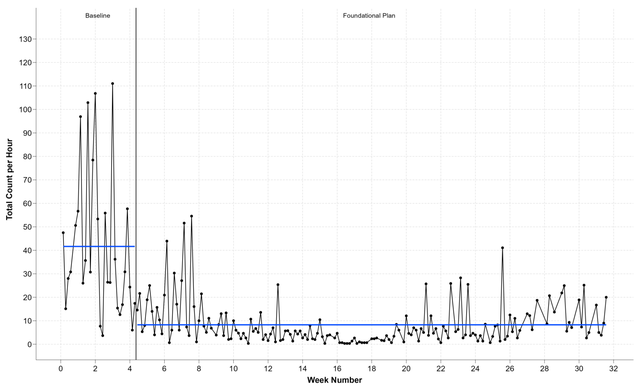
Note. 13 topographies reported by clinicians

Figure 2
Components of STEAM



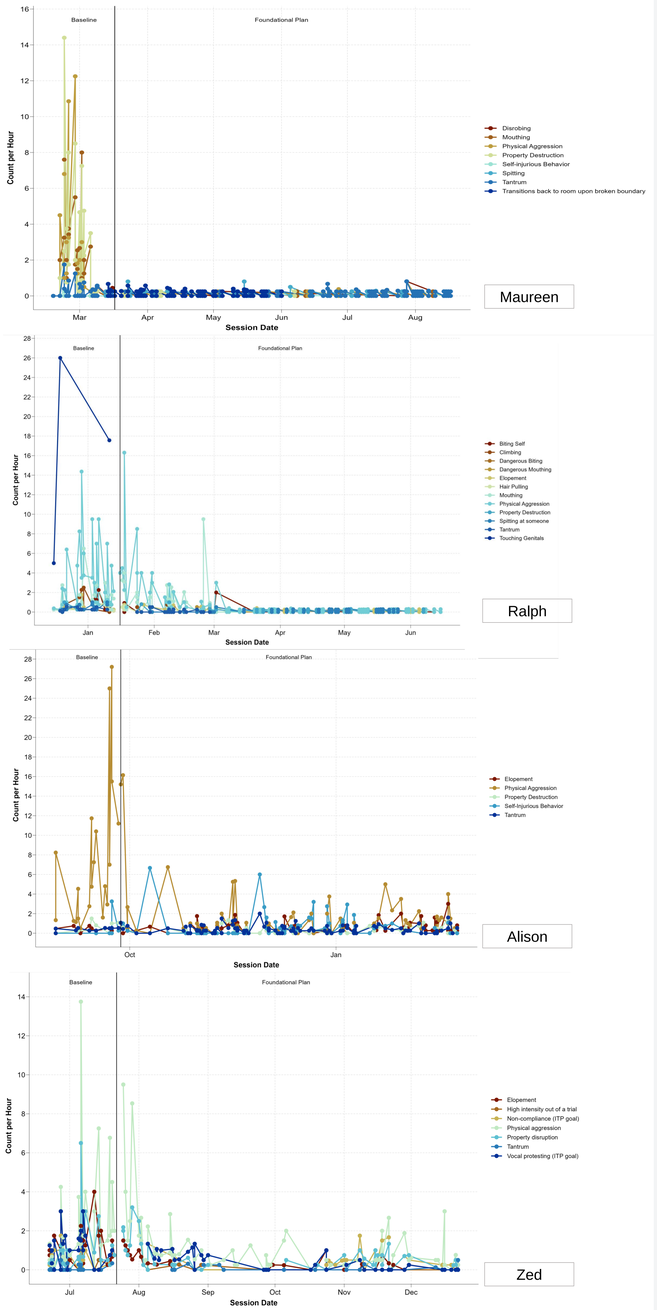
Note. Outline, description and examples of each component of the STEAM process used when holding boundaries in the FP.

Figure 4
Graph of the aggregate daily data for interfering behavior across clients



Note. Total count per hour of High Intensity and Dangerous Behaviors per day across 7 clients and 5 clinicians. A range of 1-13 topographies of behaviors were observed across 221 days.

Figure 3
Levels of interfering behavior data prior to and following the implementation of FPs



Note. Count per hour of interfering behaviors across 5-12 topographies for each clients. Each graph spans a 6-month period; baseline was considered one month prior to implementation. Interfering behavior data for 5 months following implementation is provided.

Results (cont.)

Table 2
Descriptive statistics of aggregate data

	Baseline (30 days)	FP (190 days)
Avg. # of topographies	8.1	4.56
Total Range	3.3-111	.33-54.5
Avg. total count/hour	41.6	8.3
Avg. mean count/hour	4.4	1.5

Note. Average number of topographies, total count/hour, mean count/hour, and total range for data across baseline and intervention phases.

Discussion

- The results of this study indicate that implementing a FP as a standalone intervention is successful in reducing the frequency in which high magnitude and dangerous interfering behavior topographies occur.
- The results also indicate that this is an effective treatment intervention across clients with varying degrees of high intensity and dangerous interfering behavior, age, and co-occurring diagnoses.
- Across clinicians, with varying levels of experience, the data from this study shows implementation of the Foundational Plan is an effective Tier 1 intervention for reducing clients' rate of high intensity and dangerous interfering behaviors.
- Through implementing the Foundational Plan, High Intensity and Dangerous interfering behavior was reduced by an average of 36 instances per hour per day across 7 clients who were supervised by 5 different clinicians.
- The model of training provided was effective in achieving meaningful outcomes in the reduction of interfering behaviors across multiple topographies
- Not only did the level of interfering behaviors decrease substantially, but the number of observed topographies was also reduced by 44%.

Limitations:

- IOA data was not taken on implementation of the foundational plan or the data collection of interfering behaviors.
- All the clinicians in this study were mentored by the same Clinical Lead Resident and their Foundational Plans were edited by her.

Future Research:

- To further support the hypothesis that the Foundational Plan is a scalable intervention, the subject number should be increased.
- Component analysis of the various parts of the FP to determine if some components or combination of components are more effective than others.
- Compare the frequency of changes to the Foundational Plan and the rate of high intensity and dangerous behavior, to see if there is a positive correlation, identify if there is an average frequency of change that leads to the most significant decrease in interfering behavior and train clinicians on this.

Implications

- The Foundational Plan is a scalable Tier 1 intervention that decreases High Intensity and Dangerous interfering behaviors (of varying topographies) across clients of different ages and skill sets who are supervised by different clinicians. Most important were the methods in which these outcomes were attained: through compassionate, values and client centered intervention focused on therapeutic alliance, client dignity and respect.
- Centria Autism has rolled out a mentorship program to ensure every clinician receives training in the development and implementation of the FP.
  - Behavior Technician training has been developed to ensure alignment both with the RBT credential and with the values and components of the FP.