

Introduction

ExerSHINE Kids® POWER Bootcamp Program

- ExerSHINE Kids® POWER Bootcamp Program is a pediatric group occupational therapy (OT) intervention that combines elements of Ayres Sensory Integration® (ASI®), the STAR frame of reference, & high-intensity physical activity (PA) to facilitate self-regulation skills & promote occupational performance.
- Existing literature supports the use of ASI®, the STAR frame of reference, & high-intensity PA in promoting adaptive self-regulation habits among children.^{2,6,8,11,15,17,18,}
- ExerSHINE Kids® pilot study → improvements in activities of daily living (ADLs), instrumental activities of daily living (IADLs), & the processing of sensory craving subtypes on the Sensory Processing Measure (SPM).¹⁹

Self-regulation & Occupational Performance in Childhood

- Self-regulation - how individuals manage behaviors/emotions in relation to their environment.^{5,20}
- Early childhood experiences predict self-regulation skills later in life.^{3,4,7}
- Strong self-regulation skills are associated with improved occupational performance in children.^{2,9,10}

Fidelity To Intervention

- Fidelity to intervention (FI) is defined as the degree to which an intervention is implemented as intended.¹⁶
- FI is necessary to demonstrate the association between an intervention & its effect on the targeted outcomes.¹⁶
- Higher fidelity is associated with improved outcomes.^{12,13}

Purpose: To differentiate ExerSHINE Kids® POWER Bootcamp program through the development of a fidelity measure in preparation for continued study of program efficacy

Aim 1

Differentiate ExerSHINE Kids® POWER Bootcamp Program from ASI®

Aim 2

Define the essential elements of ExerSHINE Kids® POWER Bootcamp Program

Aim 3

Assess the ExerSHINE Kids® POWER Bootcamp Program fidelity measure

Methods

Objective 1

Assess ExerSHINE Kids® POWER Bootcamp Program with ASI® fidelity measure

- Complete ASI® Fidelity Training
- Evaluate ExerSHINE Kids® POWER bootcamp classes with ASI® fidelity measure
- Analyze ASI® fidelity measure results & establish differentiation

Objective 2

Create an ExerSHINE Kids® POWER Bootcamp fidelity measure

- Observe multiple live Bootcamp sessions
- Complete & analyze ExerSHINE Kids® practitioner training modules
- Complete semi-structured interview with ExerSHINE Kids® creator, Dr. Wheadon.
- Develop individual fidelity items, measure format, & scoring procedures

Objective 3

Pilot the ExerSHINE Kids® POWER Bootcamp fidelity measure

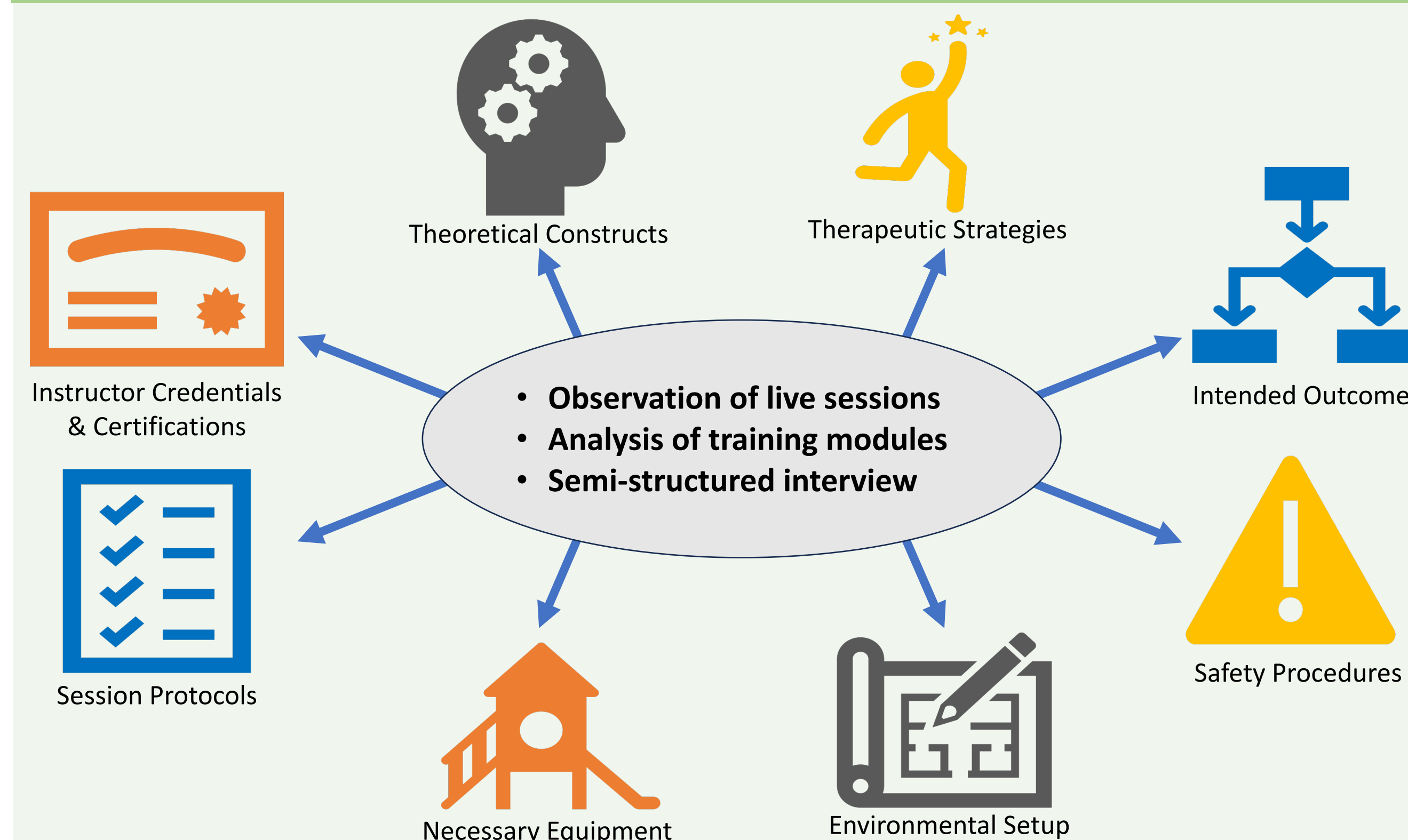
- Recruit two therapists to pilot fidelity measure
- Train therapists to use measure via collaborative review of pre-recorded session
- Facilitate therapists' independent scoring of pre-recorded bootcamps
- Analyze pilot results
- Complete semi-structured interviews with therapists
- Develop final recommendation for measure implementation

Results

Aim 1: ASI® Fidelity Measure Applied to ExerSHINE Kids®

ASI® Structural Fidelity	ASI® Procedural Fidelity
35.5% = Poor structural fidelity	80% = Strong procedural fidelity
Does NOT meet criteria	Meets criteria
Key difference in content: <ul style="list-style-type: none"> ExerSHINE Kids® does NOT require a formal assessment Significant equipment differences Different therapist credentials 	Key differences related to therapeutic strategies: <ul style="list-style-type: none"> ExerSHINE Kids® is NOT child-directed ExerSHINE Kids® is NOT exclusively play-based

Aim 2: ExerSHINE Kids® Fidelity Measure Development



Structural Fidelity	Procedural Fidelity
Reflects the content of the session	Reflects the manner in which content is delivered
Objective review of session components	Subjective analysis of applied therapeutic strategies reflecting clinical reasoning
<ul style="list-style-type: none"> Instructor credentials Available equipment Physical space Safe environment Protocol content Parent/guardian feedback 	<ul style="list-style-type: none"> Self-regulation Executive functioning Social pragmatics Group dynamics Motor planning/praxis Therapeutic use of self
Scored on a binary scale (Yes/No)	Scored on a 4-point Likert scale
Scoring <ul style="list-style-type: none"> Final score determined in each section by dividing points earned by total possible points Both sections require ≥80% to meet criteria of "high fidelity to intervention".¹ 	

Aim 3: Pilot Results

Structural Fidelity	Procedural Fidelity
Rater 1: 37/44 = 84% • Meets criteria for high fidelity	Rater 1: 35/48 = 73% • Does NOT meet criteria for high fidelity
Rater 2: 37/44 = 84% • Meets criteria for high fidelity	Rater 2: 40/48 = 83% • Meets criteria for high fidelity

Discussion

Initial Feedback

- Structural form is **easy to score** & feels **representative of the session protocols**
- Procedural form is more **difficult to interpret** (particularly when using pre-recorded videos); however, **represents the therapeutic nature of ExerSHINE Kids®**

Recommendations

Structural Form

- Protocol items** related to incorporating the "exercise of the week" should be **explicitly outlined in the practitioner training modules & reinforced in session protocols** to be considered an essential element & expectation of the therapist.
- The expectation for **length of time participants spend engaging in high-intensity physical activity** should be lowered to **30 out of 45 minutes**

Procedural Form

- Items related to **facilitating participant attention & turn-taking** are **better represented in the structural form**. These items are dictated by intervention design & were **not observed to be an intentional choice** by the therapist

Future Directions

Validation of ExerSHINE Kids® POWER Bootcamp Programs

- Defines standard of intervention delivery for potential multi-site efficacy study
- Aids in demonstrating the relationship between implementation & intended outcomes

Clinician Training & Intervention Standards

- Tool for certification/recertification of clinicians
- Define/maintain a standard for intervention delivery across all practitioners

Continued research on fidelity measure

- Interrater reliability
 - Percentage of agreement; intra-class correlation; Pearson correlation coefficient¹⁴
- Empirical evaluation of internal structure¹⁴
 - Cluster factor analysis; Cronbach's alpha

Additional resource development

- Development of fidelity measure training module to expand use of measure

Limitations & Conclusions

Limitations

- Informal fidelity measure training
- Small pilot study
- Pre-recorded videos vs live sessions

Conclusions

- ExerSHINE Kids® is **structurally different** from ASI® & is a unique intervention approach
- Both **structural & procedural fidelity items** are representative of the **manualized & therapeutic** nature of ExerSHINE Kids® POWER Bootcamp Program
- The **subjective nature of the procedural fidelity items may impact inter-rater reliability** due to differences in observation & interpretation of an instructor's application of therapeutic strategies informed by clinical reasoning

References & Resources:

