

# Cutting our losses: Predicting prevention implementer retention

Wendi Cross, Ph.D., Jennifer West, Ph.D., Karen Schmeelk-Cone, Ph.D., Yinglin Xia, Ph.D., Xin Tu, Ph.D., & Peter Wyman, Ph.D.

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**Additional Collaborators:** Holly Wadkins, M.A., Luke Sworts, B.A., Emma Forbes-Jones, Ph.D., Michael Teisl, Ph.D.

# Background

Prevention programs -- frequently implemented by non-clinicians who must be trained to deliver interventions as intended

Implementer training, supervision and monitoring – represent an enormous investment of programmatic resources

Few scientifically-derived guidelines available for personnel selection and retention

Cross et al, 2010

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# Overarching Goal: Develop evidence-base for training program and transfer practices

K23 research to study non-clinical implementers, training factors, adult learning, and competence

Current Study:

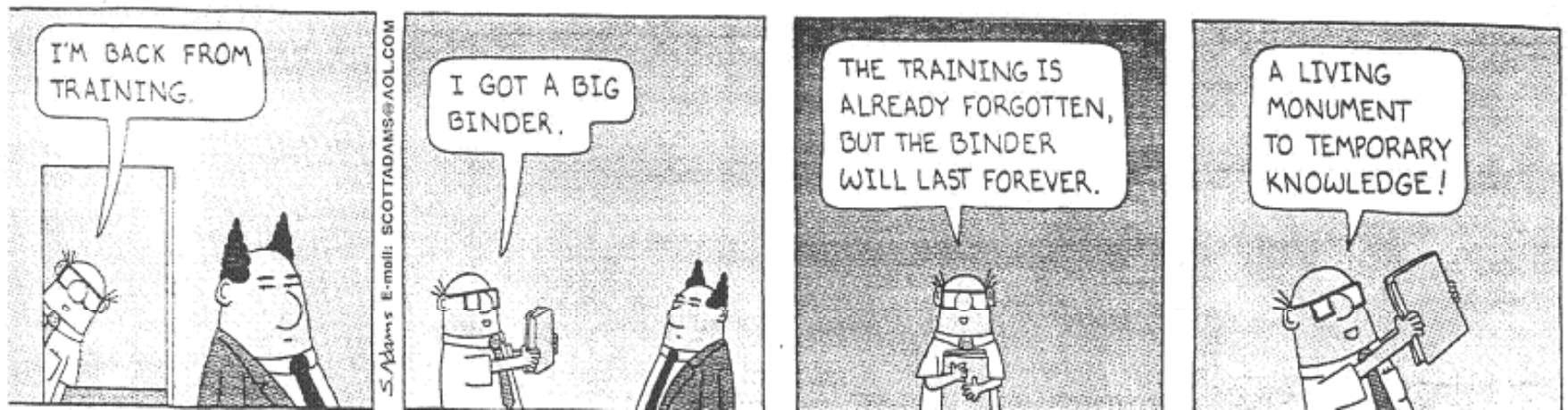
- Question: What variables are related to retention of highly trained paraprofessional implementers?

# Training Program (“Process”) as an intervention

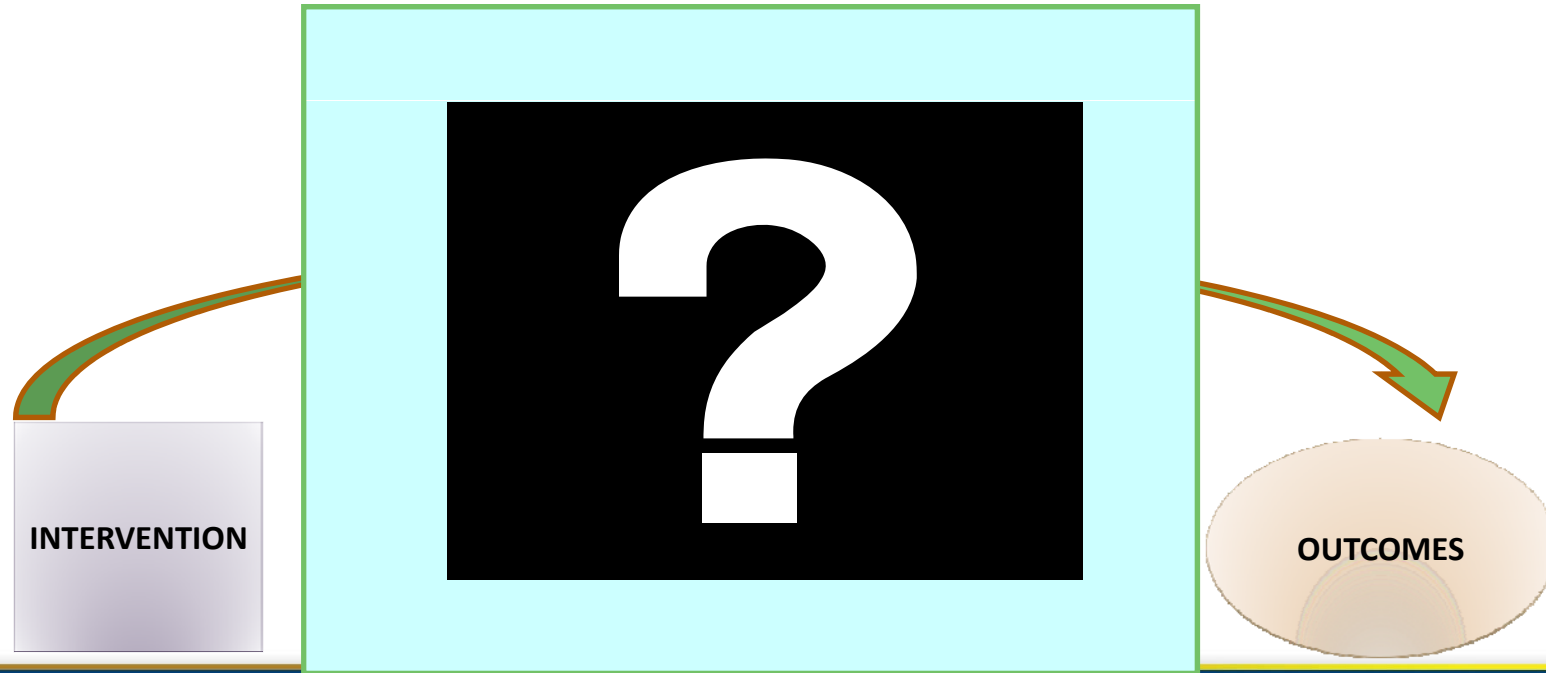
**Explicit “program” intervention**: program theory, content, procedures described by the program developer; effect on clinical outcomes

**Implicit “training” intervention**: training program and transfer process that prepares implementers to deliver the explicit intervention as designed; includes intervention selection, training modalities, monitoring, transfer variables

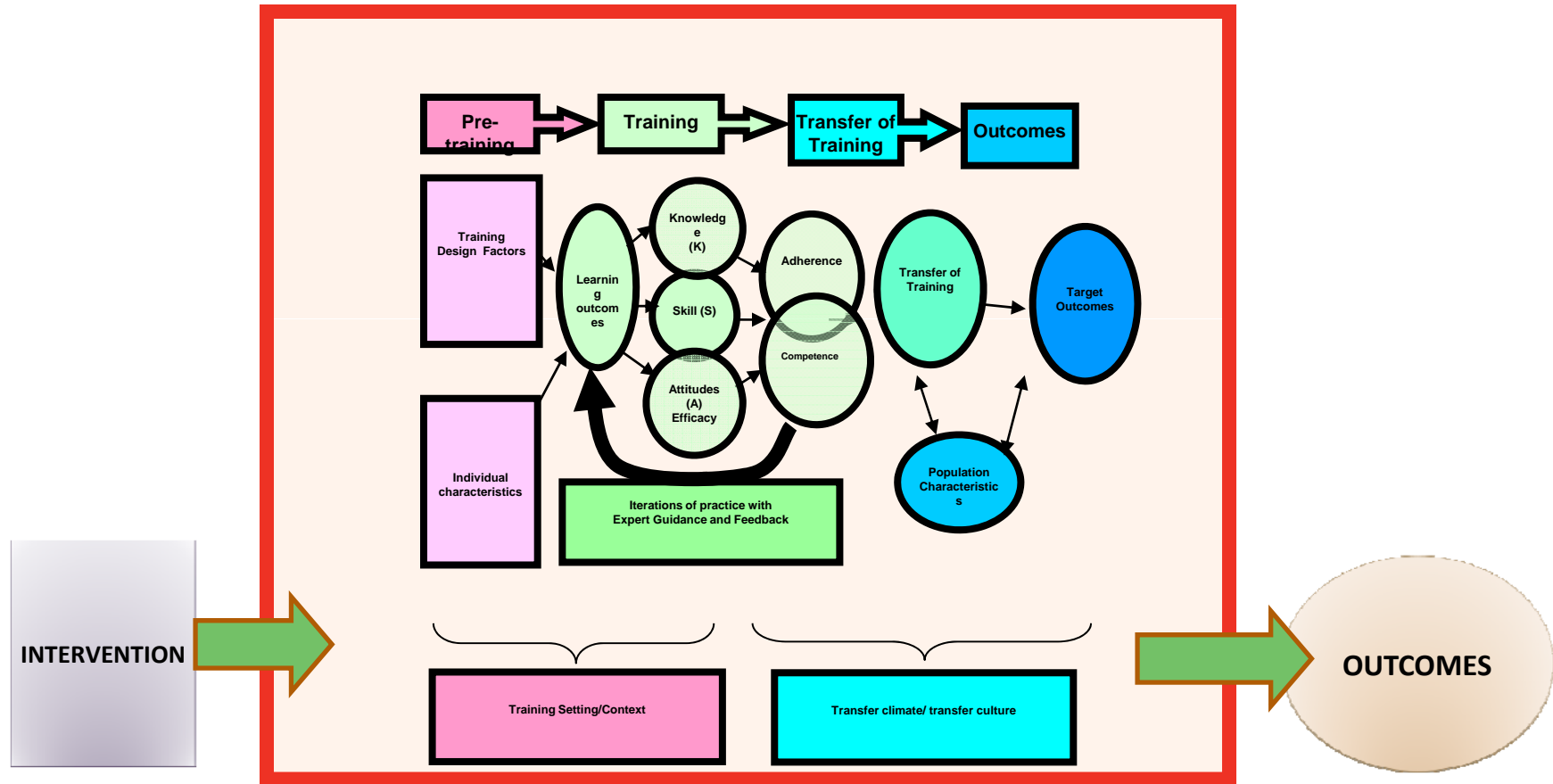
# We need to develop an evidence base for 'implicit training intervention'



# The black box...



# A Model of Training and Transfer of Training (Cross, 2009)



# Training intervention

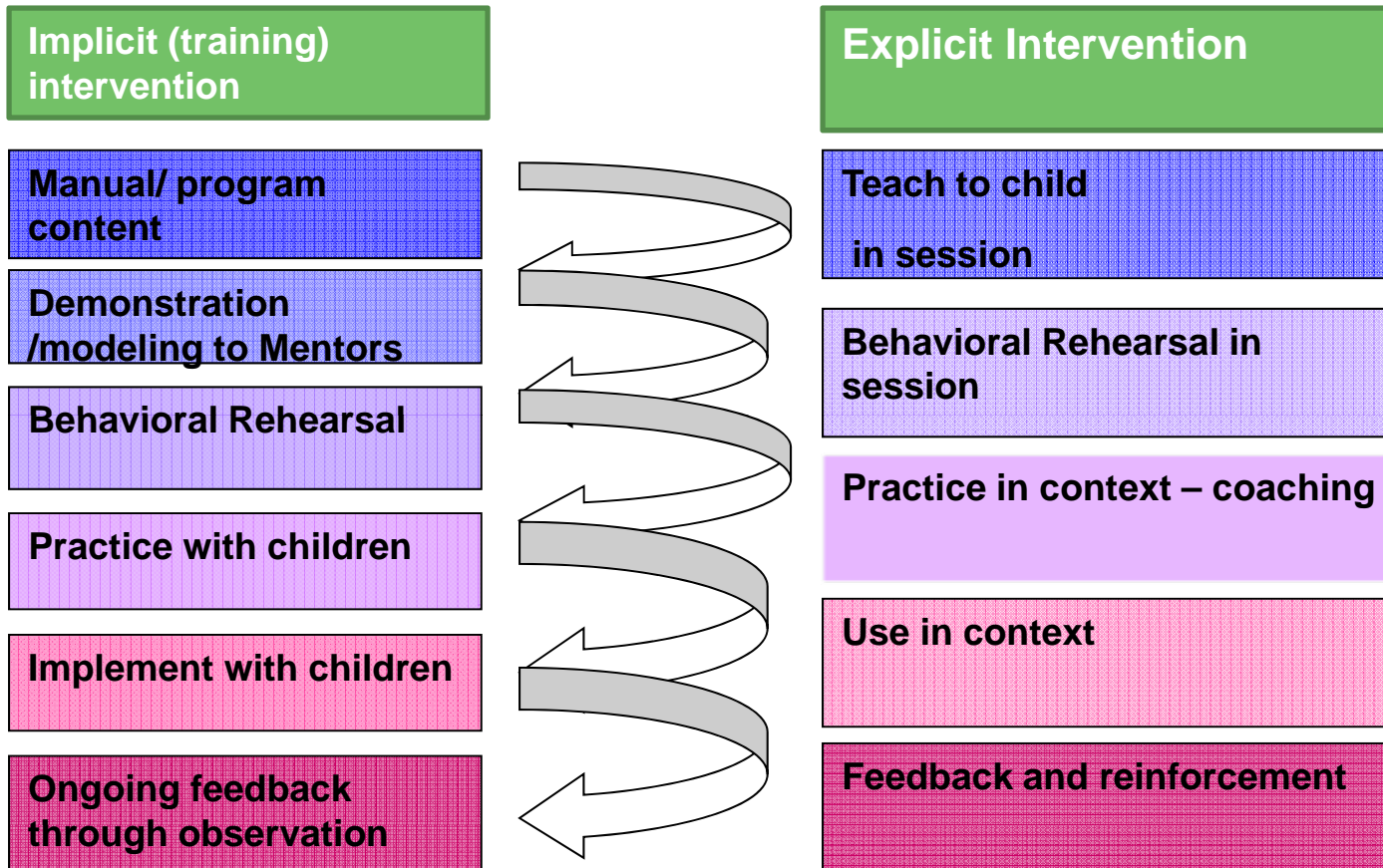
- **Implementers: Resilience Mentor**
  - School-based paraprofessionals (e.g., aides)
  - Responded to ad
  - Endorsed by principals
  - Interviewed (motivation to learn new skills, approach to children, commitment), "visit"
  - Community members
  - Intensively trained (1 yr – 400 hours; 2hrs+ week thereafter ) to deliver intervention, faithfully & flexibly

# Training intervention

- **Training Best Practices**

- Principles of Andragogy (Knowles et al., 2000), Self-Determination Theory (Deci & Ryan, 1985), Dreyfus & Dreyfus Skill Development Model (1980, 1981)
- Active learning techniques, self-assessment tools, reflection, role play/simulation, video tape, feedback/ expert guidance, graduated skills learning
- Ongoing training & supervision after first intensive year
- Parallel process: Explicit-Implicit Interventions. Interact with/model to Mentors the “program” skills during training

# Explicit –implicit Intervention Parallel Process



# Explicit Intervention: Rochester Resilience Project (Wyman & Cross)

- **School-based preventive intervention**
  - Targets at-risk elementary children 1<sup>st</sup> – 3<sup>rd</sup> grade
  - A skill-based mentoring program delivered by trained paraprofessionals
  - Efficacy Trial (NIMH funded R01MH068423)
  - 5 schools; 400 children (randomized, blocked by classroom) parents, 100+ teachers
  - **Components: Child component:** 24 1:1 sessions (Yr 1 = 14; Yr2 = 10): focus on emotional self-regulation skills; coaching
    - **Parent component:** 12 sessions; **School/classroom component:** lessons in classroom

# Study Questions

1. What variables differentiate those who are retained?
2. Can we identify successful implementers early?

# Method

Prospective longitudinal data collected for n= 11 implementers, up to 3 years.

## Measures:

1. **Baseline:** Demographics ( age, gender, ethnicity, education, years working with children) & Personality (NEO)
2. **Repeated Self-reports:** Efficacy, Job Satisfaction, Personal Use of program skills (Mentor Impact), Psychological Needs Met at Work (Autonomy, Relatedness, Competence), Learning Transfer

# Method: Definitions

**Retained (n=6)** : Trained and retained; implementing program during R01 trial; annual evaluations – “good enough” (or better) work habits, minimal standards (or better) for productivity.

**Non-retained (n=5)**: Began training, may have implemented program during trial, left position by mutual agreement due to less than “good enough” work habits and/or less than minimal standards for productivity.

## Method: Measurement administration

Measures	BL/ T1	T2	T3	T4	T5
Demographics	X				
NEO Personality Index (Costa & McCrae, 1988)	X				
Self-efficacy (alpha = .72)		X	X	X	X
Knowledge: declarative	X	X			
Psychological Needs Met at Work (Deci & Ryan, 1985; alphas = .57 - .77)		X	X	X	X
Mentor Impact (Personal use of skills; alpha = .84)		X	X	X	X
Job Satisfaction (modified Koeshe et al, alpha=.56 )		X	X	X	X
Transfer Context (LTSI; Holton et al., 2000; alpha = .93 )		X	X	X	X

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# Analyses

Ongoing replacement process of implementers

Plots performed in reversed time to assess and visualize differences between retained (n=6) and non-retained (n=5) implementers

- final assessment “first” data point for each

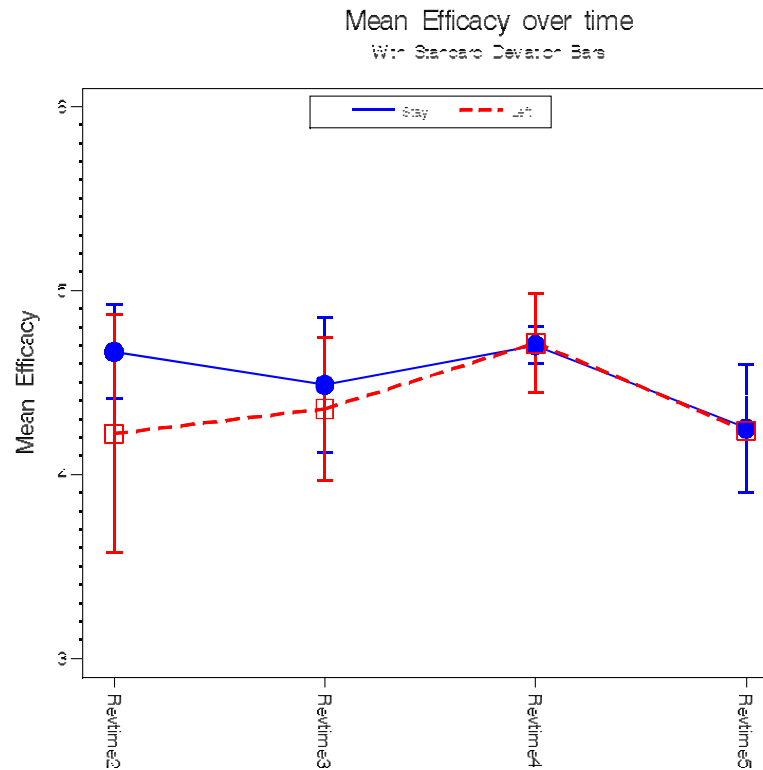
Logistic regression used to predict group difference with inference based on GEE in final model

$p < .10$  entered into final model

# Self Report Results: Self-Efficacy

No self-report measures significantly associated with retention /non-retention

Trend for higher Self-efficacy in retained group ( $p < .07$ )



# Primary K23 study: Measuring Implementer skill

- Video taped Implementer-Child meetings to assess skill for RCT outcome analyses
- Observational coding of Implementer adherence and competence delivering the explicit intervention
  - Implementer **Adherence** = Extent to which an implementer/ trainer uses interventions and approaches prescribed by the manual (content delivered)
  - Implementer **Competence** = Level of skill shown by implementers / trainers in delivering the intervention (process of delivery)



# Competence Measure

Item Number	Label	Item Description (see Coding Manual)	Good Work			Acceptable Work			Needs Work		
			9	8	7	6	5	4	3	2	1
1	<b>Emotional responsiveness</b>	Ability to respond empathically to the child's statements and behaviors by reflecting and labeling feelings	9	8	7	6	5	4	3	2	1
2	<b>Boundaries</b>	Ability to maintain appropriate psychological and physical boundaries that promote the child's autonomy and competence	9	8	7	6	5	4	3	2	1
3	<b>Language/ verbal communication</b>	Ability to use developmentally appropriate language that clearly conveys both the concepts/skills and the implementer's empathic connection to the child (e.g., warm, enthusiastic tone, use of specific praise)	9	8	7	6	5	4	3	2	1
4	<b>Pacing/ focus</b>	Ability to strategically and sensitively adjust the pace of the session to the needs of the child while remaining focused on relevant aspects of the session content	9	8	7	6	5	4	3	2	1
5	<b>Active learning</b>	Ability to effectively use interactive strategies, such as demonstrations and role-plays, to introduce, teach and reinforce concepts and skills	9	8	7	6	5	4	3	2	1
6	<b>Individualizing / Tailoring</b>	Ability to use flexibly tailor teaching and concepts/skills so that they are meaningful for the child and his/her context	9	8	7	6	5	4	3	2	1
7	<b>In vivo</b>	Ability to use spontaneous material such as the child's presentation, story, or observations to introduce/teach /reinforce skills or concepts	9	8	7	6	5	4	3	2	1

## Observational Data

- Measurement development occurred during Training period with Mentor-child “training dyads”
- Scores available for training period:
  - T2 ( $\leq 6$  observations per Mentor)
  - T3 ( $\leq 4$  observations per Mentor)
- Scores available for initial trial period:
  - T4 ( $\leq 9$  observations per Mentor)

Used longitudinal linear regression to predict group difference with inference based on GEE

## Observational ratings:

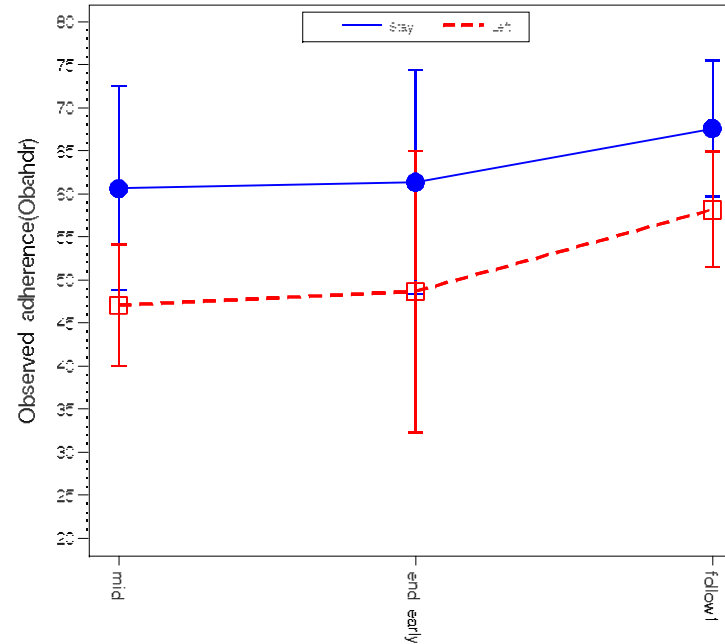
### Mentor Adherence

Retained Implementers scored significantly higher on Adherence measure

( $p < .05$ )

Effect size = .46 (medium)

Mean Observed adherence over time  
With Standard Deviation Bars

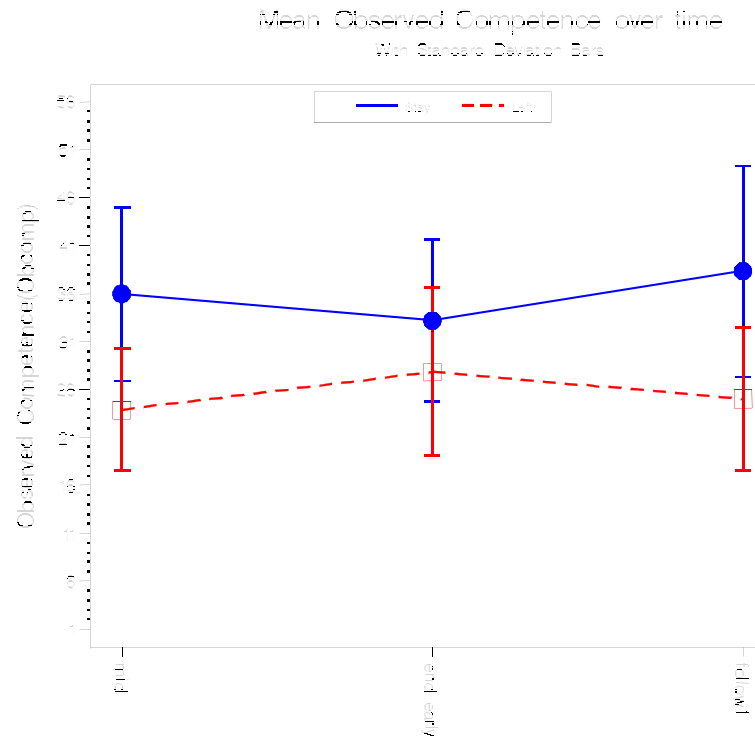


## Observational ratings: Mentor Competence

Retained Implementers  
scored significantly  
higher on Competence  
Measure

( $p < .01$ )

Effect size = .89 (large)



Cross et al, 2010

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# Conclusions

1. Demographics, Personality and Self-report measures: Not significantly associated with retention (trend for Self- Efficacy)
2. Higher observed ratings of adherence and competence differentiated retained from non-retained implementers.
3. Difference was evident beginning in the first 4 months of training.
  - We don't give up!
4. Many resources were invested over a long period of time – additional support, training and supervision efforts – for implementers who are not likely to improve.

# Implications

Evidence for relationship between observed and objectively rated intervention delivery skills – adherence & competence – and retention.

Next steps for implicit training intervention:

- Probationary period 4-6 months
- Timely observational ratings and specific feedback
- Certification process

**Future research:** Mentor adherence/competence variable in RCT analyses – we don't know if observed skills are related to outcomes in the explicit intervention