

Implementation Outcomes of a Social Intervention for Children with Autism in Public Schools

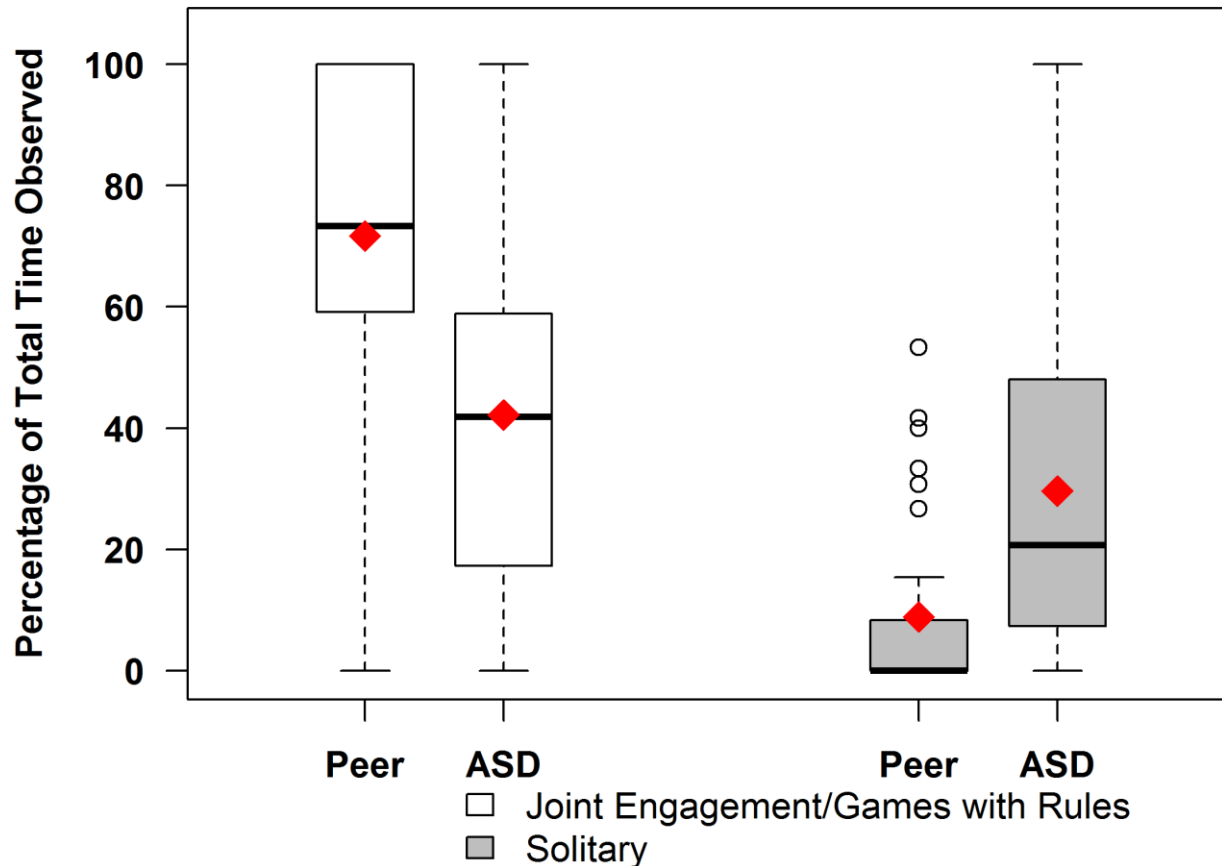
Jill Locke, PhD, Christina Kang-Yi, PhD, Lindsay Frederick, Julie Caramanico, & David Mandell, ScD

Center for School Mental Health 2017

Playground Engagement

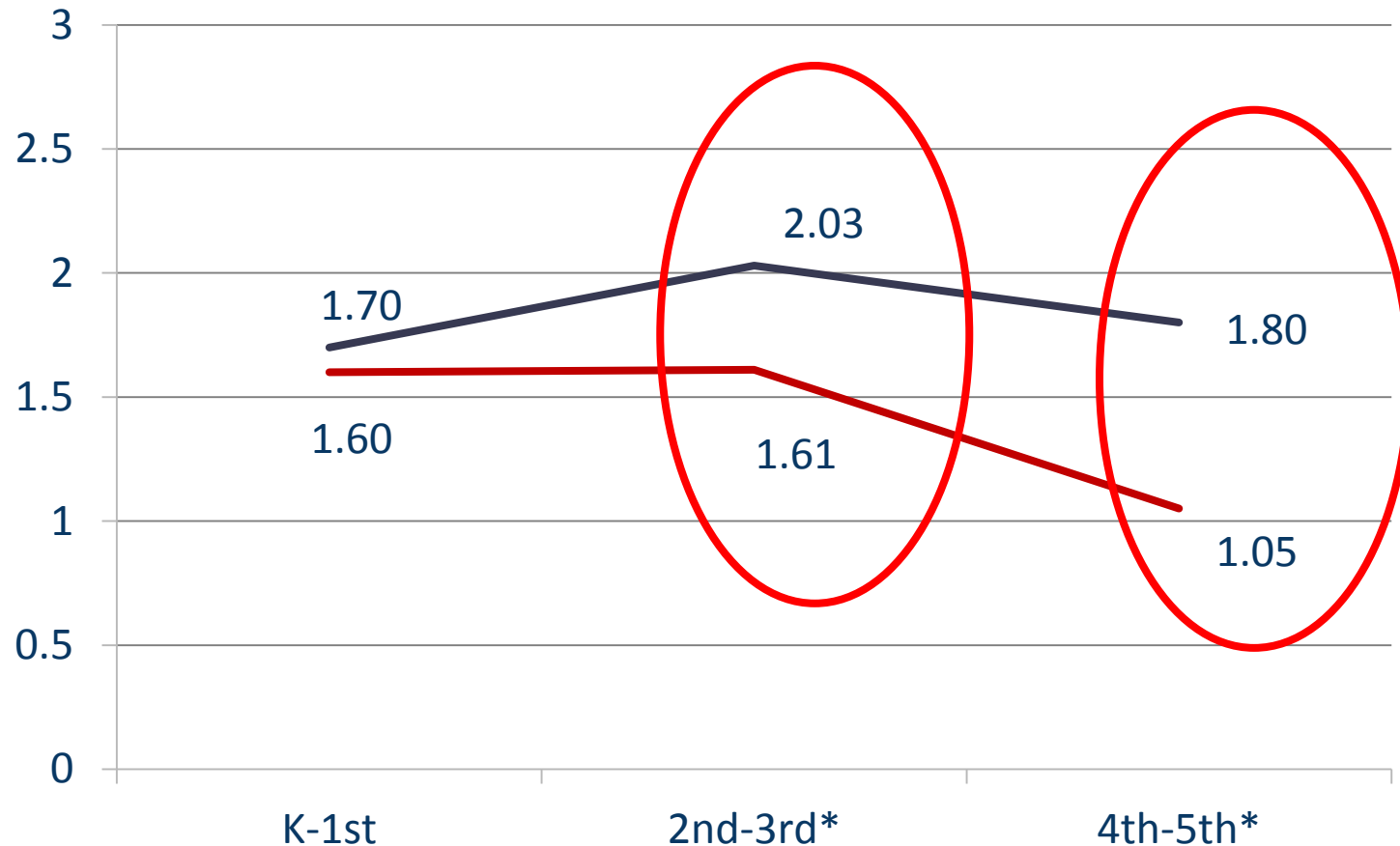
(Locke, Shih, Kretzmann, & Kasari, 2015)

Playground Observation of Peer Engagement



Social Network Inclusion

(Rotheram-Fuller, Kasari, Chamberlain, & Locke, 2010)



- Typical Peers
- Children with ASD

* $p < .05$

Importance of Working with Schools



Interventions have largely been delivered in clinical and university-based settings



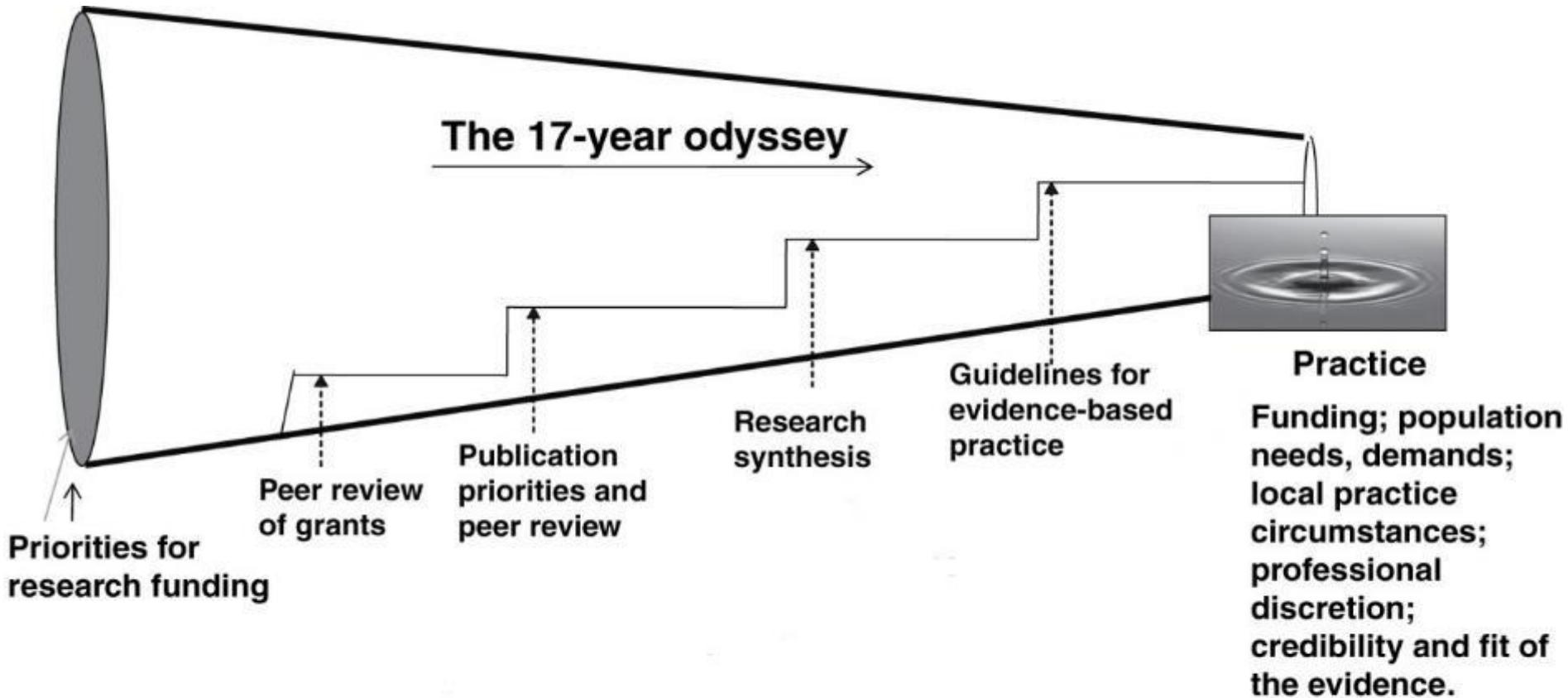
Conducting research in partnership with schools

Limits generalization and sustainment

Increases relevance to the setting, use of the intervention, positive outcomes for students



Research to.....practice?



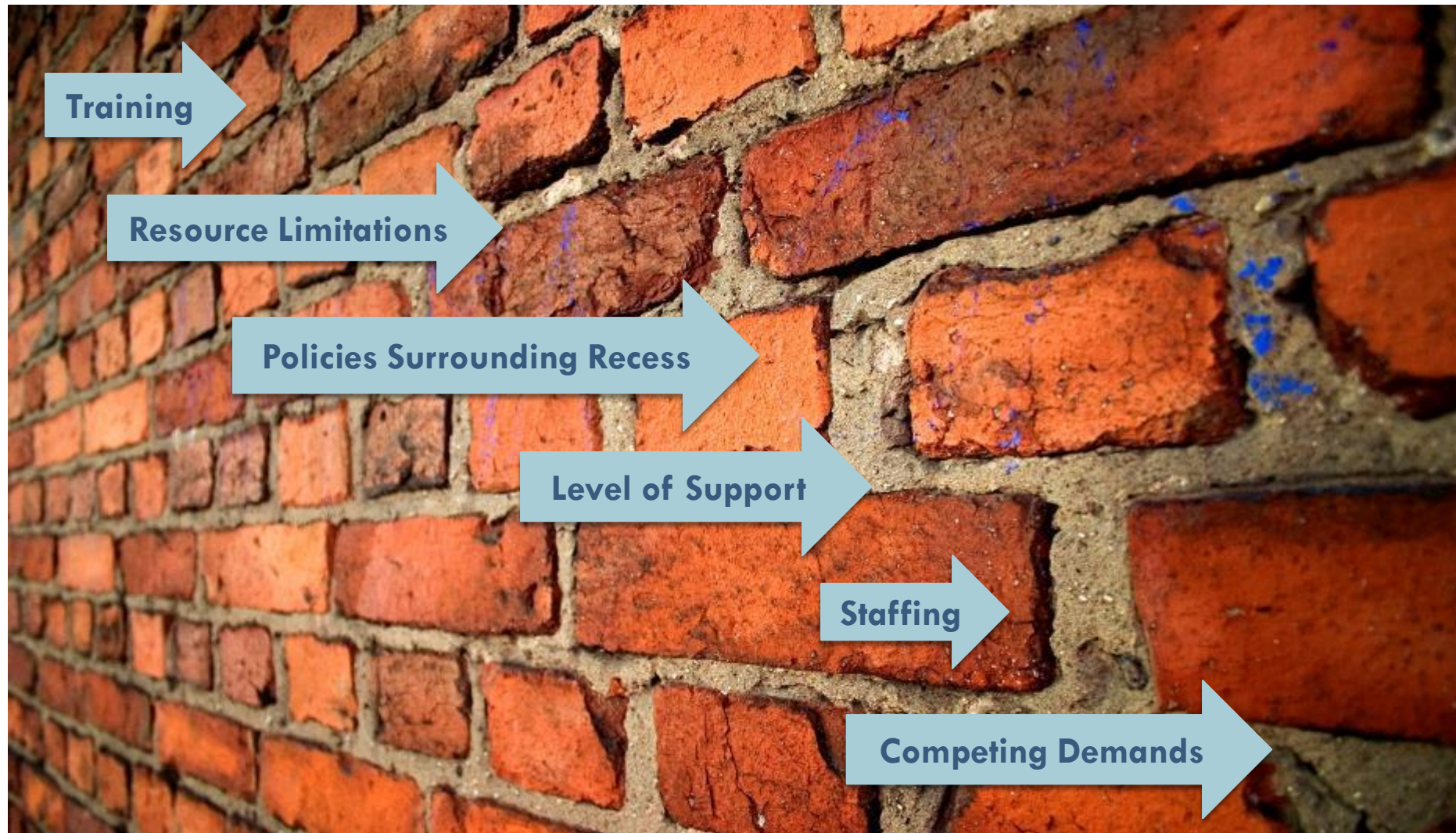


Leaky Pipeline

- ❑ Few evidence based interventions ever make it to practice (Dingfelder & Mandell, 2011)

Barriers to Implementation

(Locke, Olsen, Wideman, Downey, Kretzmann, Kasari, & Mandell, 2015)



Pebbles, Rocks, and Boulders

(Locke, Wolk, Harker, Olsen, Shingledecker, Barg, Mandell, & Beidas, submitted)

- General implementation of evidence-based practices
 - Implementation Process, Staffing, Leadership, Support

- Specific to social engagement intervention
 - Staffing, Barriers, Facilitators



“I believe people fall into three categories: pebbles, rocks, and boulders. The pebbles [are] the “yes” people. They will walk over broken glass or fire to do whatever it is they have to do to get the job or keep the job because they ultimately love the job. The rocks are the people who will sit back and take pause, ask intelligent questions, poke holes in a theory, and question the new curriculum. And the boulders are the people who are not [going to] move.”

Current Study

- Stepped-wedge design
- Schools randomized to Remaking Recess with or without implementation support
 - Remaking Recess – 12 sessions during recess (30-45 minutes each)
 - Remaking Recess with Implementation Support – 12 sessions during recess plus three sessions with principals and key stakeholders



Remaking Recess (Kretzmann, Locke, Kasari, 2012)

School-based social engagement intervention to train staff during the recess period to facilitate social opportunities for children

Coaching

Didactic



Model



Feedback



Implementation Strategies

Powell et al. *Implementation Science* (2015) 10:21
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RESEARCH

Open Access

A refined compilation of implementation strategies: results from the Expert Recommendations for Implementing Change (ERIC) project

Byron J Powell^{1*}, Thomas J Waltz², Matthew J Chinman^{3,4}, Laura J Damschroder⁵, Jeffrey L Smith⁶, Monica M Matthieu^{6,7}, Enola K Proctor⁸ and JoAnn E Kirchner^{6,9}

Implementation strategy is a “method or technique used to enhance the adoption, implementation, and sustainability of a clinical program or practice” – Proctor, Powell, & McMillen (2013), p.2

Implementation Strategy



Identify and
prepare
champions

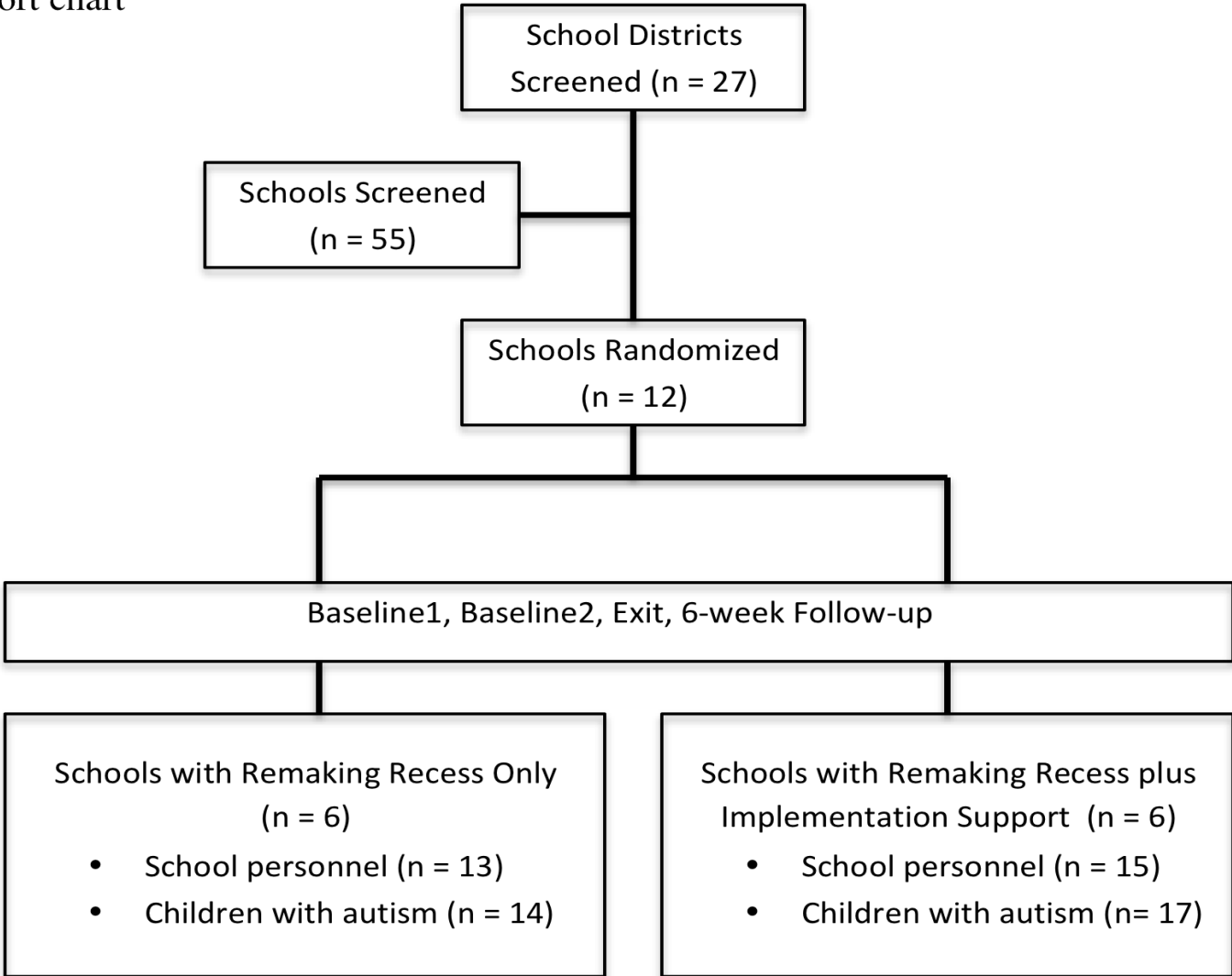
Tailor strategies

Implementation Support

- 3 Consultation Sessions
 - scheduling staffing during recess
 - building internal capacity
 - amending school-wide policies for recess
 - providing tangible support and resources
 - improving implementation climate
 - adapting and modifying the intervention to fit the needs of the school
 - embedding Remaking Recess within the school culture

Recruitment

Consort chart



Child Characteristics	Remaking Recess (Total N = 14)		Remaking Recess with Implementation Support (Total N = 17)	
	N	Mean/%	N	Mean/%
Age	14	9	17	8.6
Gender				
Male	14	100	13	76.5
Race/Ethnicity				
White	5	35.7	10	58.8
Black	5	35.7	5	29.4
Latino	2	14.3	0	0.0
Asian	1	7.1	2	11.8
Other	1	7.1	0	0.0
Grade Level				
Kindergarten	0	0.0	4	23.5
First grade	2	14.3	0	0.0
Second grade	3	21.4	2	11.8
Third grade	1	7.1	2	11.8
Fourth grade	1	7.1	4	23.5
Fifth grade	7	50.0	5	29.4

School-Personnel Characteristics	Remaking Recess (Total N = 13)		Remaking Recess with Implementation Support (Total N = 16)	
	N	Mean/%	N	Mean/%
Age	13	38.3	15	38.0
Gender				
Female	13	100.0	10	68.8
Race/Ethnicity				
Caucasian	8	61.5	10	62.5
African American	5	38.5	4	31.3
Latino	0	0.0	1	6.3
Highest education				
High school	3	23.1	2	18.8
Bachelors	6	46.2	7	43.8
Graduate degree	2	15.4	6	37.5
Associate degree	2	15.4	0	0.0
Years experience	13	4.1	16	6.7
Role				
Teacher	3	23.1	8	50.0
Other school personnel	10	76.9	7	43.8

Implementation Outcomes

- There were no differences between the groups



Attitudes



Acceptability

CONTEXT
MATTERS

Implementation
Climate

Developed from Proctor (2011)

Evidence-based Practice
Attitude Scale (Aarons, 2004)

Adapted from Program Implementation
Climate Scales (Dingfelder, 2012)

EBPAS Results

EBPAS:

Appeal

Requirements 



 Self-Rated Fidelity

Openness

Divergence

EBPAS Requirements predicted Self Rated Fidelity ($F=5.08, p<0.03$)

Acceptability and Implementation Climate did not predict fidelity

Organizational Readiness for Change

- ❑ Individual Factors
 - ❑ Staff Attributes
- ❑ Organizational Climate
 - ❑ Mission, Autonomy, Stress, Cohesion, Communication, Change

Staff

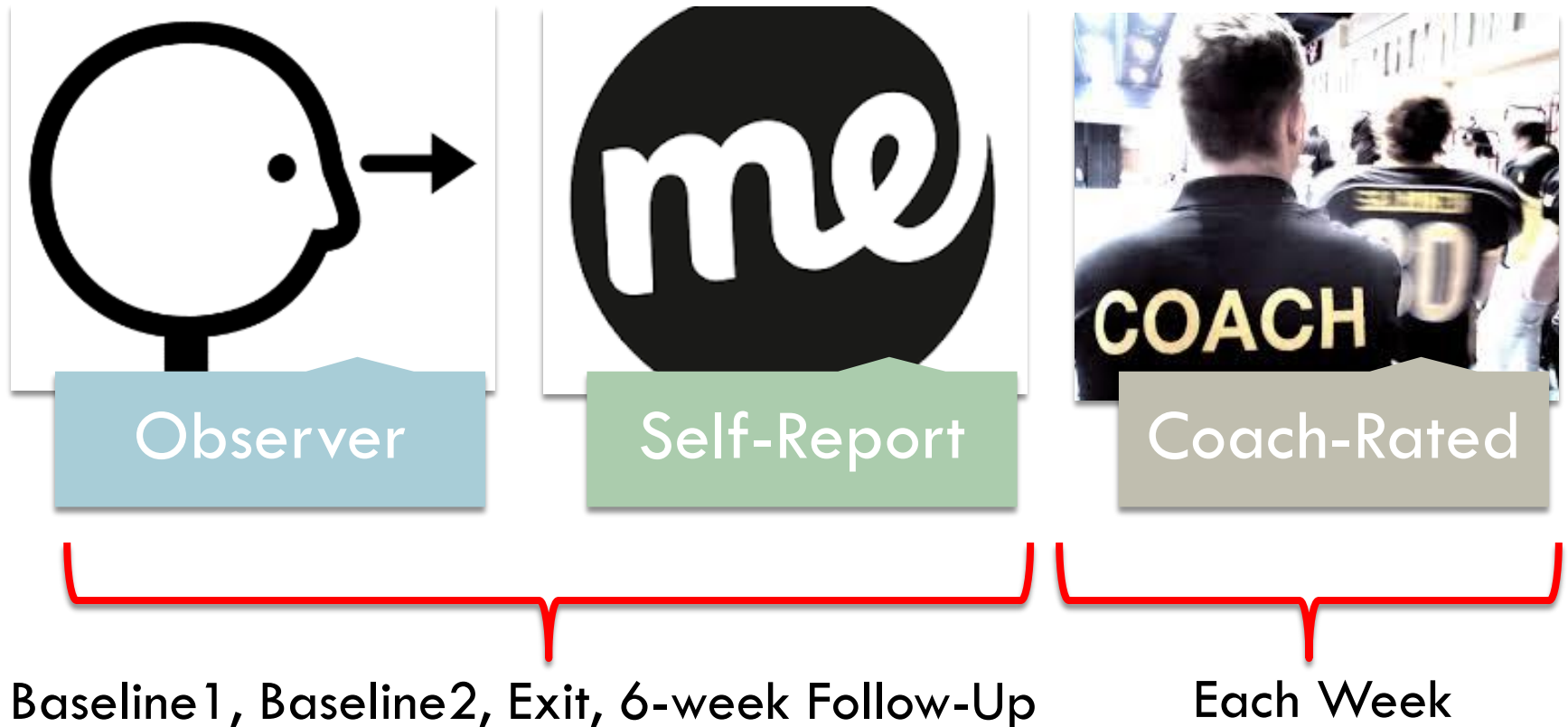
Principal

ORC Results

Rater	Domain	Fidelity
Staff	Staffing	↑
Staff	Individual Growth	↑
Staff	Organizational Adaptability	↑

Implementation Fidelity

- Use and Quality of Intervention Delivery



Implementation Fidelity

Schools did not use any aspect of Remaking Recess prior to receipt of training

Fidelity increased over the six-week training and follow-up periods

Overall use and quality of intervention delivery was low

Discussion

Implementation fidelity is low

Individual-level factors may affect implementation in schools more strongly than organizational factors

District and school mandates to use EBPs may result in lower implementation

Teachers/staff ratings may be more proximal to understanding EBP implementation than principals



Child Outcomes

- ❑ Playground engagement
- ❑ Friendship
- ❑ Social network inclusion

Playground Observation

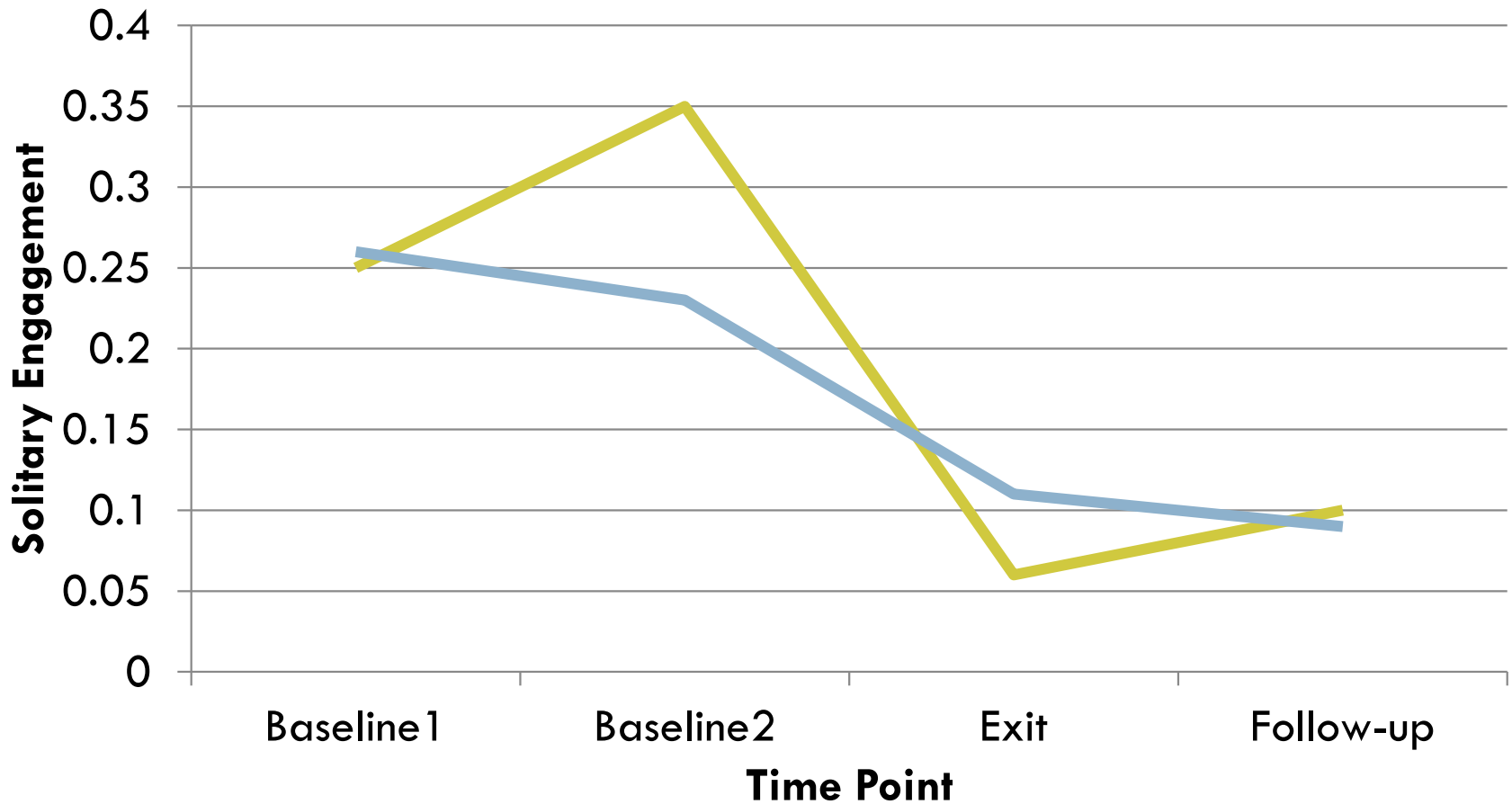
(Kasari, Rotheram-Fuller, & Locke, 2005)

- Independent observers:
 - ▣ Conducted observations: baseline1, baseline2, exit, follow-up
- Timed interval behavior coding system
- Engagement states
 - ▣ Solitary and joint engagement

Playground Observation of Peer Engagement

Int	State	Chi Initiations Gen = I, Peer R = +, Peer NR = -	Chi Responses App Res = + Miss opp = -	Comments (note affect, activity, atypical behavior, who the child engages with (aide, adult, peers) and anything of importance or interest)
1				
2				

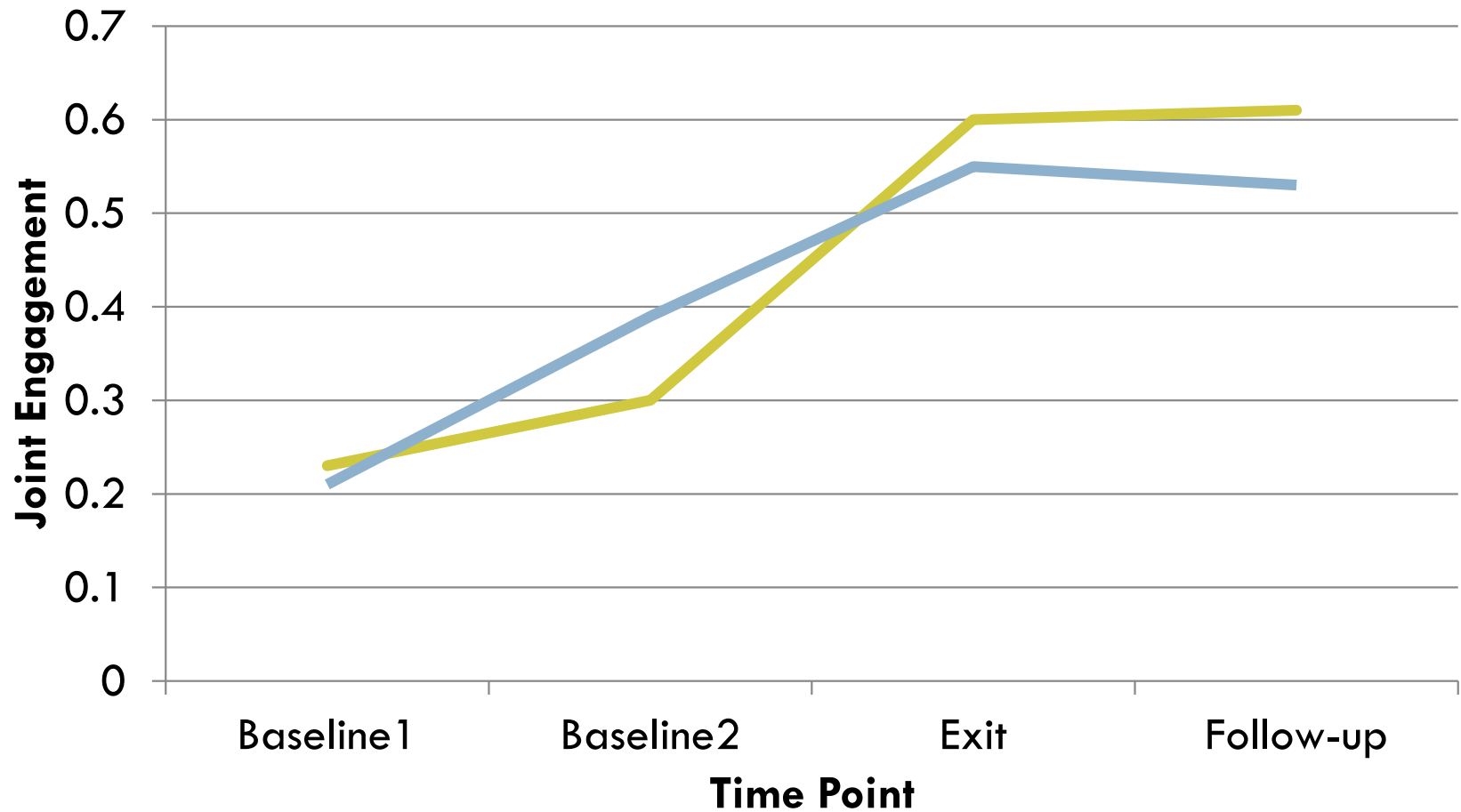
Solitary Engagement



— Remaking Recess Only

— Remaking Recess with Implementation Support

Joint Engagement



— Remaking Recess Only

— Remaking Recess with Implementation Support

FRIENDSHIPS SURVEY

What is your name? _____

Date: _____

School Name: _____

Teacher Name: _____

Birthday: _____

Are you a **BOY** or a **GIRL**? (circle one)

1. Are there any kids in your class that you like to hang out with?

Who are they? (Use first names only; plus last initial if needed)

2. Circle the names of the 3 kids you most like to hang out with.

3. Put a STAR * next to the name of the ONE kid you most like to hang out with.

4. Are there any kids in your class that you don't like to hang out with?

Who are they? (Use first names only, plus last initial if needed)

5. Are there kids in your class who like to hang out together?

Who are they?

Remember to think about Boys and Girls !

Remember to put yourself if you hang out with a group!

Draw a  around each group!

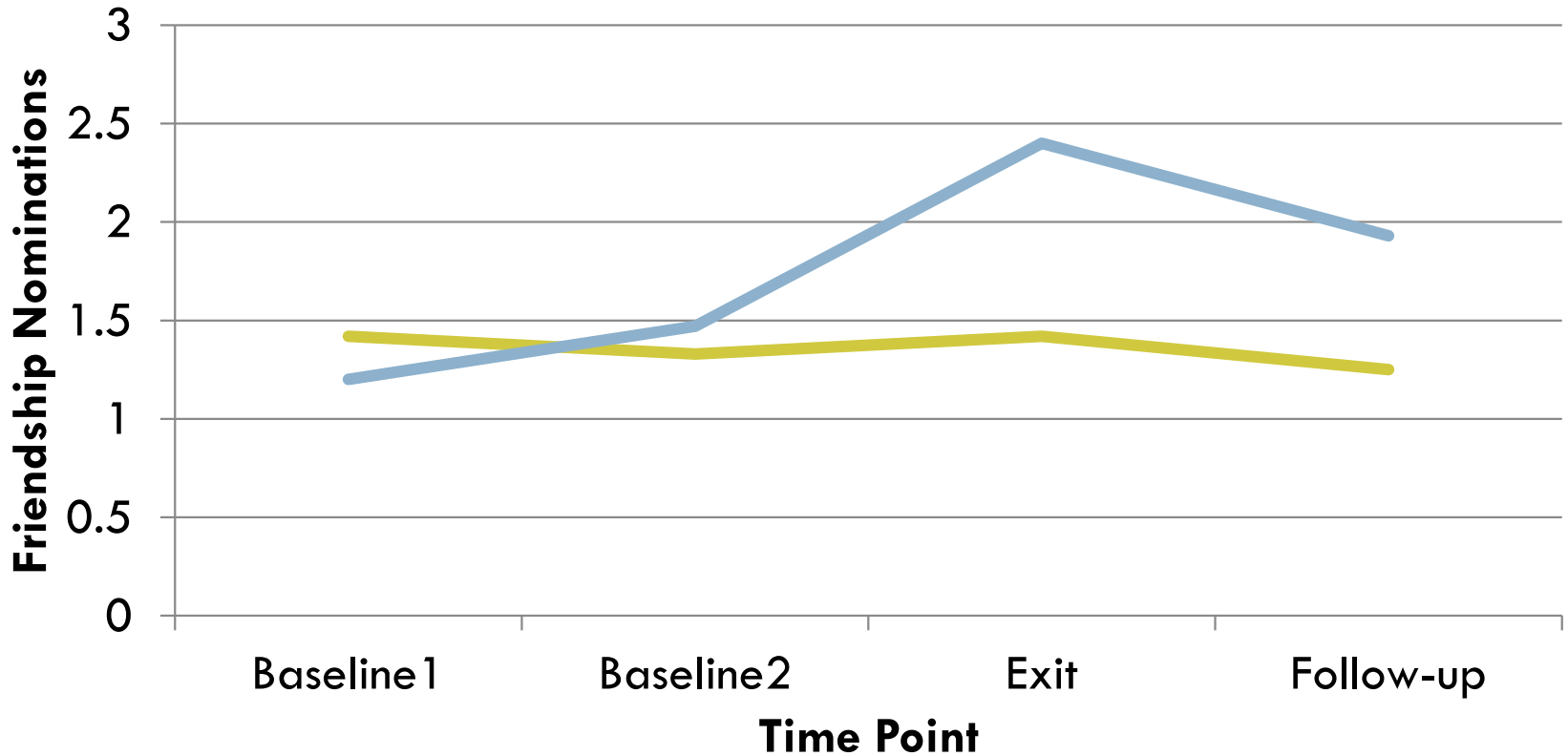
Information We Get:

Friendship Nominations

Information We Get:

Social Network Inclusion

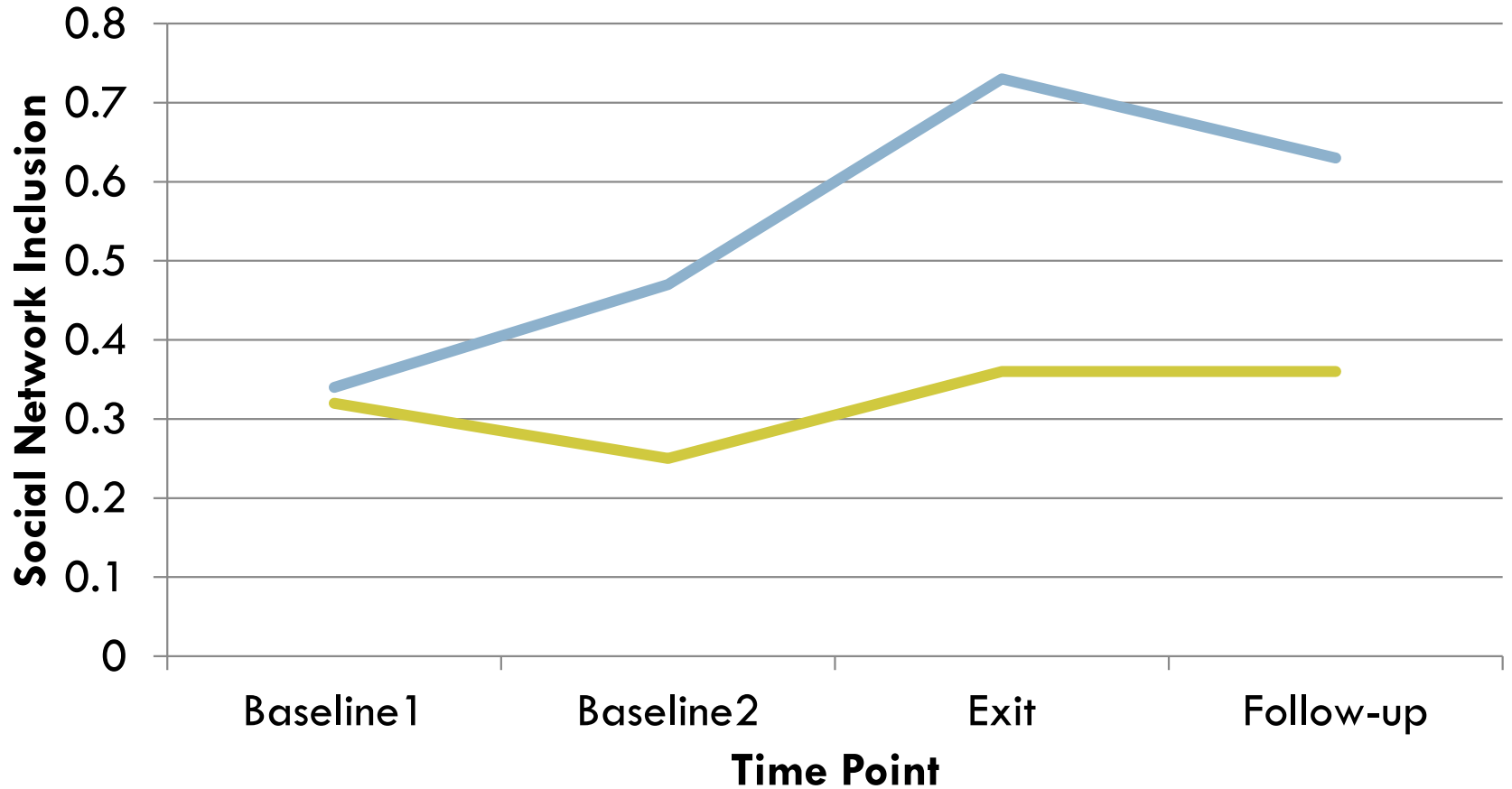
Received Friendship Nominations



— Remaking Recess Only

— Remaking Recess with Implementation Support

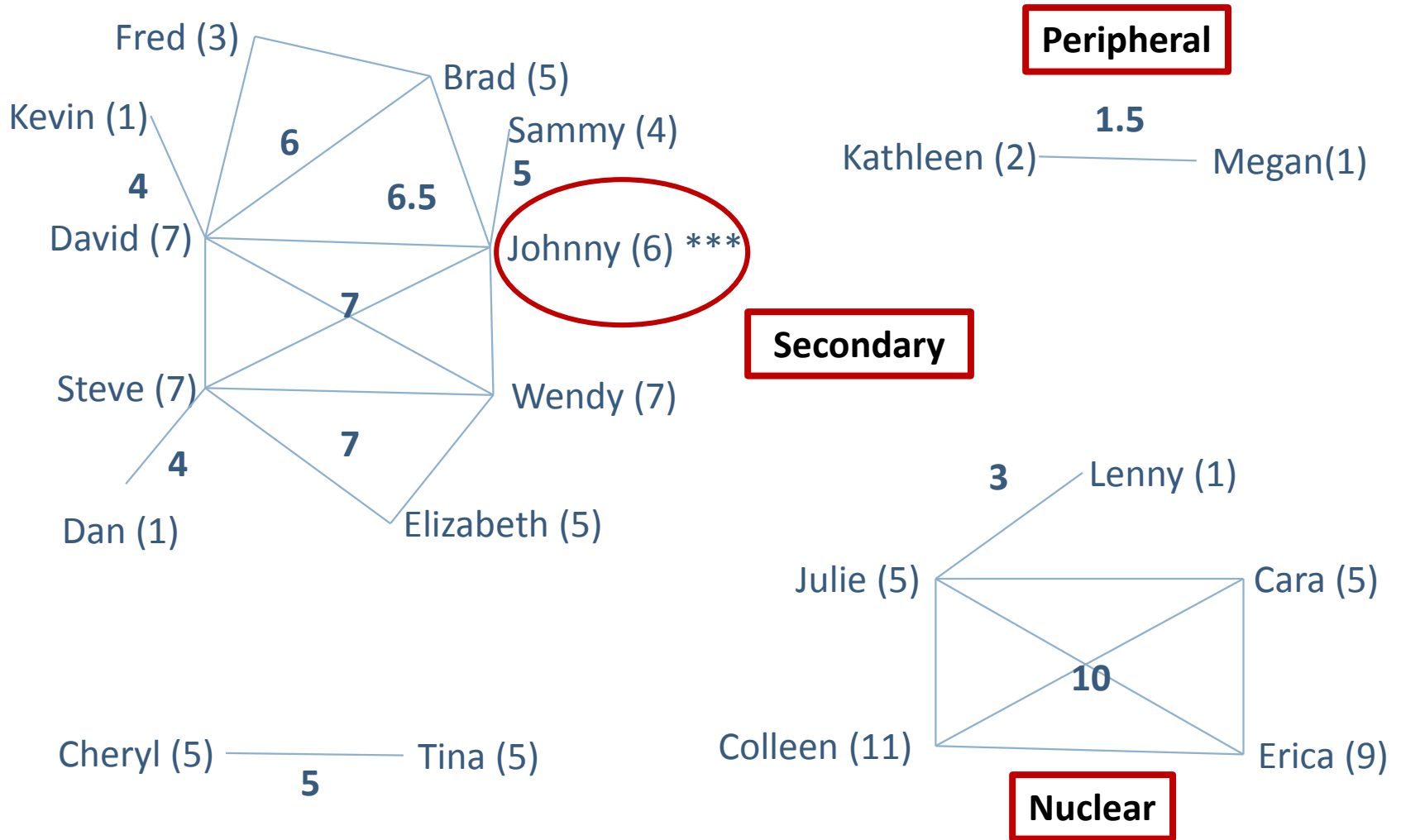
Social Network Inclusion



— Remaking Recess Only

— Remaking Recess with Implementation Support

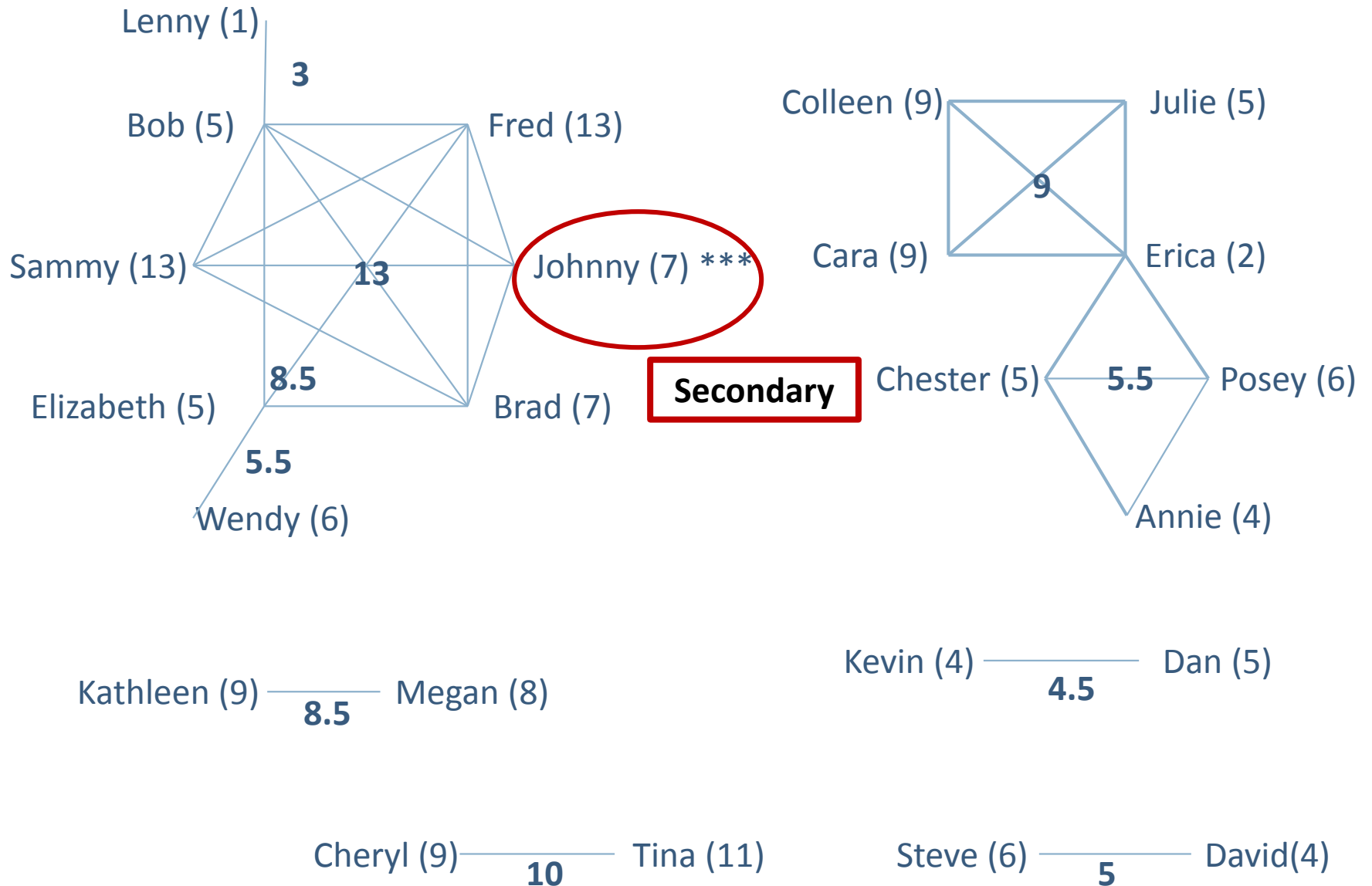
Baseline 1 Social Network



Isolates: Posey (0), Bob (0), Annie (0), Chester (0)

Isolate

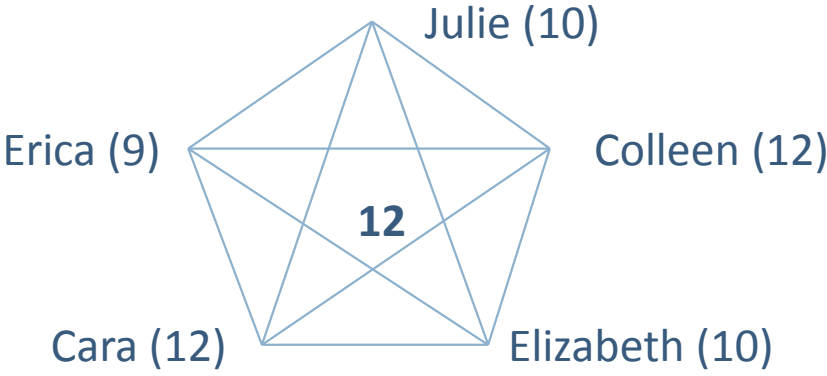
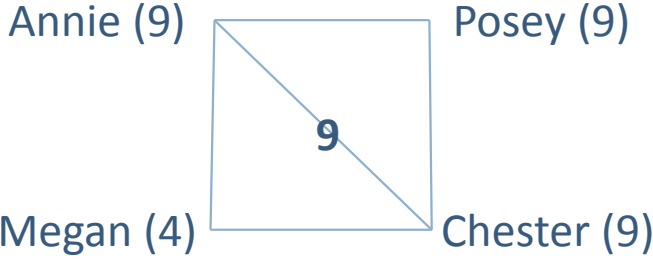
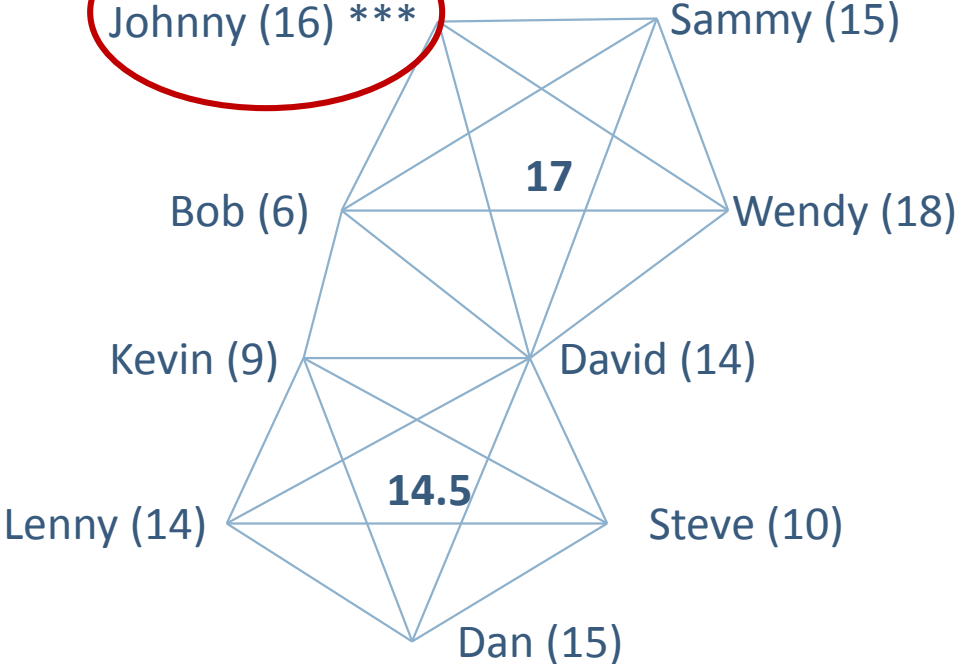
Baseline 2 Social Network



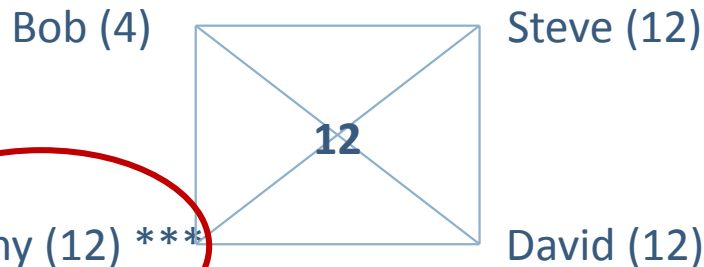
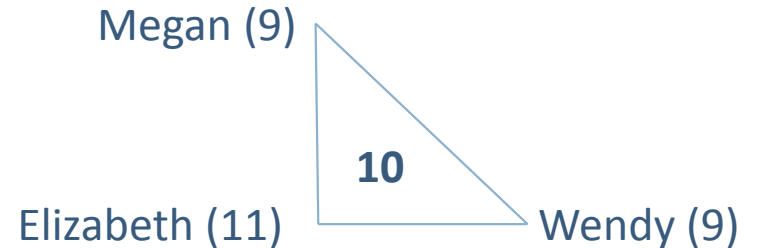
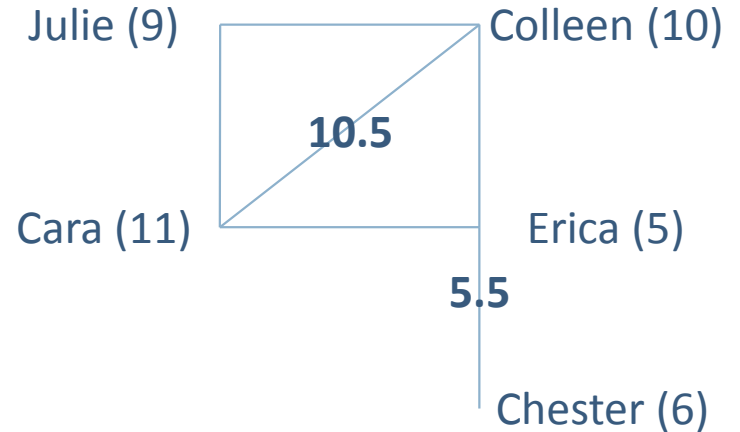
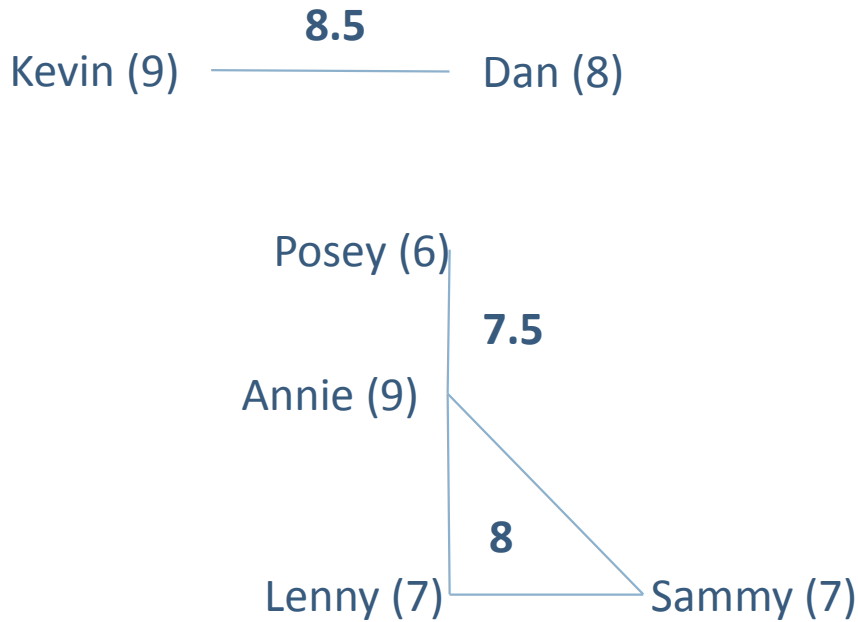
Nuclear

Exit Social Network

Johnny (16) ***



Follow Up Social Network

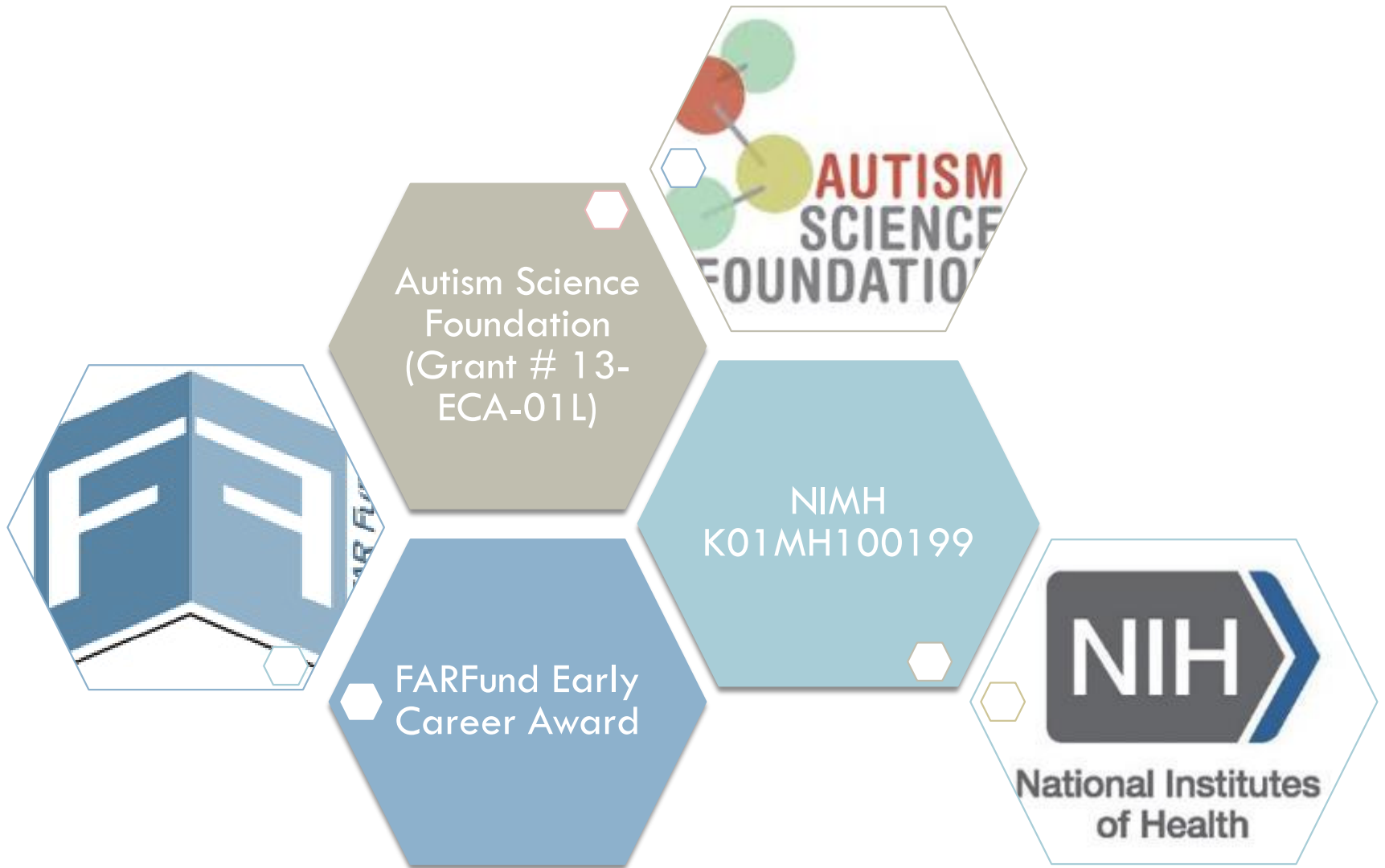


Nuclear

Discussion

- Remaking Recess improves peer engagement
- Remaking Recess **may be necessary but not sufficient** in improving friendship nominations and social network inclusion
- Implementation support may be needed
 - May change the classroom context and complement the ways in which Remaking Recess changes the playground context

Acknowledgments



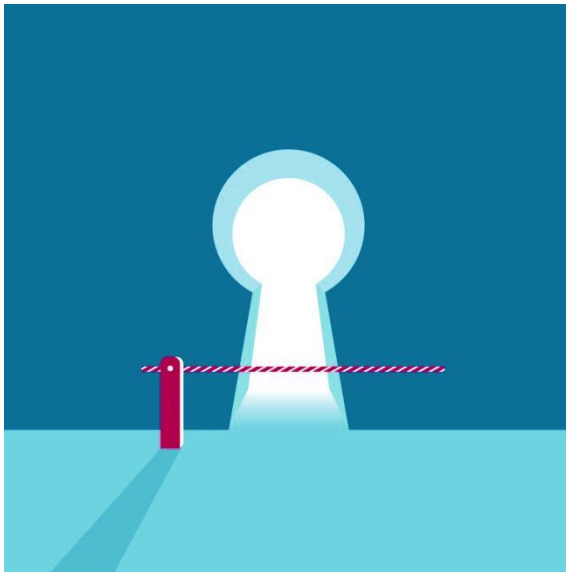
Thank You!

jjlocke@uw.edu

Determinants of Practice

40

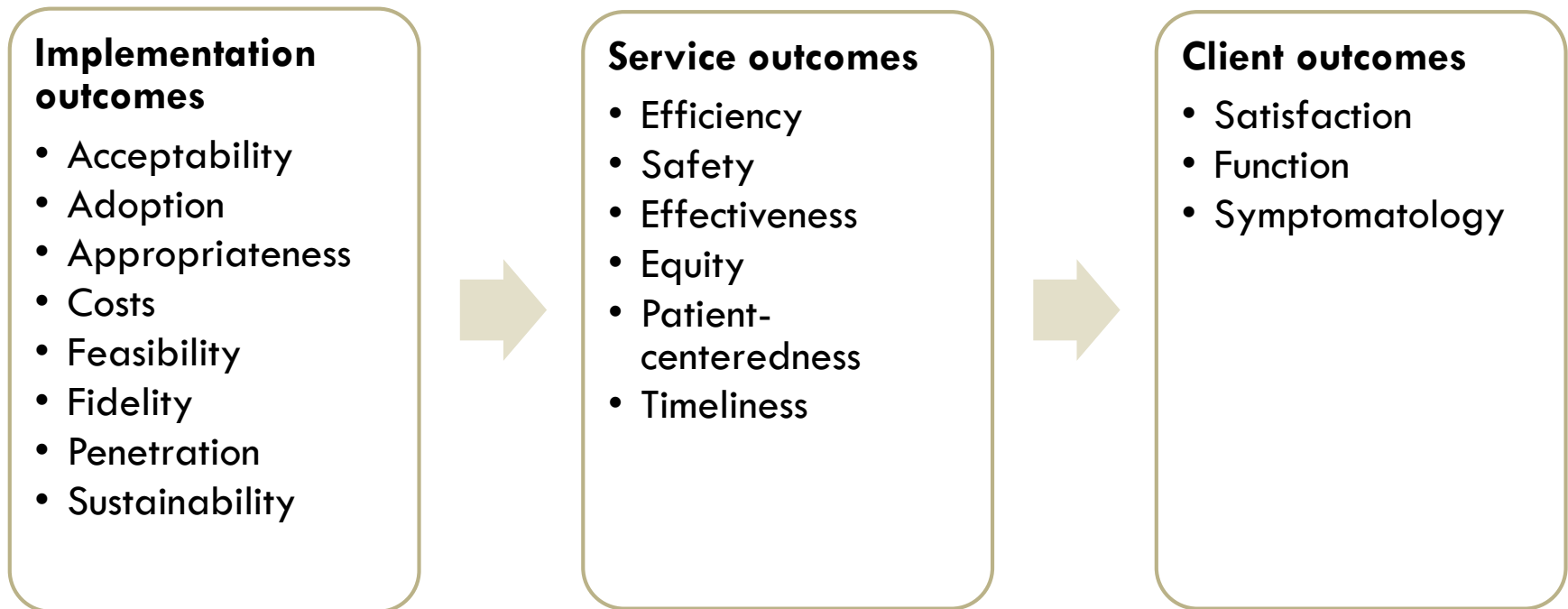
- Factors that obstruct or enable changes in targeted professional behaviors or healthcare delivery processes.



Implementation Outcomes

41

- The effects of deliberate and purposive actions to implement new treatments, practices, and services.



Implementation Strategies

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Individual, School, District Levels

Determinant	Implementation Strategy	Implementation Outcome
Turnover	Use Train the Trainer Strategies <i>Train designated school personnel to train others in new practices.</i>	Sustainability

Determinant	Implementation Strategy	Implementation Outcome
Provider views EBP unfavorably OR Provider habit (forgets to use EBP)	Audit and Provide Feedback <i>Collect and summarize data regarding implementation of the new program or practice over a specified time period and give it to administrators and school personnel to monitor, evaluate, and support implementer behavior.</i>	Adoption Penetration

Individual, School, District Levels

Determinant	Implementation Strategy	Implementation Outcome

Implementation outcomes:

Acceptability

Adoption

Appropriateness

Costs

Feasibility

Fidelity

Penetration

Sustainability