

Reinforcement Systems at School: Effective Implementation with Students with Selective Mutism

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sma

SELECTIVE MUTISM
ASSOCIATION



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Learning Objectives

Attendees will be able to:

- 1) Identify specific measurable goals and possible school-based reinforcement systems.
- 2) Determine appropriate means to implement and track student progress over time.
- 3) Identify means to gradually reduce the level of reinforcement support over time.



Reinforcement Systems

Research, Rationale, and Real-Life Application

Behavioral Treatments for SM

Behavioral & Cognitive-Behavioral interventions are widely utilized in the treatment of SM and the most well-researched treatment packages for kids with SM.

Antecedent

Behavior

Consequence

Emotions:

How we feel



Thoughts:

What we think



Behaviour:

How we act

Behavioral Treatments for SM

Steains and colleagues (2021) meta-analysis found that behavioral interventions:

- were highly effective, when compared to no treatment/waitlist control groups
- lead to increase in speech output
- lead to improvements in general anxiety
- lead to improvements in overall well-being



Behavioral Treatments for SM

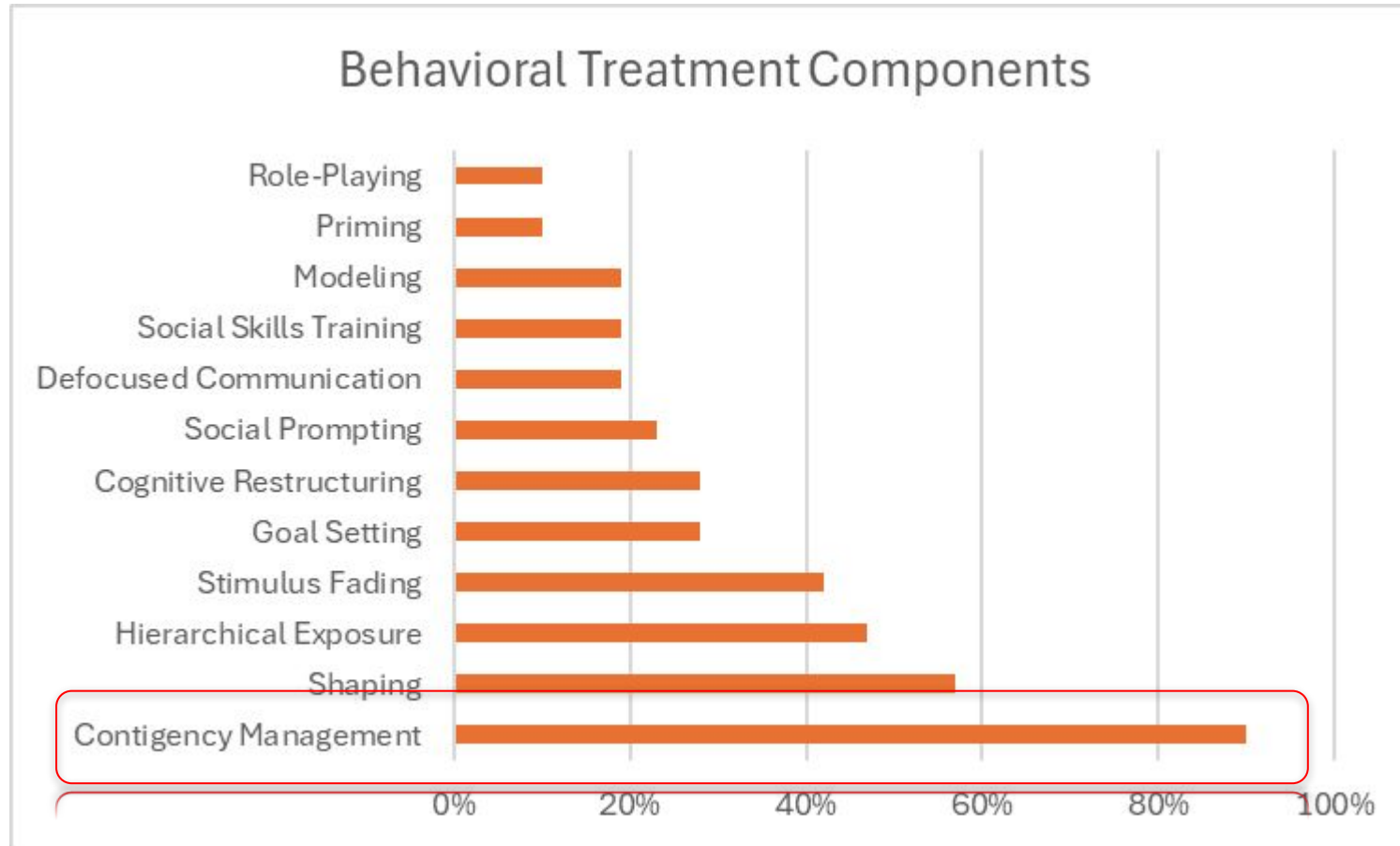
Oerbeck and colleagues (2014, 2015, 2018)

- Carried out intervention in the school setting directly
- At 5 years post-treatment, 88% of the younger age group (ages 3-5 at time of treatment) and 50% of the older age group (ages 6-8 at time of treatment) were in full remission

Cornacchio and colleagues (2019)

- Replicated school/camp setting
- Participants made immediate gains (e.g., 50% of the treatment group were judged to be clinical responders and 7% no longer met criteria for SM)
- Participants demonstrated ongoing progress after intervention (i.e., after 8 weeks of school, 46% of participants in the treatment group were in full remission)

Behavioral Treatments for SM



Zakszeski & DuPaul (2016)

Behavioral Treatments for SM

First Author	Number of Hours/Weeks	Rapport Building	Parent Involvement	Shaping/Fading	Gradual Exposure	In-Session Community Practice	Rewards/Contingency Management	School Consultation/ Sessions	Between Session Practice	Anxiety Management Strategies
Bergman (2013)	20/24	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Oerbeck (2014)	21/12	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ooi (2016)	14/14	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Esposito (2017)	54/24	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Klein (2017)	3/9*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cornacchio (2019)	30/1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Catchpole (2019)	16/22	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

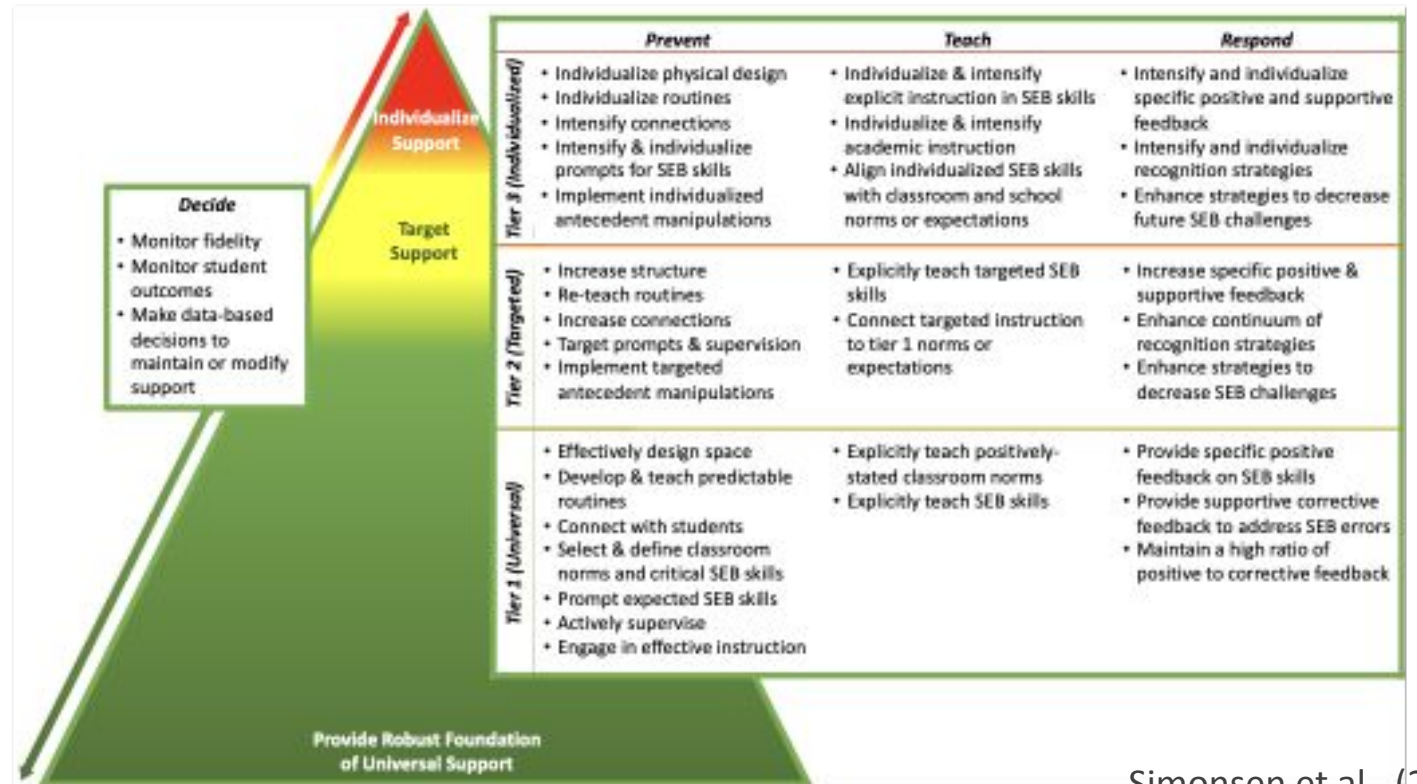
Merson, 2021

What is Multi-tiered Systems of Support (MTSS)?

A tiered framework used to identify, and address, student academic, behavioral, and social-emotional needs.

This includes a continuum of practices across the three tiers at classroom- and school-levels.

Figure 1. Prevent, Teach, Respond, and Decide within a MTSS Framework



Simonsen et al., (2021)

Who is using MTSS?

The Every Student Succeeds Act (ESSA) signed into law in 2015 supports general tiered-systems of support

Some research suggests significant adoption/growth of MTSS systems over the last 4 years


2019 → 55% of surveyed schools used MTSS

2023 → 74% of surveyed schools used MTSS

Key MTSS Components

“Four Critical Components of Social-Emotional-Behavioral Support”

1. Prevent challenges by setting students up for success
2. Teach critical social-emotional-behavioral skills
3. Respond in ways that encourage skills and reduce challenges
4. Decide whether to maintain or adjust level of support



Such as utilizing individual recognition systems to provide frequent and clear feedback and reinforcement of targeted skill

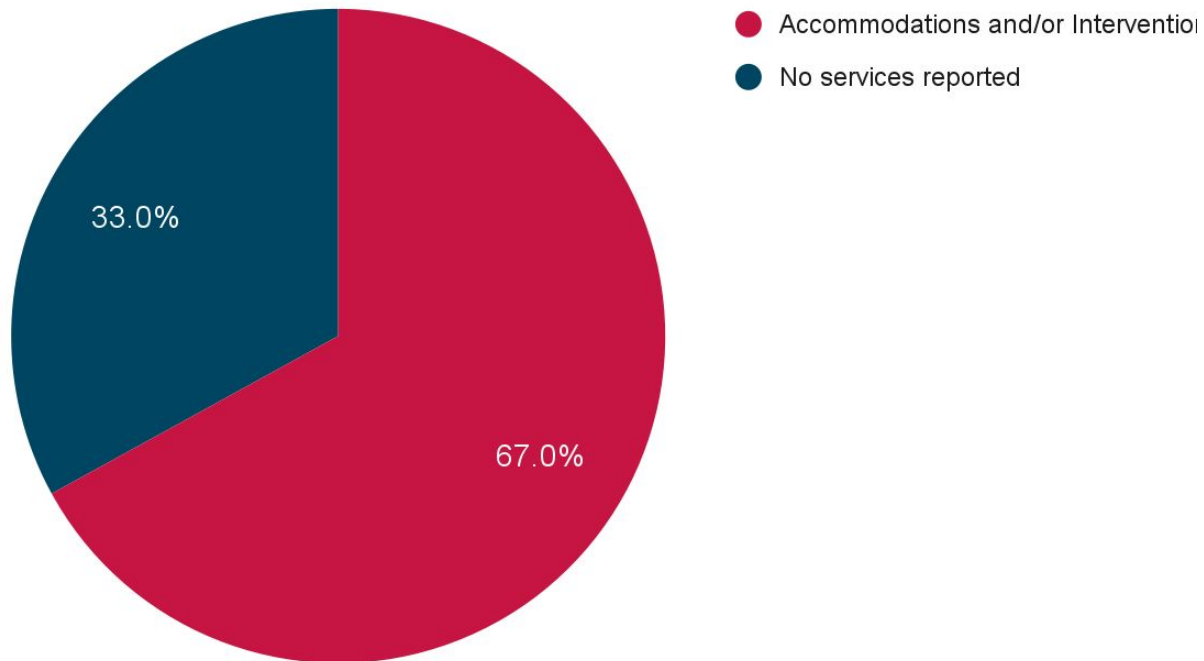
- token economy
- Student choice via verbal input and/or a reinforcement survey

How does this fit with the
services/supports our students
with SM are receiving at school?

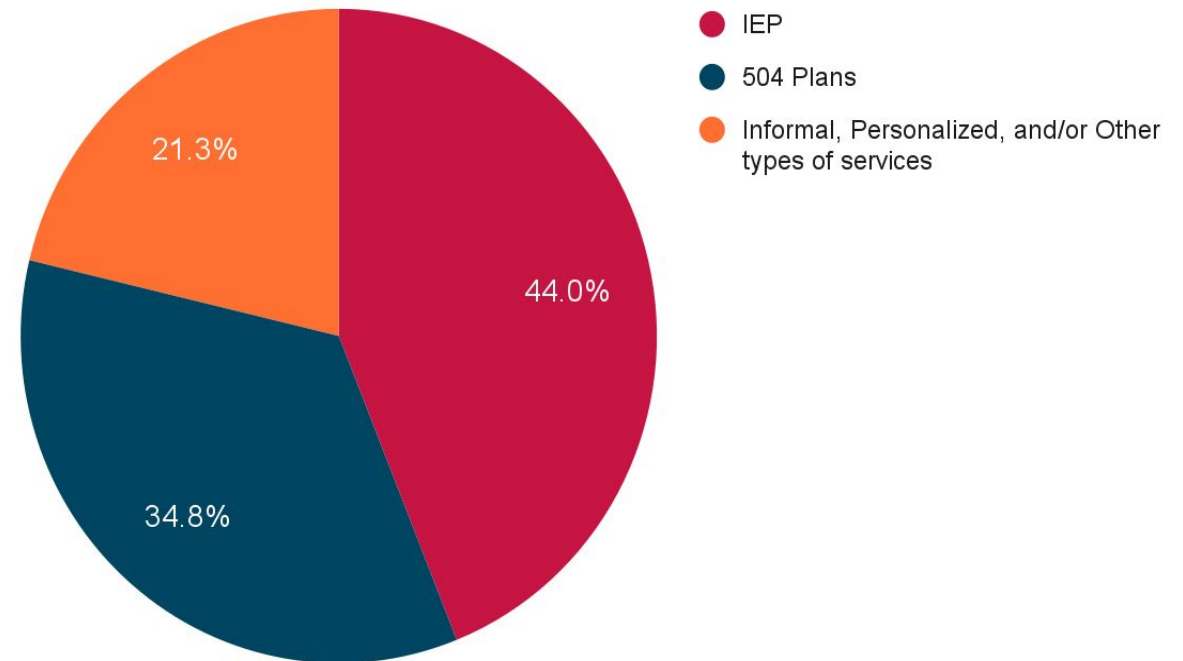


What types of supports are students with SM receiving at school?

Percentage of students receiving supports at school

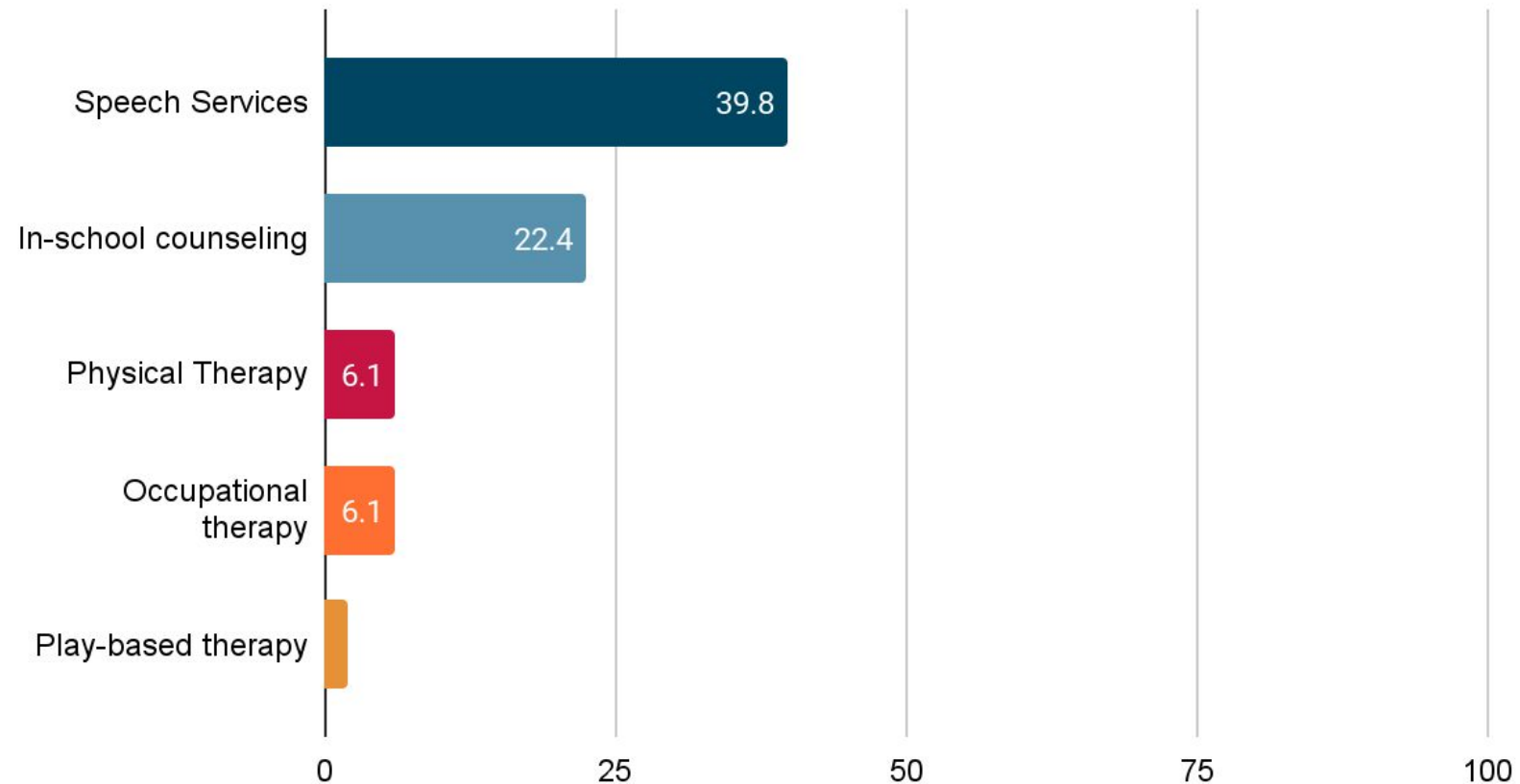


Types of Supports at School



What did those interventions look like?

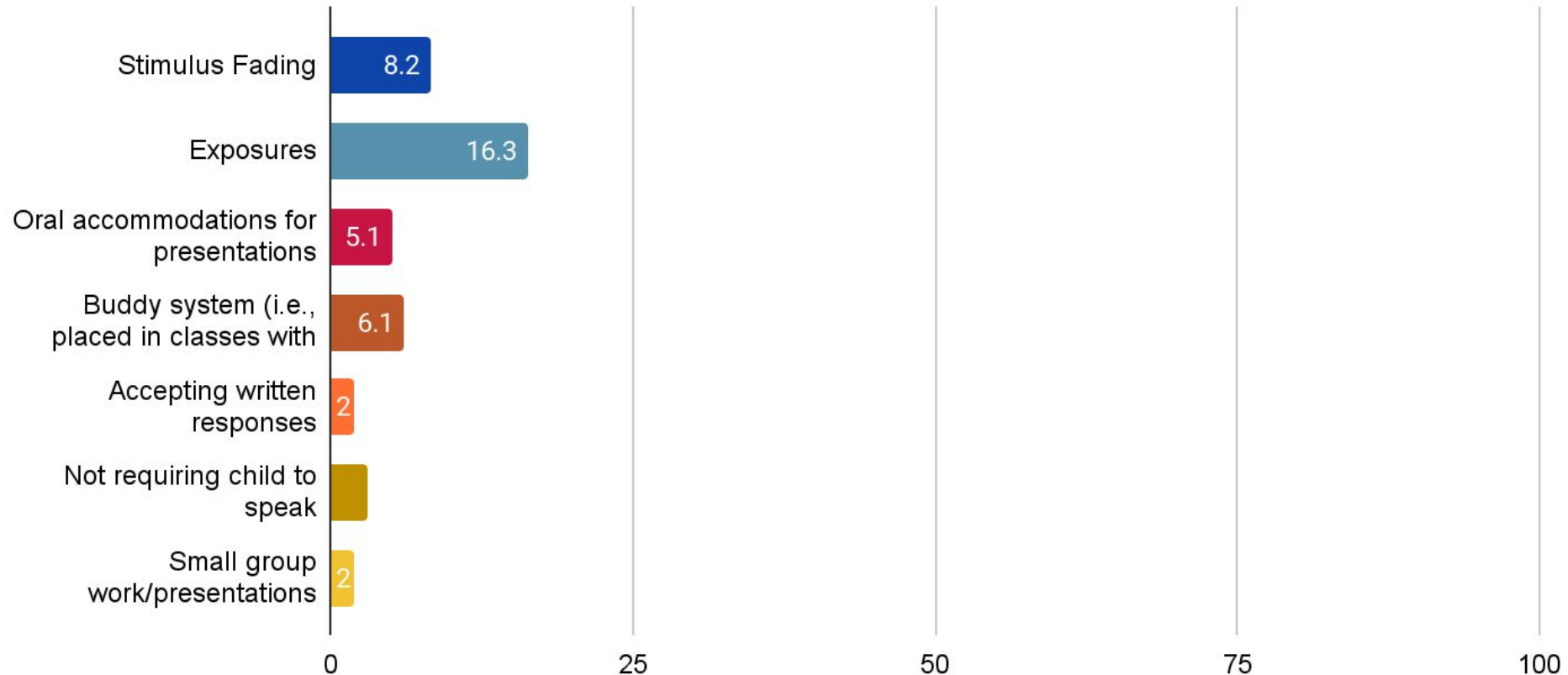
Percentage of students who received these services



Boneff-Peng et al., (2023)

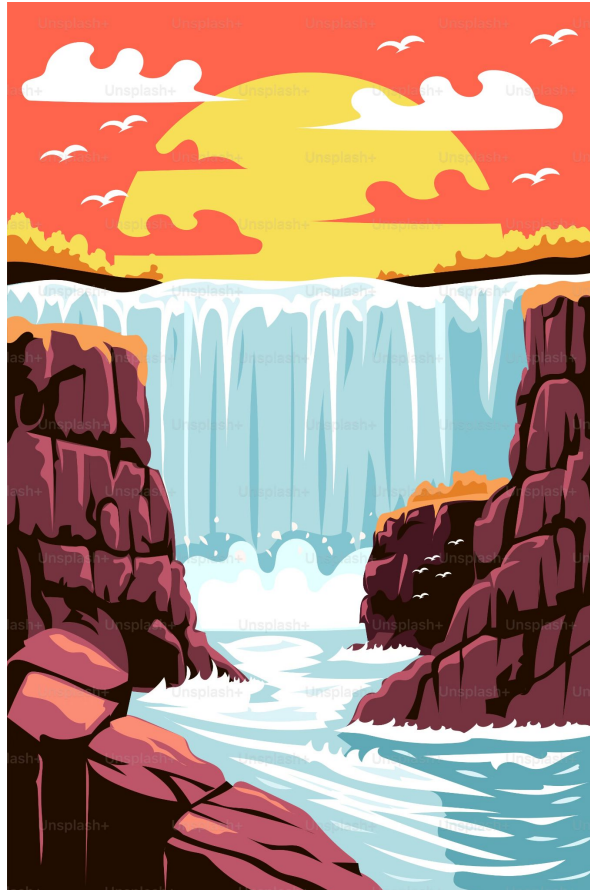
What Specific Interventions for SM were reported?

Specific Interventions and Accommodations for SM received



Addressing the Gap

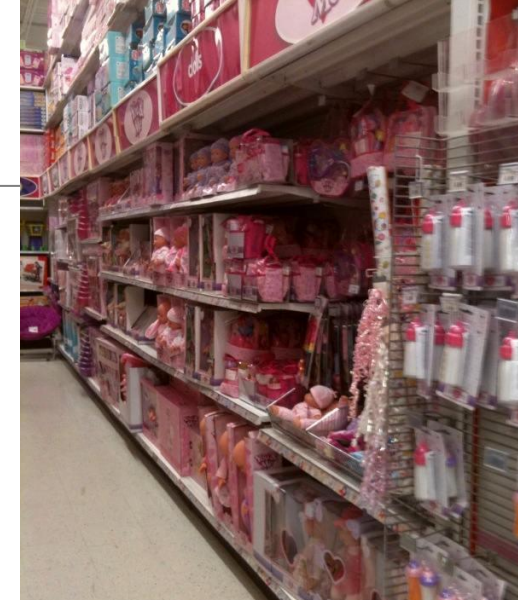
**Evidence-based Behavioral
Treatment Approaches for
children with SM**



**The actual
services/supports
students with SM are
currently receiving at
school**

Theoretical Concerns #1

“We shouldn’t have to bribe them to talk”



Rewards v. Bribery

Reward Systems

Planful/strategic

Goal is reinforcing a positive behavior

Contain framework for changing goals/reducing supports over time

Assumes that reinforcement is already at work and there is a need to re-write the confidence chain

Bribes

“Act of desperation”

Goal is stopping a “negative behavior”

Implemented in a variable/inconsistent way



Time to Vote

- 1) Student's parents promise to take their child to an amusement park if they will just give their presentation in class.
- 2) When the student earns 10 bucks for answering their teacher's questions in small group, they get to pick a prize from the prize bin.
- 3) Teacher needs to collect oral reading assessment data, so they offer the child a candy bar if they will do the assessment.
- 4) When a student with SM answers a question in class, their teacher replies "I'm SO proud of you for answering! You did such a good job, so I'm going to email your parents right now to tell them you've earned a special treat at home!"

Theoretical Concerns #2

“We don’t want to squash someone’s internal motivation to speak”





Would we work for free?

Intrinsic Motivation isn't for Everyone

“Dysfunction in intrinsic motivation represents an important transdiagnostic facet of psychiatric symptomology, which is often classified as distinct psychological constructs” (Morris et al 2022)

Compounding effect of avoidance means that many with SM develop ways to “get by” without needing to speak, impacting their ability to identify intrinsic motivators

Extrinsic reinforcers elicit brain activity in the amygdala in those who self-reported lower intrinsic motivation (Linke et al., 2010)

Even with intrinsic motivation, many experience anxiety (“If I talk, they are going to make a big deal about it”) as too big of roadblock

Not age/developmentally appropriate for everyone

If internal motivation alone was sufficient, many with SM would have talked from day 1.

Motivation

Intrinsic:

Internal Drive/ Activity is own Outcome

Extrinsic:

External Drive/Attain “something” as a result of Activity



“The expectation...and experience...of an extrinsic reinforcer can increase intrinsic motivation. However, reports of the ‘undermining effect,’... in which an external reinforcer reduces intrinsic motivation have sparked debate” (Morris, et al, 2022)

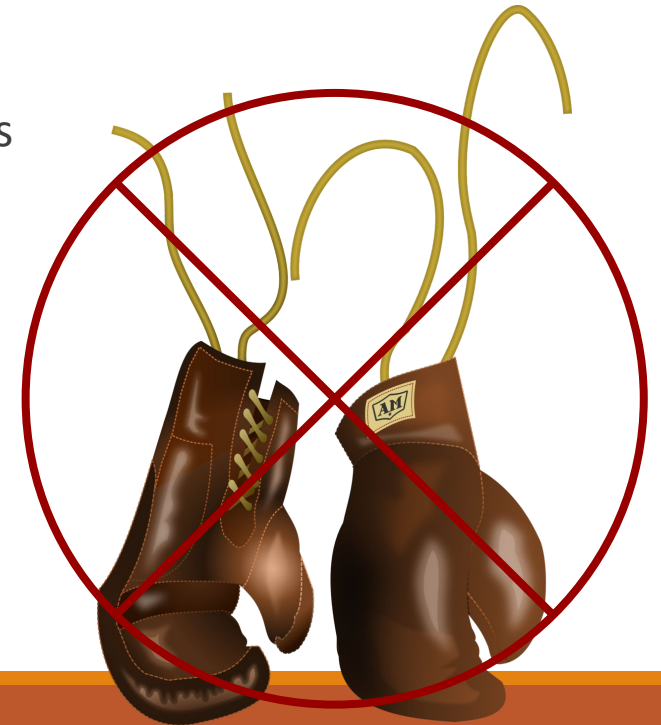
Tips to Incorporate Extrinsic AND Intrinsic Motivation

Assume extrinsic motivation is higher initially with shift to intrinsic over time

Praise can highlight both motivations: “I loved seeing your smile while you played that game with your classmate. It seems like it felt nice to open up with her, and I noticed she had a big smile too. Look at how many points you earned on your tally counter during that game!”

Motivation enhancement conversations with trusted communication partners

- Growing new friendships?
- Sense of mastery/accomplishment?
- Getting elected class VP?
- Improving grades?
- Getting driver's license?



Implementation Concerns

Aligning stakeholders: all educators, caregivers (and clinic-based professional)

- Use of reinforcement system at all

- Agreeing on types of rewards

- Identifying specifics of implementation

Individual goals varying, aka “other kids might want stickers for talking too”

Successful use without calling unwanted attention to child



Steps to Addressing the Gap



What skills will be practiced?

Who will help facilitate the practice?

When will the student practice?

Where will the student practice?

How will the practice be implemented
& reinforced?

What skills will be practiced?

Possible Goal Areas
Responding to new staff and/or peers
Increasing sentence length
Initiating with new staff and/or peers
Increasing volume when speaking
Use of social niceties & greetings
Performance-based activities (e.g., oral presentations, debates)
Social skills (initiating conversation, navigating tricky peer situations)
Self-advocacy (asking for help, reporting injury)

Collect data to help inform goals

- Input from student, teacher & caregivers
- Schoolwide screeners
- School talking map

When prioritizing goals, consider:

- Functional impact of the goal
- Student interest/motivation
- Alignment with upcoming class activities
- Staff & resources to help target the goal

SMART Goals

S	Specific
M	Measurable
A	Achievable
R	Relevant
T	Time Based

During small group science centers,
Charli will verbally respond to 5 teacher
posed forced-choice questions.

During recess, Alec will ask 3 peers
pre-planned questions.

Who will help facilitate the practice?

Classroom Teacher	Keyworker
Can help facilitate exposure practices within the daily schedule & curriculum	<p>“Team captain”</p> <p>Able to provide both pull-out and push-in support for exposure practices within the classroom and across the school setting</p> <p>Coordinates & communicates across all key stakeholders</p>
<p>Examples:</p> <ul style="list-style-type: none">• Provides student scaffolded opportunities to practice responding during attendance & lunch selection• Facilitates speaking to a new peer during small group reading instruction• Makes “recess plan” or “study period” plan with student regarding speaking goals	<p>Examples:</p> <ul style="list-style-type: none">• Pulls student out for peer practice during “lunch bunch” group• Pushes in during science stations to help student practice speaking goals during each activity• Runs “errands” with student to main office and cafeteria to practice speaking with new staff

When will the student practice?

Identify opportunities that already exist within the student's daily schedule and/or grade-level curriculum

- **“Exposure Lifestyle”** (vs. Feeling like it's another task on an already long to-do list)
- **For some goals, we will need to create specific tasks that target the skill we're practicing

Helpful if we establish a specific, consistent allotted time each day/week for brave practices

- Build into staff and student routine
- Ensure keyworker has consistent time in their schedule

Where will the student practice?

Considerations:

School Setting

- Primary classroom
- Additional classrooms (e.g., specials, extracurriculars)
- Main office
- Hallways
- Cafeteria
- Playground
- Structured vs. unstructured settings

Group Size

- 1:1
- Small Group
- Whole Class Group
- Larger group (e.g., cafeteria, school assembly)

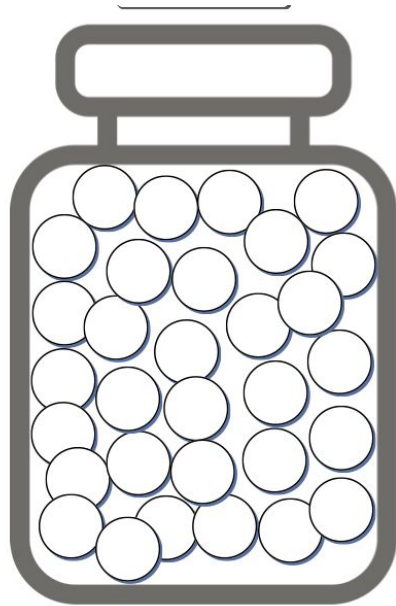
Pivot Plan Caveat

Consider where you will go if the practice is more difficult than expected and we need to alternate the environment (i.e., physical location and/or group size).

How will the practice be implemented?

Identify a goal tracking system

- Individualized system vs. Whole-Class System (e.g., Class Dojo)



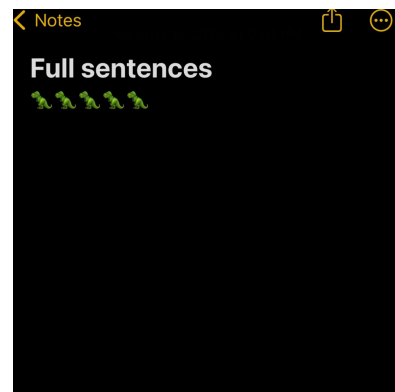
Date:	1	2	3	4	5+
Answer teacher's questions during morning meeting.					
Answer teacher's questions during Writer's Workshop.					
Answer teacher's questions during afternoon recess.					
Bonus Category:					
Total Points					












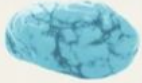
Point Tracking Examples

Answered a question	Asked a Question
	



+	All	Today	↓	⚙️
brave voice	🗨️	✎️	🗑️	14
full sentences	✎️	✎️	🗑️	3
Answered a question	✎️	✎️	🗑️	5
Total: 22, Average: 7.33				
Tap on the value to increment Tap and hold to reorder counters Swipe left to delete or reset				



 January Garnet	 February Amethyst	 March Aquamarine
 April Diamond	 May Emerald	 June Pearl
 July Ruby	 August Peridot	 September Sapphire
 October Opal	 November Topaz	 December Turquoise


























Bingo Sheets

Bravery BINGO!



B	R	A	V	E
		Free Space		

Bravery Bingo
Playground Edition

B	R	A	V	E
Go on the swings 	Use your brave voice with a new kid 	Give someone a compliment 	Use a loud outdoor voice 	Wave goodbye 
Smile at someone new 	Go down the slide 	Use your brave voice with a new kid 	Use your brave voice with a new kid 	Use your brave voice with a new adult 
Use a loud outdoor voice 	Use your brave voice with a new adult 	 Free Space	Ask where the restrooms are 	Smile at someone new 
Give someone a compliment 	Wave hello 	Use a loud outdoor voice 	Try the monkey bars 	Give someone a compliment 
Use your brave voice with a new kid 	Give a compliment to yourself 	Surprise Challenge 	Give a compliment to yourself 	Sit in the spinning globe 

★ & How will the skill be reinforced? ★

Reinforcing brave speaking

- Specific verbal praise +
- Awarding a brave point
 - Working towards a specific point goal in order to exchange for a reward/privilege

Consider the timing and type of the reinforcement based on student age and preference:

- Immediate Reinforcement
 - Given the reward immediately after the desired behavior is performed
- Delayed Reinforcement
 - Time gap between desired behavior and delivery of the reinforcer

“Libby, thanks for telling me you’d like pizza for lunch.”

Place sticker on student’s brave talking sheet.

“That is a very thoughtful hypothesis. Thanks for sharing Ahmed.”

Discreetly makes tally mark on sticky note.

The Ideal Response

Can be nonverbal for
attention-sensitive youth

Reflect + Subtle Praise + Token

Tokens accumulate
for secondary
reinforcer

Reward System Examples



Reward System Examples



(Name)'s Weekly Chart



	Monday			Tuesday			Wednesday			Thursday			Friday		
Goal 1:															
Goal 2:															

Teacher Notes:

This Week's Reward:

Total Checks This Week:

Date: _____

Goal:	0 times	1-2 times	3-4 times	5 or more times
1. Answers teacher FC question			X	
2. answer teacher open-ended question		X		
3. answers in small group		X		
4.				
5. Bonus!! <u>Did something really awesome!!</u>				

Types of Rewards

Tangibles

Privileges

Recognition



Creativity is encouraged



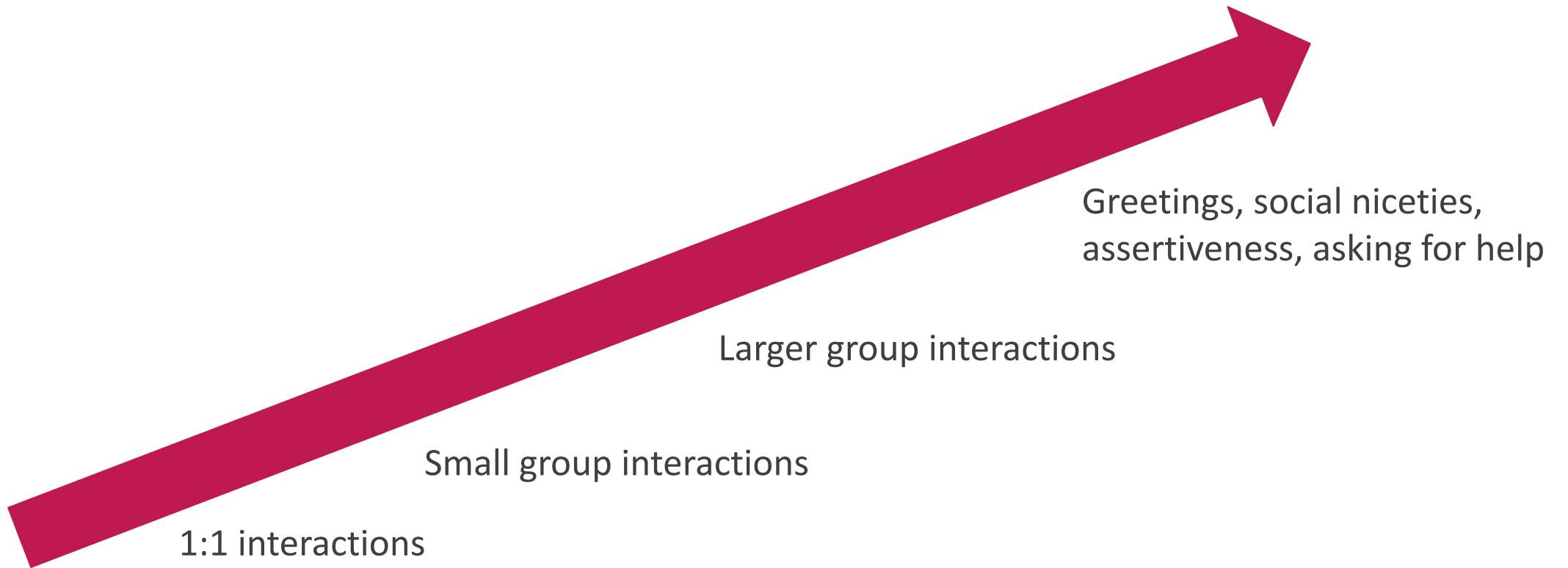
Reasonable goals

Reward value



Challenge level of goal

Trajectory of Goals



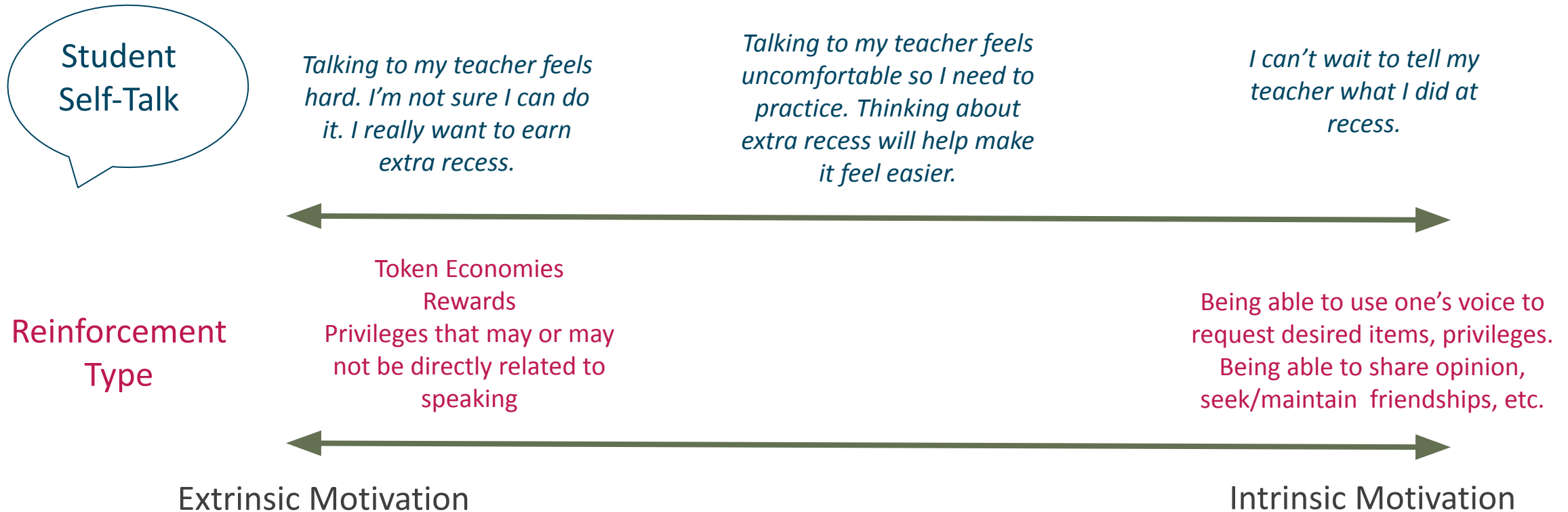
Change and/or fade reinforcement over time

As students make progress towards their goals, we can:

- **Change the goal**
 - 1 word responses → Full sentences
 - Responses → Initiating
 - Initiating without eye contact → Initiating with Eye contact
- **Change the schedule of reinforcement**
 - Reinforce every single instance of brave speaking → Reinforce after a set number of responses
- **Change the payoff criteria**
 - More work to earn the reward
 - 5 verbalizations per prize → 15 verbalizations per prize

****May need to increase rate/type of reinforcement if student is struggling with a goal and/or during times of transition****

Fading out Reinforcement



References

- Boneff-Peng, K., Lasutschinkow, P.C., Colton, Z.A., & Freedman-Doan, C.R. (2023). An updated characterization of childhood selective mutism: Exploring clinical features, treatment utilization, and school services. *Child Psychiatry & Human Development*. <https://doi.org/10.1007/s10578-023-01589-8>
- Center on Positive Behavioral Interventions and Supports (2021). Multi-tiered system of supports (MTSS) in the classroom. Simonsen, B., Robbie, K., Meyer, K., Freeman, J., Everett, S., & Feinberg, A.
- Cornacchio, D. Furr, J.M., Sanchez, A.L., Hong, N., Feinberg, L.K., Tenenbaum, R., Del Busto, C., Bry, L.J., Poznanski, B., Miguel, E., Ollendick, T.H., Kurtz, S.M.S., Comer, J.S. (2019). Intensive group behavioral treatment (IGBT) for children with selective mutism: A preliminary randomized clinical trial. *Journal of Consulting and Clinical Psychology*, 87 (8): 720-733.
- Kotrba, A., & Reed, K. (2023). Selective mutism: An assessment and intervention guide for therapists, educators, and parents, revised and updated edition (2nd ed.) Thriving Minds Publishing.
- Linke, J., Kirsch, P., King, A. V., Gass, A., Hennerici, M. G., Bongers, A., & Wessa, M. (2010). Motivational orientation modulates the neural response to reward. *NeuroImage*, 49(3), 2618–2625. <https://doi.org/10.1016/j.neuroimage.2009.09.013>.
- Merson, R. (2021) What is the evidence? A review on the latest research on SM treatments, mechanisms, and correlates [webinar]. Selective Mutism Association, virtual. <https://www.youtube.com/watch?v=uxhanvdbxBw&t=562s>
- Morris LS, Grehl MM, Rutter SB, Mehta M, Westwater ML. On what motivates us: a detailed review of intrinsic v. extrinsic motivation. *Psychological Medicine*. 2022;52(10):1801-1816. doi:10.1017/S0033291722001611
- Oerbeck, B., Stein, M., Wentzel-Larsen, T., Langsrud, O., Kristensen, H. (2013). A randomized controlled trial of a home and school-based intervention for selective mutism—defocused communication and behavioural techniques. *Child and Adolescent Mental Health*. DOI; 10.1111/camh.12045.
- Pendharkar, E. (2023). *What we know about Multi-tiered systems of supports (MTSS) in charts*. Education Week. <https://www.edweek.org/teaching-learning/what-we-know-about-multi-tiered-system-of-supports-mtss-in-charts/2023/11#:~:text=MTSS%20is%20a%20broader%20framework,educators%20who%20responded%20to%20Panorama>.
- Steains, S. Y., Malouff, J. M., & Schutte, N. S. (2021). Efficacy of psychological interventions for selective mutism in children: A meta- analysis of randomized controlled trials. *Child: Care, Health and Development*, 47(6), 771–781. <https://doi.org/10.1111/cch.12895>
- Zakszeski, B., & DuPaul, G.J. (2017). Reinforce, shape, expose, and fade: A review of treatments for selective mutism (2005-2015). *School Mental Health*, 9, 1-15.

Questions and Contact



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