Group Contingencies
for group behavior management

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Agenda

1. What are group contingencies (GCs)?
2. What does research tell us about the effectiveness of GCs with young children?
   - Literature review
   - Single case intervention
3. Why, when, for which children, and for what behaviors should GCs be used?
4. How can I create, implement, and modify GCs to meet needs of different learners?
INTRODUCTION
What are group contingencies?

- Group contingencies are those in which a shared consequence applies to all members of a group and is based on the performance by one, some, or all members of that group.
  - Extremely adaptable interventions that can address a diversity of students, behaviors/goals, and activities.
  - Can be easier to manage than individual contingencies.
Types

Three types:

- Independent
- Interdependent
- Dependent

In every type, the *contingency* is the same for each member of the group and the *consequence* is the same for each member of the group.
Independent

- **Each** member’s performance toward that criterion is measured individually, such that each member will get (or fail to get) the consequence based on their performance.
Interdependent

- **All** members of the group must individually meet the criterion (or the group must **work together** to meet the criterion) for **any** of the members to receive reinforcement.
If **certain** member(s) of the group meet criterion, **all** receive reinforcement

- This child/children can be specific and identified or not identified
- Child can be randomly chosen at end of session
What’s wrong with individual contingencies?

Nothing, they’re great!

Pros
- Target behaviors that aren’t addressed by classroom rules or maintained with naturally-occurring consequences
- Individualized based on specific needs
- Easy to modify when necessary

But...

Cons
- Can be difficult to manage across multiple children and behaviors
- Can shift primary focus of teacher onto particular students, while ignoring others
- Can be perceived as “unfair” by students
Background

**Literature review** (Pokorski, Barton, & Ledford, 2016)
- Analyzed the population, settings, variables, and reinforcement strategies within the literature in relation to preschool classrooms

**Results:**
- 6 of 11 studies resulted in a functional relation
  - Group contingencies *can be effective in modifying behavior for preschool students!*
RESEARCH:
SINGLE CASE INTERVENTION
Research Questions

1. Does the use of an independent group contingency increase the level of peer-directed social interactions between typically-developing children and children with multiple or severe disabilities (MSD) within a preschool classroom?

2. Does the use of known rewards verses mystery rewards result in differential rates of skill acquisition or in differential effects within this context?
## Participants

<table>
<thead>
<tr>
<th>Classroom</th>
<th>Child</th>
<th>Age (mos)</th>
<th>Gender</th>
<th>Race/Ethnicity</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sarah</td>
<td>42</td>
<td>F</td>
<td>White</td>
<td>Neurotypical</td>
</tr>
<tr>
<td></td>
<td>Alex</td>
<td>43</td>
<td>F</td>
<td>White</td>
<td>Neurotypical</td>
</tr>
<tr>
<td></td>
<td>Chloe</td>
<td>38</td>
<td>F</td>
<td>White</td>
<td>Neurotypical</td>
</tr>
<tr>
<td></td>
<td>Trent</td>
<td>53</td>
<td>M</td>
<td>White</td>
<td>Autism</td>
</tr>
<tr>
<td></td>
<td>Maisie</td>
<td>42</td>
<td>F</td>
<td>White</td>
<td>Congenital syndrome</td>
</tr>
<tr>
<td>2</td>
<td>Lars</td>
<td>36</td>
<td>M</td>
<td>Latino</td>
<td>Neurotypical</td>
</tr>
<tr>
<td></td>
<td>William</td>
<td>37</td>
<td>M</td>
<td>White</td>
<td>Neurotypical</td>
</tr>
<tr>
<td></td>
<td>Esteban</td>
<td>52</td>
<td>M</td>
<td>Asian-American</td>
<td>Chromosomal disorder</td>
</tr>
<tr>
<td></td>
<td>Massimo</td>
<td>46</td>
<td>M</td>
<td>Latino</td>
<td>Down syndrome</td>
</tr>
</tbody>
</table>
Setting

University-based inclusive preschool

- 2 classrooms
- Free play with no other children present
- Children with MSD positioned in support device
Dependent Variables & Measurement

- **Dependent variable:**
  - Appropriate social interactions (between children with typical development and children with MSD)

- **Measurement:**
  - Timed event recording across 5 min sessions

- **Interobserver Agreement:**
  - Point-by-point (≥ 30% across participants, conditions, treatments, and behaviors)
  - Met contemporary research standards
Child Assessment

Typically-developing children were the targets of the intervention

1. A preference assessment (MSWO) was conducted with each two times

2. A reinforcer assessment was conducted with most-preferred items

3. A token correspondence assessment was completed to ensure understanding of contingency
Independent Variable

Group contingency package

1. Child training
2. Visuals, contingency review (social story), and discriminative stimuli
Independent Variable

Group contingency package
1. Child training
2. “Good friend” visuals, contingency review social story, and discriminative stimuli
3. Implementer praise paired with tokens
4. Rewards (based on preference assessment results)
Design: Alternating Treatments

Pre-baseline: Control variables (e.g., session length, location-specific praise) only

Child training: Trained neurotypical participants in the intervention using modeling, practice, and feedback

Baseline: Control variables, “good friend” visuals, and baseline contingency review story & bandana

Intervention: Alternated mystery rewards (blue stimuli), known rewards (green stimuli), and baseline (white stimuli) sessions
Social Interactions: Classroom 1

- SARAH
- ALEX
- CHLOE
- TRENT & MAISIE
Social Interactions: Classroom 2

LARS

WILLIAM

ESTEBAN, MAISIE, & MASSIMO
Results

An independent group contingency—using mystery or known rewards—resulted in an increased frequency of appropriate social interactions from children without disabilities towards children with severe disabilities when compared to a control condition.

Neither intervention (mystery rewards or known rewards) was more efficient or effective for any child.

Results did not generalize to the control condition during the intervention.
APPLICATION:
WHY, WHEN, FOR WHICH CHILDREN, AND FOR WHAT BEHAVIORS?
Why use?

- Target common goals across a group of children
- Capitalize on group mentality
  - Peer modeling, encouragement, and “pressure;” teamwork
- Provide tangible rewards for behaviors that don’t yet meet with reinforcement from natural contingencies
  - Those that are not used often enough, or the natural consequences are not motivating

MAKE YOUR LIFE EASIER!!!
When to use?

- Many of your children are (or are not) exhibiting a target behavior you would like to address.
- Specific students are struggling to meet goals others are achieving, and would benefit from peer assistance.
- You want to increase your overall level of reinforcement across children for behaviors that are already occurring.
- You want to support children in a behavior throughout the day or for during specific activities such as small group or free play.
<table>
<thead>
<tr>
<th>Independent</th>
<th>Interdependent</th>
<th>Dependent</th>
</tr>
</thead>
<tbody>
<tr>
<td>When introducing a new contingency system</td>
<td>When you are interested in promoting teamwork</td>
<td>When you want children to help specific members of the class</td>
</tr>
<tr>
<td>When children are very young or have significant disabilities</td>
<td>When children in your class are heavily influenced by behavior of peers</td>
<td>When you can’t provide direct reinforcement for the entire group</td>
</tr>
<tr>
<td>During academic work</td>
<td>When most children sometimes engage in the behavior already</td>
<td>During maintenance phase</td>
</tr>
</tbody>
</table>
When not to use...

**Independent**
- When children react overly negatively if some receive a reward but others do not
- There is no alternative activity for those who did not meet criterion
- It is not feasible to provide individual reinforcement

**Interdependent**
- A child/children intentionally sabotage the group
- Children are at drastically different levels that can’t be supported by a single contingency

**Dependent**
- It is desired that all children meet a certain behavioral criterion
- Children berate chosen member(s) if they don’t achieve criterion (common with older children)
Which behaviors to target?

- Can be used to increase or decrease* behaviors
- Typically used for on-task behavior or engagement, but successful with a wide variety of behaviors
  - Particularly well-suited for social skills
- Generally used for behaviors already in learners’ repertoires that are in the fluency stage

*require response cost and can thus be aversive
Who to use it with?

- Effective across age groups (3 – adult)
  - Most-studied with typically-developing individuals, but research demonstrates can be effective across abilities
- Can be used across the day
  - With large or small groups
  - During instruction or free play
Consequence MUST be motivating to support behavior change. This means:

- Must be an item or activity that is reinforcing for the majority of participants
- Must be provided with great enough frequency to maintain consistent, high levels of behavior
  - During acquisition, should be often, which can be thinned or randomized during fluency/maintenance

But what about intrinsic motivation?!
How to choose rewards

Rewards can be:
- Edible, tangible, or activity
- Mystery or known
How to choose rewards

- Consider age and developmental level
- Consider stage of acquisition
- Conduct preference/reinforcer assessments
- Note favored items
- Just ask!
Should I use visuals?

YES!

- Visuals to **prompt desired behaviors** increase salience
- Visual **representations of contingency with individual data trackers** (e.g., token board) double the benefit
  - Provides immediate, direct, tangible reinforcement AND a final reward
- When designed intentionally, can make system more motivating and immediately reinforcing
Randomized elements

Research demonstrates that incorporating randomized or surprise elements into system can improve results.

Can randomize:
- Reward
- Behavior
- Response requirement or tracking interval
- Focal child (for dependent contingency)
What if it isn’t working at all?

- In all cases, group contingencies can, and should, be used with other interventions
  - Antecedent behavior management strategies (environmental arrangement, breaks, choices, noncontingent reinforcement, thoughtful scheduling, etc.)

- Look at each of the elements and find the problem
  - Is the behavior in the children’s repertoires?
  - Are they motivated by the reward(s)?
  - Are they achieving the contingency regularly?
  - Are the rewards provided with appropriate frequency?
  - Are they bored?
What if it isn’t working for some children?

Can individualize the group contingency by:

- Altering the response requirement
- Altering the level and type of immediate, direct reinforcement
- Prompt the behavior to facilitate acquisition
- Implementing an individual contingency on top of/instead of group contingency
APPLICATION:
CREATING, IMPLEMENTING, MODIFYING, AND MAINTAINING A GROUP CONTINGENCY
Through child observation, determine:
- The target behavior
- Desired level of behavior
- Children not performing behavior to desired level
- Context in which problem is observed
- Potential reinforcers for performing the behavior to the desired level

**PLAN**

- Choose type of group contingency
- Compose a contingency statement
- Design a contingency system
  - Visual tracking system
  - Reinforcers
  - Data collection system
- Determine type of child training and create materials as needed

**DEVELOP**

- Initially, aim for child success with system, not achievement of goal
- Explain any changes in system, using visual supports as needed
- Provide behavior-specific praise for use of target behavior
- Provide reminders of goal and reinforcer if needed
- Collect data on child progress

**IMPLEMENT**

Examine and adjust any of the following:
- The target behavior
- Behavior requirement or session length
- Type of group contingency
- Amount or type of reinforcement

**MODIFY**

- Continue collecting data
- Continue modifying as needed
- Consider increasing goal
- Consider using system during different time of day or different behavior

**MAINTAIN**
Through child observation, determine:

- The target behavior
- Desired level of behavior
- Children not performing behavior to desired level
- Context in which problem is observed
- Potential reinforcers for performing the behavior to the desired level
## STEP 1: Plan

<table>
<thead>
<tr>
<th>Select behavior, goal, and criterion</th>
<th>Select children and context</th>
<th>Select rewards and reward frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose a behavior (engagement) or group of behaviors (e.g., social skills) to target</td>
<td>Choose which children would benefit from increased use of the skill AND who have appropriate foundational skills</td>
<td>Edible, tangible, activity</td>
</tr>
<tr>
<td>Choose an appropriate target goal</td>
<td>Choose context in which GC will occur</td>
<td>Mystery or known</td>
</tr>
<tr>
<td>Choose a within-session criterion</td>
<td></td>
<td>Length of inter-reward (i.e., “session”) period</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Type of immediate reinforcement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fixed or intermittent schedule</td>
</tr>
</tbody>
</table>
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**PLAN**

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## STEP 2: Develop

### Select type of group contingency

**General type:**
- Independent
- Interdependent
- Dependent

**Specific type:**
- Each must meet criterion
- All-for-one
- Specific child or random

### Create materials

**Visuals:**
- Behavior tracker (token board, group jar)
- Behavior tokens
- Reminders of contingency (e.g., story)
- Reminders of expectations (e.g., posters hung in room)

### Prepare data collection method

- System must be convenient, easy to use, and accurate
  - Can collect data on individual children and/or group as a whole
  - Can be done by primary teacher or instructional assistant, specialist, etc. when available

- Develop data sheet or log
Interdependent
Additional visuals

There are many ways to be a good friend.

I can talk to a friend to play.

I can share a toy with a friend.

I can play with a friend using the same toys.

Play together
Data collection

Data Collection Sheet

Week: ___ March 7 = 11 ___________ Session length: ___5 minutes_____________


Enter the date, activity, and reinforcer for each session. Place a + in the appropriate box each time an unprompted behavior occurs during the session. If also prompting behavior, mark each prompted behavior with a P. Place a ✓ in the appropriate box each time a contingency reminder is provided.

<table>
<thead>
<tr>
<th>Student</th>
<th>Monday Date: 3/7/18</th>
<th>Tuesday Date: 3/8/18</th>
<th>Wednesday Date:</th>
<th>Thursday Date:</th>
<th>Friday Date:</th>
<th>Weekly Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
<td>Don’t Break the Ice</td>
<td>Springtime College</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reinforcer</td>
<td>3-min with Pops</td>
<td>PJ Masks sticker</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Javier</td>
<td>P P P P P</td>
<td>P P P P P</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zack</td>
<td>+ + + + +</td>
<td>+ + + + +</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mina</td>
<td>+ + + + + + + + +</td>
<td>+ + + + + + + + +</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robert</td>
<td>+ + + + +</td>
<td>+ + + + +</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contingency Reminders</td>
<td>✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Behavior Definitions:

Unprompted (+): Student engages in behavior independently or with peer prompting.

Prompted (P): Student engages in behavior within 5 seconds of an adult prompt to do so.
Through child observation, determine:
- The target behavior
- Desired level of behavior
- Children not performing behavior to desired level
- Context in which problem is observed
- Potential reinforcers for performing the behavior to the desired level

**PLAN**

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- Collect data on child progress
## STEP 3: Implement

### Practice the system

1. Explain the contingency, including behavior(s), criterion, and reward  
   Use visuals as needed to facilitate comprehension
2. Model the contingency
3. Conduct practice sessions with reminders and feedback

### Implement the system

- Start with high levels of immediate, salient reinforcement and low response requirements
- Monitor all students’ performance and tweak as needed to see/maintain results

### Collect Data

- Collect data and analyze regularly (especially in beginning of implementation)
- May also choose to track activity and reward

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**The goal is for ALL children to meet the criterion and earn the reward EVERY session. If they do not, the system may require modification!**
Through child observation, determine:
- The target behavior
- Desired level of behavior
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Choose type of group contingency
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- Collect data on child progress

Examine and adjust any of the following:
- The target behavior
- Behavior requirement or session length
- Type of group contingency
- Amount or type of reinforcement
STEP 4: Modify

### Target Behavior or Goal
- Is the behavior already in the children’s repertoire?
- Is the criterion reasonable given the context, session length, and child or children?
- Is the session length appropriate?

### Type of Contingency
- Do children understand their role in the contingency?
- Are children motivated to work independently or for the team?
- Are children sabotaging the contingency for the group?

### System Appeal
- Is the system visually appealing?
- Are children motivated by the rewards?
- Are the rewards (and inter-session reinforcement) given with enough frequency?
- Is the system easy to understand progress toward the criterion?
Through child observation, determine:
- The target behavior
- Desired level of behavior
- Children not performing behavior to desired level
- Context in which problem is observed
- Potential reinforcers for performing the behavior to the desired level

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Collect data on child progress

Examine and adjust any of the following:
- The target behavior
- Behavior requirement or session length
- Type of group contingency
- Amount or type of reinforcement

Continue collecting data
Continue modifying as needed
Consider increasing goal
Consider using system during different time of day or different behavior
STEP 4: Maintain

**Continue Implementation**
Continue to implement, collect data, and modify system as needed
- If rewards remain motivating and children are consistently meeting goal, the system may continue as is

**Increase Requirement**
Consider increasing elements of the contingency:
- Greater criterion
- Longer sessions (i.e., fewer rewards for same amount of behavior)
- Thin reinforcement (inter-session and/or final reward)

**Generalize**
Consider using system with new behavior or during new activity
Can use the same system or create a different group contingency system
Considerations

- How will you maintain a high level of child excitement and performance over time?
- How will you alter the system if the majority of children are always receiving the reward, easily, or they are not achieving the reward very often?
- Will you plan to fade supports (e.g., prompting to emit behavior) or thin reinforcement (e.g., longer time between rewards, more behaviors required to earn reward)?
- What will you do if only one or two children are struggling with to understand contingency / achieve contingency?
QUESTIONS?
NOW IT’S YOUR TURN.
Your turn!

Design a group contingency based on the scenario you’ve been given.

**Include:**
- Type of contingency
- Behavior(s)
- Criterion
- Rewards
- When you will use it
- Reinforcement schedule
- Visuals/tracking system
Shondra

Shondra started her first year as a kindergarten teacher implementing an individual level system, which she used to track the behavior of her students throughout the day:

- All children started off the day at yellow. When they exhibited a positive behavior she would move them up to green; if they exhibited challenging behavior she would move them down to red. Any student on green at the end of the day would get to pick out a sticker. However, after a few weeks of using this system she found that the same children always ended on green, and those that were on yellow or red didn’t seem motivated by getting a sticker AND were demonstrating increasingly challenging behavior throughout the day.

Shondra is frustrated that the group contingency she had learned about in school wasn't helping, and is thinking about abandoning it altogether.
Carl, who teaches a self-contained preschool classroom for children with ASD, would like to incorporate a short small group activity into the daily schedule to prepare his students for kindergarten, while capitalizing on observational learning.

Carl's long-term goal for this activity is skill acquisition and fluency within a small group setting. However, he is struggling to provide instruction due to the off-task behavior his students often exhibit.

Thus, Carl feels that before he can provide adequate small-group instruction he needs his students to demonstrate appropriate attentional skills (e.g., sit in chair, hands to self, eyes on teacher, no talking to peers) during this time.


