The Effects of Peer Praise Notes on Socially Withdrawn Adolescents: A Classroom Intervention

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Paul Caldarella, Ph.D.

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Target student: Jason

Jason kept to himself and rarely, if ever, spoke to classmates. When asked a question by the teacher or a peer, he mumbled the answer quietly, avoiding eye contact. When the students were given class time to play games with peers, Jason remained in his seat playing dominos—alone.
Outline

• Background Literature
• Method
• Results
• Discussion
Background Literature

- Socially Withdrawn Students
- Interventions
- Praise
  - Teacher Praise
  - Peer Praise
  - Written Praise
Socially Withdrawn Students

- Students find interactions with withdrawn students to be aversive or less rewarding than interactions with other students (Stormshak, et al., 1999).

- Many students avoid interactions with students who have behavioral or emotional disorders (McDowell, 1988; Myerson & Hale, 1984).
• Students who are socially withdrawn or isolated have difficulty learning appropriate social conduct which places them at risk for difficulties later in life (Oden, 1980; Patterson, Reid, & Dishion, 1992).

• Children who are avoided, neglected, or teased are at high risk for developing behavioral and emotional disorders (Gresham, Macmillan, & Bocian, 1998).
Interventions

• One approach aimed to increase students’ social involvement is to design educational systems that increase prosocial behavior, rather than simply aiming to prevent antisocial behavior (Winette & Winkler, 1972).

• Prosocial behaviors should be reinforced, teaching students that prosocial behaviors are valued (Skinner, Cashwell, & Skinner, 2000).
Peer approval is a powerful source of prosocial influence and may be an effective target for intervention (Skinner, et al., 2000).
Praise

- Praise is viewed as positive reinforcement which encourages desirable behavior, while extinguishing undesirable behavior (Thomas, 1991).

- If delivered correctly, praise increases students’:
  - on-task behavior (Ferguson & Houghton, 1992)
  - motivation in the classroom (Thomas, 1991)
  - academic success (Sutherland & Wehby, 2001)
Teacher Praise

- Praise has been widely recommended as an important reinforcement method for teachers. It can build self-esteem, provide encouragement, and build a close relationship between student and teacher (Brophy, 1981).
Peer Praise

• Positive Peer Reporting (PPR or “tootling”):
  – Students verbally report their peers’ prosocial behaviors
  – PPR has been effective in increasing the social interactions of withdrawn students (Skinner, et al., 2002).

• PPR:
  – Increased the social involvement of three withdrawn children (Moroz & Jones, 2002).
  – Peers were a source of positive reinforcement for the prosocial behavior of at-risk children (Moroz & Jones, 2002).
The effects of peer-to-peer written praise have not been thoroughly explored.
Research Question

• What are the effects of peer-written praise notes on the social involvement of three socially withdrawn middle-school students?
Method

- Participants
- Setting
- Measures
- Observations
- Experimental Procedures
Participants

- Three adolescents (age 12-14) attending a public junior high school in the Western United States
Setting

• Participants were screened using Stages One and Two of the Systematic Screening for Behavior Disorders (SSBD) and identified as displaying internalizing symptoms.

• Participants were enrolled in Successful Skills for Living and Learning (SSLL), a class for students at risk for emotional and behavioral disorders.

• The three participants were selected by the teacher and the PI for low rates of social involvement with peers.
Teacher comments:

“When I saw the students who were socially withdrawn not participate with peers, it made me wonder if they were too nervous to approach someone to play with them and if they secretly were hoping someone would approach them.”
Measures

• Participants’ interactions were observed and recorded 4 days a week during a 15-minute peer activity time.

• Students’ peer activity time activities included:
  – Playing games alone or with others (e.g., Jenga, cards, domino’s, hackysack, etc.)
  – Talking to their friends
  – Listening to music
  – Hanging out together on the couch in the back of the room
Target Behavior: Social Involvement

1. Social engagement: any positive verbal or nonverbal interaction with a peer (e.g., talking, actively listening, playing together, etc.)

2. Participation: involvement in a game with structure or rules

(Not included in social involvement was playing alone, talking to an adult, parallel play, standing near peers while watching them play a game, or any negative interaction.)
Target Behavior: Social Involvement

Example:
- Christine is playing a card game with Courtney
- Clay and John are sitting on the couch talking and laughing

Non-example:
- Jack is sitting at his desk playing dominos alone
- Dylan is wandering around the room observing his classmates while they play games
Observational Method

- Partial interval recording: Observation sessions occurred during peer activity time and consisted of 72, 10-second intervals (12 minutes).
## Observation Form

Observation Form: Sample

<table>
<thead>
<tr>
<th>Period</th>
<th>Student name: ____________ (students’ real names were not used)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>____</td>
</tr>
<tr>
<td>2</td>
<td>____</td>
</tr>
<tr>
<td>3</td>
<td>____</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Day of week: __________</th>
<th>Date: __________</th>
<th>Start: ______</th>
<th>End: ______</th>
</tr>
</thead>
</table>

Observer ____________________

<table>
<thead>
<tr>
<th>Interval (10 second intervals)</th>
<th>+= interacting 0= not interacting</th>
<th>Who initiated the interaction? (first initial of student)</th>
<th>Who was the recipient of the interaction? (first initial of student)</th>
<th>Students Involved in interaction? (first initial of students)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+</td>
<td>J</td>
<td>C</td>
<td>J, C, S</td>
</tr>
<tr>
<td>2</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Interobserver Agreement

• Prior to data collection, two observers conducted practice sessions. When interobserver agreement exceeded 90%, training was terminated.

• Interobserver agreement: During 33% of the observations, the secondary observer simultaneously recorded the interactions. Interobserver agreement was 98%.
Experimental Design

• A reversal (A-B-A) single-subject design was used.

• This design was selected because it has been used in prior studies on PPR.
Intervention

• Students were asked to write a praise note to each of their classmates every week; they were reinforced (with a group contingency) for writing 2-3 praise notes each morning.
Group Contingency

- Group contingencies were used to reinforce the writing of praise notes.
- Students rank-ordered a list of activities they wanted to earn.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doughnut and chocolate milk party</td>
</tr>
<tr>
<td>Fiesta Party (chips, salsa, Sangria)</td>
</tr>
<tr>
<td><em>Smallville</em> movie, popcorn, and soda</td>
</tr>
<tr>
<td>Burgerking: receive $3 for breakfast</td>
</tr>
<tr>
<td>Outside games (kickball) and candy party</td>
</tr>
<tr>
<td>Dodge ball in the gym and candy party</td>
</tr>
</tbody>
</table>

Please number each activity from 1–6. #1 is the activity you would like to do the most, #6 is the activity you would like to do the least.
Date: 4/28/2007
To: David
I really liked your role-play in class. You are cool!
From: Sam

Adapted from How Full is Your Bucket?
Tom Rath & Donald O. Clifton, PhD.
Treatment Integrity

- A checklist was completed by the PI to ensure the training of students was conducted in a consistent manner across classrooms.
  - 100% treatment integrity

- The teacher and the PI jointly implemented the intervention daily.
  - Permanent product data suggests that the intervention was implemented as designed.

Example

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>During our unit on peer relations, you will be encouraged to write praise notes to your classmates.</td>
</tr>
<tr>
<td>4.</td>
<td>Each morning there will be two Peer Praise Notes on your desk. You will be given time to write praise notes after journaling time.</td>
</tr>
<tr>
<td>6.</td>
<td>(Teacher demonstrates the steps of writing a praise note by writing on a praise note transparency on the overhead projector):</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>To: Sam</td>
</tr>
<tr>
<td></td>
<td>Write a message to a classmate. You can write something specific like “I liked your role-play. You were very ...”</td>
</tr>
</tbody>
</table>
In Class Tracking of Praise Notes

• Public posting was used to reinforce the writing of praise notes (i.e., a poster was hung on the wall indicating the number of praise notes written so far that week, as well as the class goal).

• The PI praised students for praise notes written that day and asked one student to move the dial.
Results

- Target students’ Interactions With Peers
- Daily Praise Notes Written
- Results
- Social Validity
Interaction With Peers: Jason

Baseline
Mean: 9.17%

Intervention
Mean: 49%

Withdrawal
Mean: 94%

Maintenance
Probe
Mean: 31.94%
Daily Praise Notes: Jason

<table>
<thead>
<tr>
<th>Day</th>
<th># of Praise Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1</td>
<td></td>
</tr>
<tr>
<td>Day 2</td>
<td></td>
</tr>
<tr>
<td>Day 3</td>
<td>4</td>
</tr>
<tr>
<td>Day 4</td>
<td>1</td>
</tr>
<tr>
<td>Day 5</td>
<td>2</td>
</tr>
<tr>
<td>Day 6</td>
<td>2</td>
</tr>
<tr>
<td>Day 7</td>
<td>2</td>
</tr>
<tr>
<td>Day 8</td>
<td>3</td>
</tr>
<tr>
<td>Day 9</td>
<td>2</td>
</tr>
</tbody>
</table>

Mean: Sent = 1.89, Received = 1.67

Received 8 PPNs by Day 5
Interaction With Peers: Allyson

- **Baseline**: Mean: 41.27%
- **Intervention**: Mean: 93%
- **Withdrawal**: Mean: 98%
- **Maintenance Probe**: Mean: 100%

Days: 03/16 to 05/21

% of Interactions
Daily Praise Notes: Allyson

Day 1: Wrote and received a PPN from a significant peer

Day 1

Day 2

Day 3

Day 4

Day 5

Day 6

# of Praise Notes

Sent

Received

Mean: 2

Mean: 2

Literture

Method

Results

Discussion
Interaction With Peers: Randy

- **Baseline**
  - Mean: 14.61%

- **Intervention**
  - Mean: 55.38%

- **Withdrawal**
  - Mean: 59.52%

- **Maintenance Probe**
  - Mean: 6.94%

Days

03/16 03/19 03/20 03/21 03/22 03/26 03/28 03/30 04/02 04/03 04/04 04/06 04/09 04/10 04/11 04/12 04/13 04/16 04/17 04/23 04/25 04/26 04/30 05/01 05/02 05/03 05/04 05/05 05/06 05/09 05/17 05/18 05/21

% of Interactor

- Literature
- Method
- Results
- Discussion
Daily Praise Notes: Randy

Received 5 PPNs by Day 2

Mean: 2.25
Mean: 2.33

Literature
Method
Results
Discussion
# Praise Note Content

<table>
<thead>
<tr>
<th>Categories</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>You’re Cool/Awesome/You Rock</td>
<td>25%</td>
</tr>
<tr>
<td>You’re Good at ___/Talented</td>
<td>16%</td>
</tr>
<tr>
<td>You’re Funny</td>
<td>15%</td>
</tr>
<tr>
<td>Specific Compliment</td>
<td>10%</td>
</tr>
<tr>
<td>You’re a Good Friend</td>
<td>8%</td>
</tr>
<tr>
<td>I’m Glad You’re in My Class</td>
<td>7%</td>
</tr>
<tr>
<td>Good Work in Class</td>
<td>6%</td>
</tr>
<tr>
<td>Thanks for ___/Appreciation</td>
<td>6%</td>
</tr>
<tr>
<td>You Have a Good Personality</td>
<td>6%</td>
</tr>
<tr>
<td>You’re Nice/Kind</td>
<td>4%</td>
</tr>
<tr>
<td>Other (e.g., you’re smart, you’re quiet, what’s up?, etc.)</td>
<td>20%</td>
</tr>
</tbody>
</table>

| Total                             | 377 Peer Praise Notes |
Praise Note Content

- 32% of praise notes under the category “You’re Good at ___” referred to games played during peer activity time.

- 50% of praise notes under the category “You’re Fun to Play With” referred peer activity time activities.
Results

• The data suggests the treatment was effective for all 3 participants
  – All participants’ interactions increased

• The target behavior did not reverse
  – Participants’ interactions did not decrease when treatment was removed
  – Recent research challenges us to find interventions that empirically demonstrate maintenance of behavior (Marchant, et al., 2007).
    • After treatment was removed, social involvement remained higher than during baseline
# Social Validity

The special education teacher believed the intervention was beneficial for all students. Intervention Rating Profile-15, (Witt & Elliott, 1985)

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Slightly Agree</th>
<th>Strongly Agree/Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would suggest the use of Peer Praise Notes to other teachers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>This intervention (Peer Praise Notes) is a fair way to handle students’ socially withdrawn behavior.</td>
<td></td>
<td></td>
<td></td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>I like the procedures used in the Peer Praise Notes Intervention.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>Overall, Peer Praise Notes would be beneficial for the students.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>×</td>
</tr>
</tbody>
</table>
Teacher comments:

“I really like the praise note intervention. When some of the students received a positive note from a peer, it ignited a little spark of self confidence in them . . . It gave students a ‘safe’ outlet to express their thoughts and feelings about their peers . . .”
Social Validity: Students

Of 16 students:

“Peer Praise Notes could help a student who does not socialize very much with classmates.”
  • 81% agreed or strongly agreed

“Peer praise Notes would be effective in improving a child’s social involvement with classmates.”
  • 75% agreed or strongly agreed

“Peer Praise Notes would be appropriate for a variety of students.”
  • 75% agreed or strongly agreed

“Overall, Peer Praise Notes would be beneficial for the students.”
  • 69% agreed or strongly agreed
Discussion

• Given the potential risks to students who are socially isolated or withdrawn, it is necessary to thoroughly examine our treatment approaches.

• Data suggests Peer Praise Notes (PPNs) produced distinguishable improvements in the social involvement of socially isolated adolescents.

• This study extended previous research by:
  – examining a junior high school population (adolescents rather than elementary students)
  – utilizing written peer praise (previous research examined teacher praise or verbal peer praise - “tootling”)
Limitations

• **Classes were small (5-10 students):**
  – Students had a limited number of peers with whom to interact
  – Students received a PPN from each classmate more frequently than they would have with a larger class

• **An A-B-A design did not allow for a demonstration of experimental control**
Challenges

• Intervention is time consuming
  – Writing praise notes
  – Reviewing praise notes
  – Peer activity time (3-4 days a week for 15 min.)
• Some students did not receive praise notes as often as other students
• Some students had lower levels of writing skills
• Inappropriate praise note content
• Behavior during peer activity time (rough-housing)
Procedure for Writing Peer Praise Notes (PPNs) in your classroom:

Step 1: Introduce the topic by discussing the importance of peer relationships and praise.

Step 2: Instruct and demonstrate how to write an effective praise note, using an overhead projector and a transparency with a sample PPN.

Step 3: Discuss and agree upon the class goal (i.e., number of PPNs students must write to earn a class reward every 1-2 weeks), write it on a poster, and hang it in the classroom.

Step 4: Have students vote on a class reward they can earn if they reach the goal (e.g., a video and popcorn party, chips and salsa party, cereal party, etc.). Write the reward on an 8 x 11 paper and hang it by the goal poster.

Step 5: Introduce the intervention:
   - Place a PPN on each student’s desk.
   - Allow 2-5 minutes for students to write a PPN.
   - Collect and review PPNs for appropriate content.
   - Distribute PPNs to students who received them.
   - Provide a place for students to keep their PPNs (e.g., in a pocket or envelope inside of their journal or notebook).

Step 6: Track the number of PPNs written daily.

Step 7: Record target students’ interactions during class activities or recess to determine whether PPNs provided desired results.

Step 8: Fade the intervention as desired results are obtained.
http://education.byu.edu/pbsi/

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References


Experimental Procedures

- Experimental Design
- Intervention
  - Group Contingency
  - Treatment Integrity
  - Tracking of Praise Notes
  - Peer Praise Notes Content
Responses and Initiations: Jason

Baseline
Means: 1 0

Intervention
Means: .33 1

Withdrawal
Means: .75 1

Maintenance Probe
Means: 0 4

Days
03/16 03/19 03/20 03/21 03/22 03/26 03/27 03/28 03/29 03/30 04/02 04/03 04/04 04/05 04/06 04/09 04/10 04/11 04/12 04/13 04/16 04/17 04/18 04/23 04/24 04/25 04/26 05/01 05/02 05/03 05/17 05/18 05/21

# of Responses and Initiations
0 1 2 3 4 5 6
Responses and Initiations: Allyson

Baseline
Means: .71   0

Intervention
Means: 1.33   .5

 Withdrawal
Means: 1   0

 Maintenance Probe
Means: 1   0

Days
03/16 03/19 03/20 03/21 03/22 03/26 03/27 03/28 03/29 03/30 04/02 04/03 04/04 04/05 04/06 04/09 04/10 04/11 04/12 04/13 04/16 04/17 04/23 04/24 04/25 04/30 05/01 05/02 05/03 05/17 05/18 05/21

Responses
Initiations
Responses and Initiations: Randy

Baseline
Means: .2 .4

Intervention
Means: 1.88 2.25

Withdrawal
Means: 2 1.86

Maintenance Probe
Means: 0 1

# of Responses and Initiations

Days

03/16 03/19 03/20 03/22 03/23 03/26 03/27 03/28 03/29 03/30 04/02 04/03 04/04 04/05 04/06 04/09 04/10 04/11 04/12 04/13 04/16 04/17 04/23 04/24 04/25 04/26 04/29 04/30 05/01 05/02 05/03 05/08 05/09 05/17 05/18 05/19

Days

03/16 03/19 03/20 03/22 03/23 03/26 03/27 03/28 03/29 03/30 04/02 04/03 04/04 04/05 04/06 04/09 04/10 04/11 04/12 04/13 04/16 04/17 04/23 04/24 04/25 04/26 04/29 04/30 05/01 05/02 05/03 05/08 05/09 05/17 05/18 05/19

0 1 2 3 4 5 6

Responses

Initiations
Summary of Data

- **Baseline**: 9.17%, 41.27%, 13.61%
- **Peer Praise Notes**: 49%, 55.38%
- **Maintenance Probe**: 94%, 59.52%, 6.94%

% Social Involvement
Summary of Data

<table>
<thead>
<tr>
<th>% Social Involvement</th>
<th>Baseline</th>
<th>Peer Praise Notes</th>
<th>Baseline</th>
<th>Maintenance Probe</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.17%</td>
<td>41%</td>
<td>93%</td>
<td>94%</td>
<td>31.94%</td>
</tr>
<tr>
<td>14%</td>
<td>49%</td>
<td>55%</td>
<td>98%</td>
<td>100%</td>
</tr>
<tr>
<td>7%</td>
<td>60%</td>
<td>60%</td>
<td></td>
<td>7%</td>
</tr>
</tbody>
</table>

% Social Involvement vs. Time Points: Baseline, Peer Praise Notes, Baseline, Maintenance Probe.
How to implement PPN in your classroom:

• Introduce and discuss *How Full is Your Bucket: a rationale for PPN* (Tom Rath & Donald O. Clifton, PhD.)
• Instruct and demonstrate how to write effective praise notes.
• Introduce intervention:
  a. Place “bucket” in the room
  b. Place “drops” (PPN) by the bucket
  c. Allow time for students to write “drops” to their peers and place in the bucket
  d. Review PPN for appropriate content and give them to students
  e. Provide a place for students to keep their PPN (e.g., inside their journal or notebook)

4. Establish reinforcement (e.g., group contingencies—class activities, public posting)

5. Track student interactions during class activities to determine whether PPN provided desired results
Summary of Data

Jason

Allyson

Randy

Baseline

Peer Praise Notes

Baseline

Maintenance Probe

% Social Involvement