

*ASK THE DOCTOR:*



# **Self-Injurious Behavior**



*(Maintained by Automatic  
Reinforcement)*



# ASK THE DOCTOR:



- *Last Forum:*
- *Part I: Self Injurious Behavior*
  - (*SIB*)





*First Forum's Topic  
was PICA  
That's SIB Too*



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Dr. Susan Clare

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# Part I SIB

- But Wait,



- What if you missed it?



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# *Not To Worry*

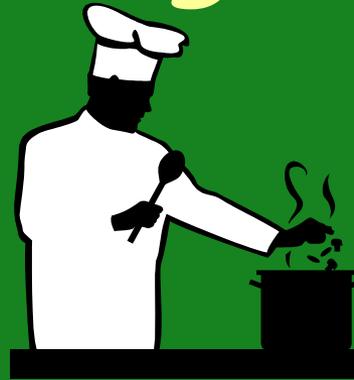
- April 23<sup>rd</sup>
- Part I: Self-Injurious Behavior
- Will Run AGAIN!!!
  - A few things in common....



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# *Essential Ingredient*



- *Self Inflicted*
- *Tissue Damage*

**Specific to  
Autism and other  
DD**



**Not Self-Abuse in Other  
Psychiatric Disorders**



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# Examples



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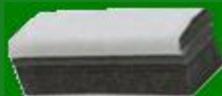




# *Top Three Risk Factors*

1. Severe or Profound Developmental Disabilities
2. Diagnosis of Autism
3. Deficits in Receptive or Expressive Communication

**McClintock, 2003**



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# Non-Evidence Based

*But Found in the Media*

- *Aroma Therapy*
- *Massage Therapy*
- *Swimming Therapy*
- *Hot Tub Therapy*
- *Supplements; Herbs*
- *Music Therapy*
- *Acceptance and Nurturing Therapy*



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# *Part I: SIB Maintained by Social Reinforcement*



- Positive
- Negative

*–Accounts for 70% of the SIB seen in School –Aged Children*



# *Prolonged Stage of Development-sets the stage*

Richman & Lindauer-2005

- 12 Subjects: normal hand mouthing
- To SIB
- Undifferentiated across FAA conditions (alone, attention, escape)



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*So, TODAY's Topic:  
SIB Maintained by :*

• Automatic Reinforcement

*–It's a case of:*

**–You're Not Important!!**



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# *You Know Its True When:*

1. SIB occurs across Conditions
2. Continues in the Alone Condition
3. Sensory Masking Influences the Behavior



# Automatic, Sensory Reinforcement

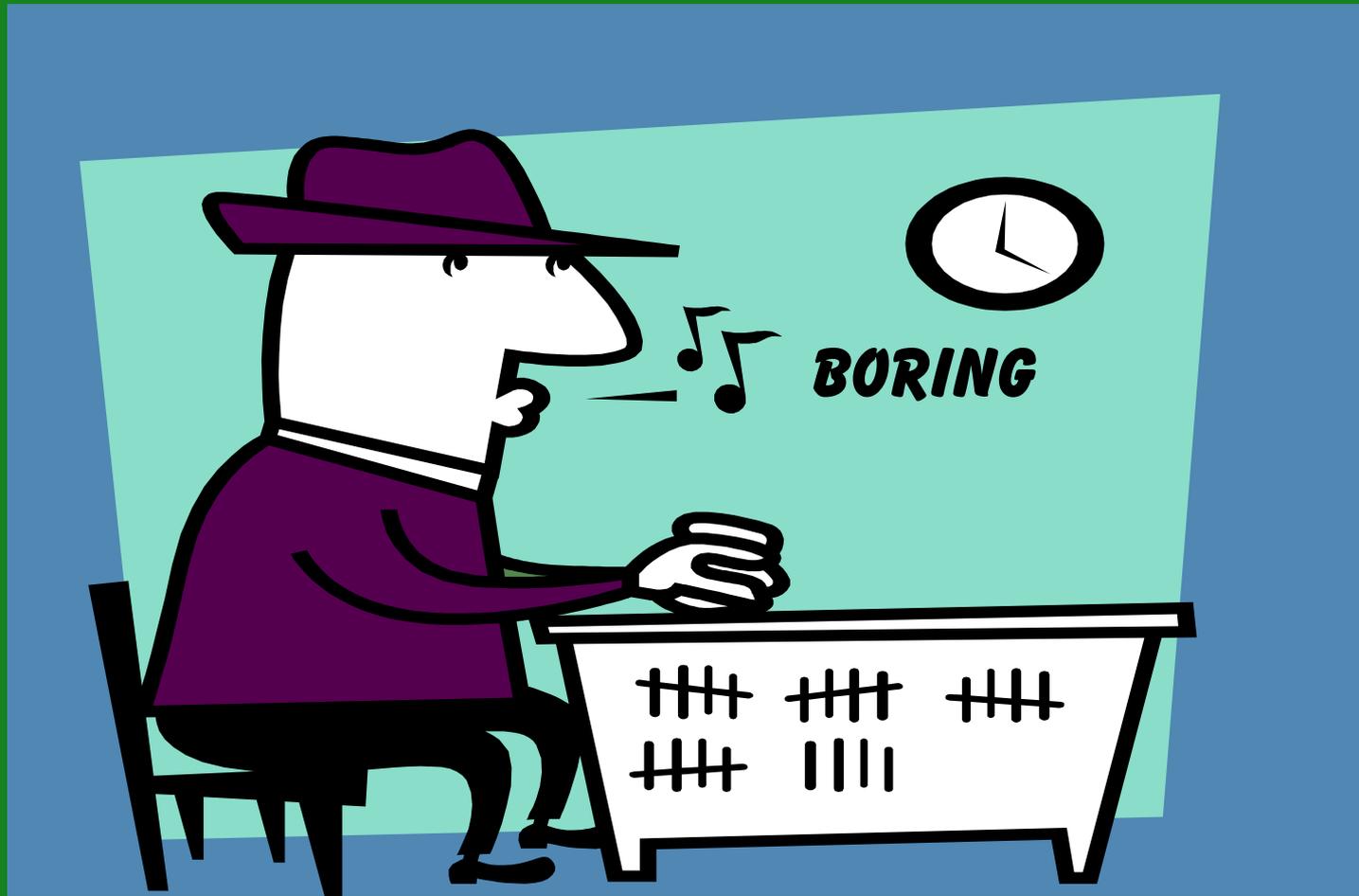
- Undifferentiated FAA, suggesting automatic reinforcement.

- Consider Other Models,  
or competing possibilities:



- Absence of Reinforcement
  - Quality of  $S^{r+}$
  - Depletion of dopamine
- Lack of Discrimination of FAA Conditions
  - Also, remember Roscoe??

# Establishing Operations for SIB - Automatic S<sup>r+</sup>



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# *Self-Excoriation*



- Nine year old boy with severe scratching and rubbing
- Only in Alone Conditons, but **EXTREME**
- Token economy for DRO

Cowdery, 1990



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# Stressors



Attempt to Self-Soothe or Block



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# Preference Assessment

- SIB s:
  - Ron—Head hitting, ear poking, biting, sucking fingers
  - Korey- Head banging, head hitting, hand biting
  - Rhonda—Hand mouthing (arm brace prior to study)
  - Note to self: These didn't even require sensory matching, and they were present, not contingently present

Vollmer- 94cont



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# *Results—All Successful, 2 with adjustments*

- Ron: Rubber Circles, Blocks, and Magnets



- In the presence of Enriched Environment (EE+)

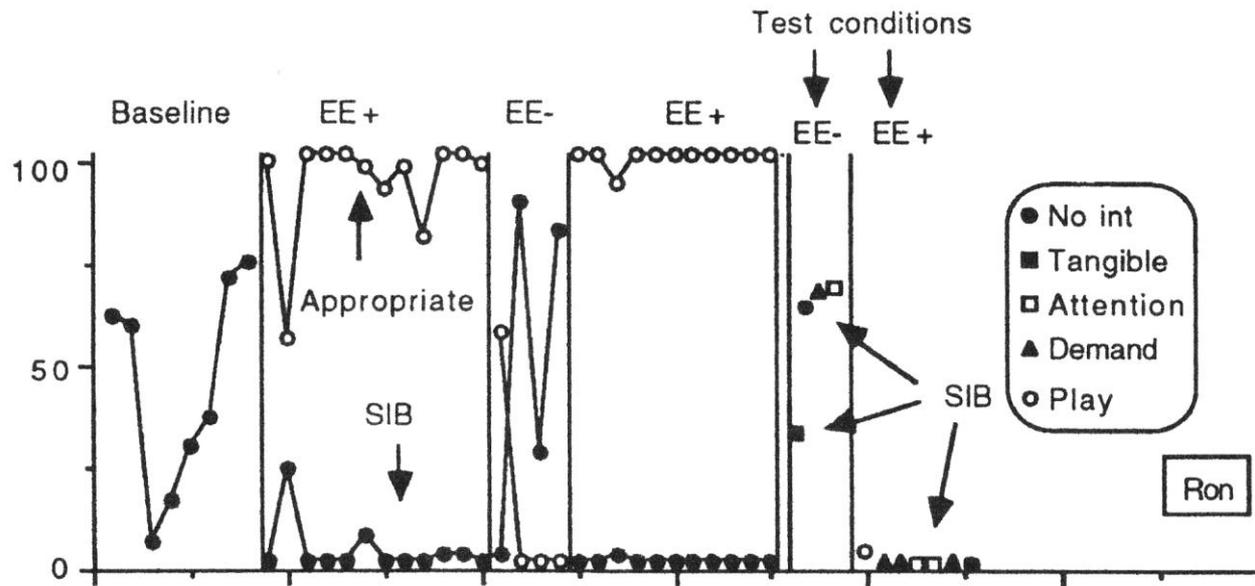


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# Ron's a Good Subject

Rubber circles, blocks, magnets



Too Good To Be True?? Let's replicate ACROSS subjects



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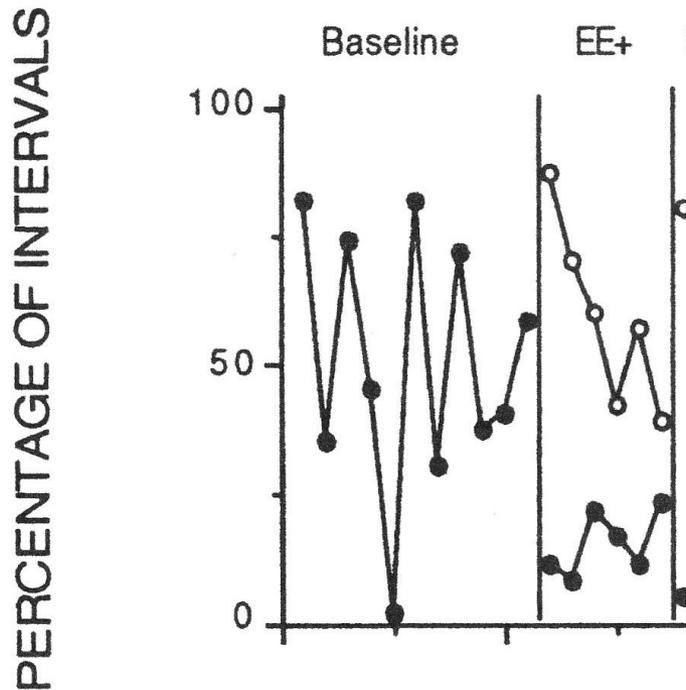


# *Results—All Successful, 2 with adjustments*

- Korey (Head Banger): See n Say, added Music Box



# Check It Out: Korey



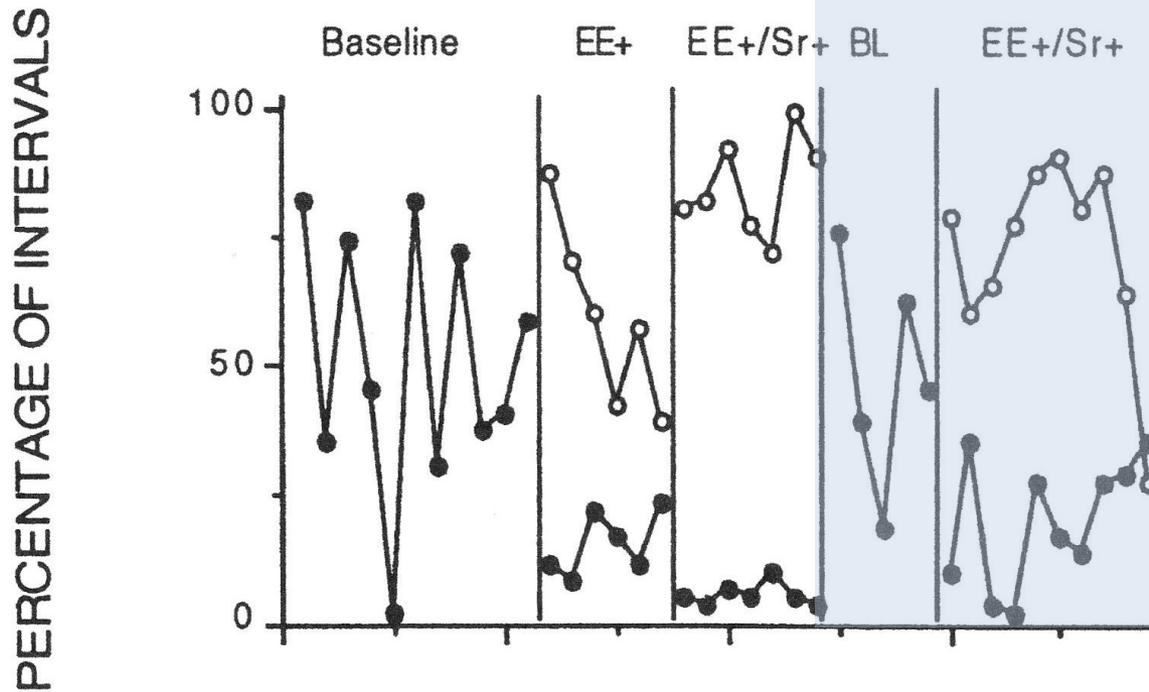
In the presence of EE+, began to recover SIB;



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# Added music box



*And Repeated the Experiment*

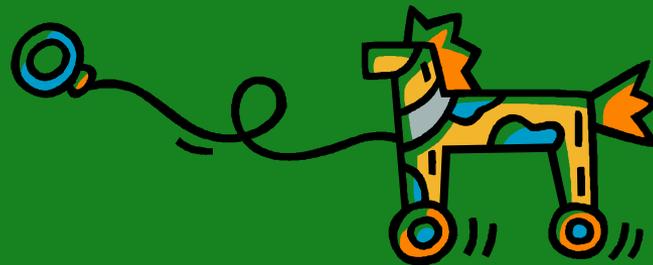


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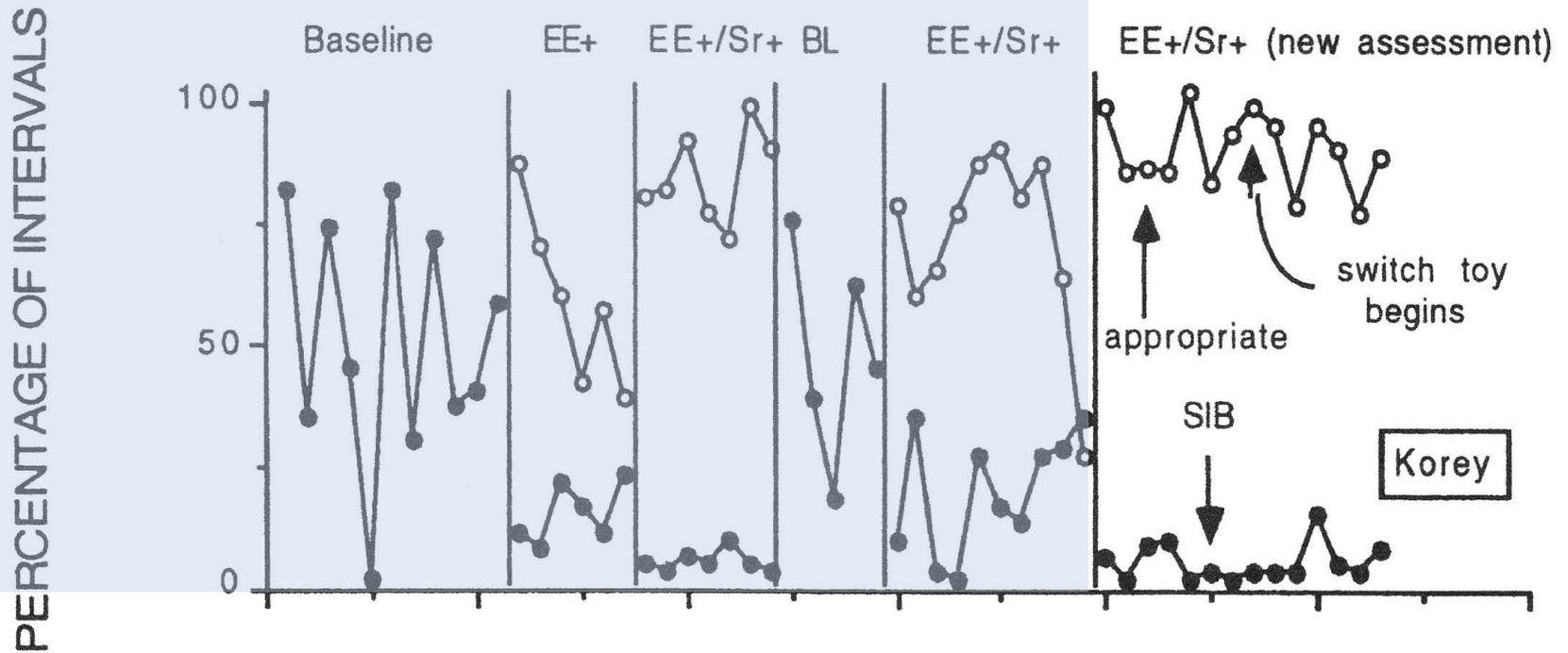


# More Reinforcer Assessment Necessary

- New Addition:
  - Switch Activation of Mechanical Toys



# Added switch toy activation



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# Rhonda (Hand Mouthing): 3 Adjustments:

1. Sound-Making Toys,

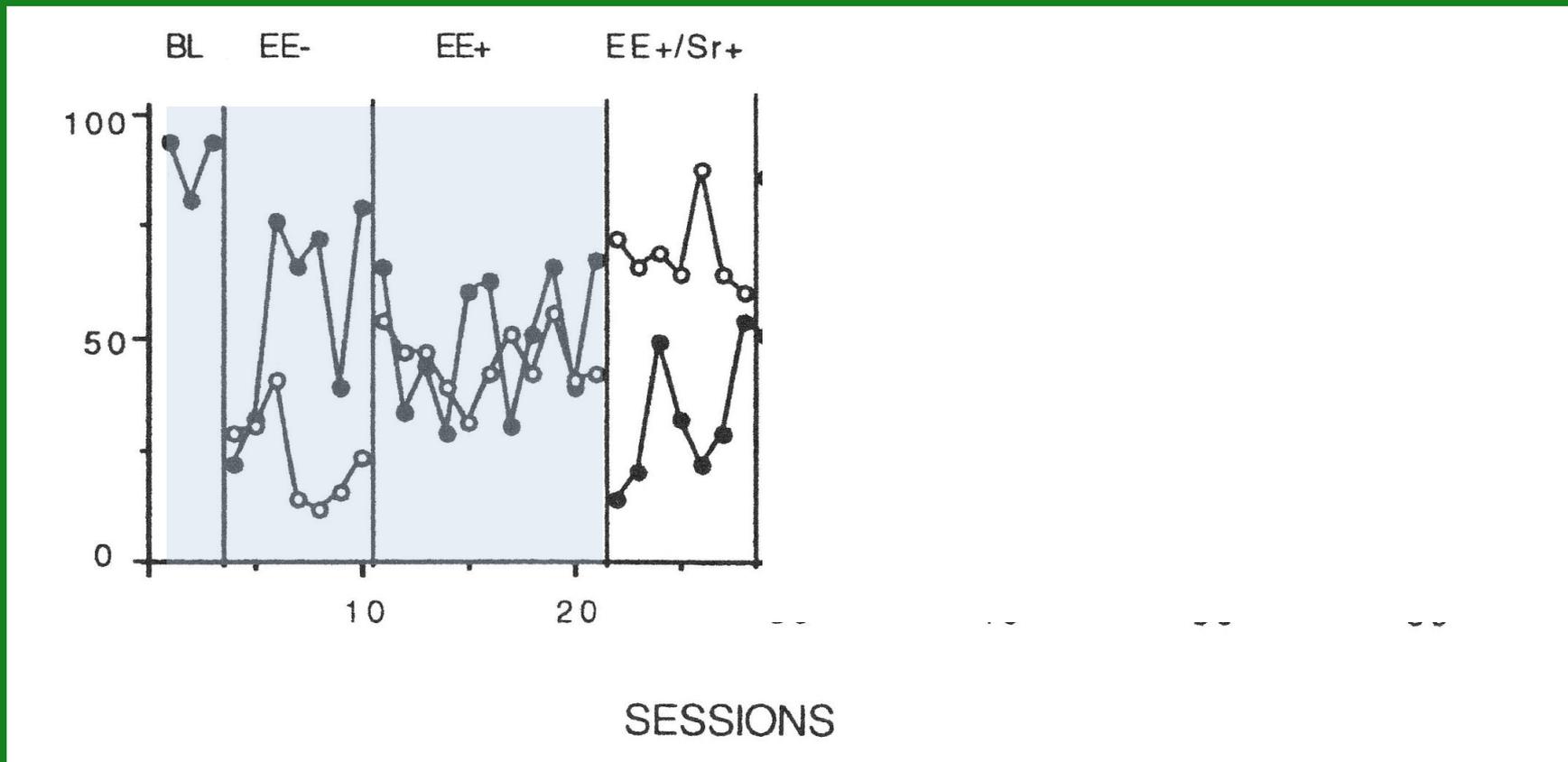


2. Added--Cookies, Koosh ball

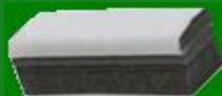


# Rhonda, Well She Was Not Convinced

History of arm splint



Sound toys, cookies, Koosh ball



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# *New Addition for Rhonda*

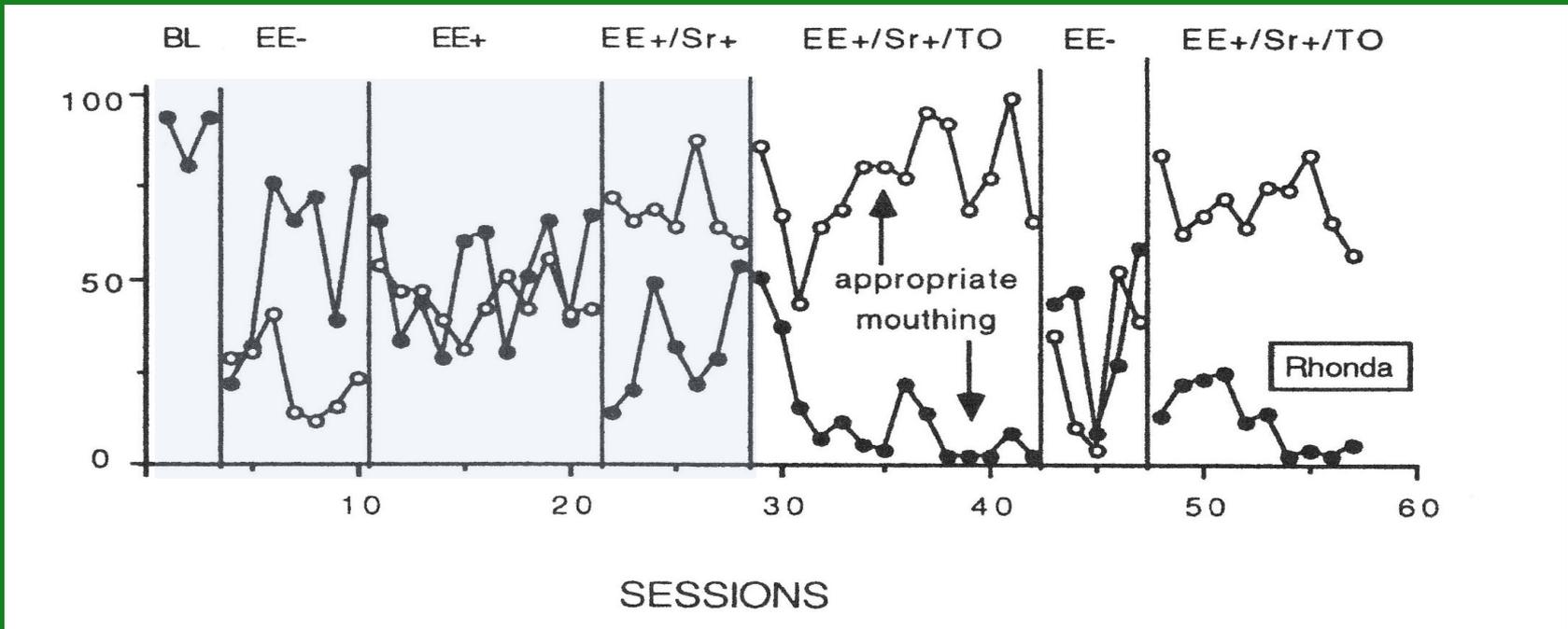
3. "Hands Down" (5 seconds  
T.O from Mouthing)



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# Voila:



# Yeah Rhonda!



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# *Part 2 of the Functional Analysis*

- *Part 1 Functional Conditions Presented*
- *Part 2 continues to probe WHAT the mechanism of Reinforcement Is...*

Look for Piazza—Matched Sensory  
Substitution Ideas--WOW



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# *Sensory Match Beat EE+*

## SIB

- Dangerous Climbing, Jumping Out Windows
- Saliva Smearing
- Hand Mouthing

## Match for Sr+

- Big Bouncey Ball
- Shaving Cream on a Mirror
- Twizzlers, Hand Massager

Piazza, 2000



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# *Rumination*

Sensory  
Reinforcement

Replacement  
Source



- Oral and taste Sensations

- Flavored Sprays

Wilder, 2009



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# Automatic, Sensory S<sup>r+</sup>

1. Determine the Sensory Property(ies)



2. Mask, or Block it-use it-pair it

3. Develop Complimentary, more adaptive leisure activity



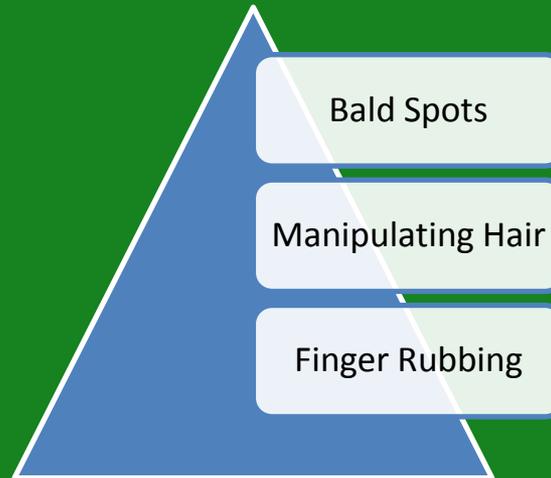
# Identify the $S^{r+}$

Rapp, et al, 2000

- Hair Pulling



- Billy



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# *Sensory Block/Substitution*



## *The Case of Mitchell*

- During Functional Assessment
- Stimulus Preference assessment
- Reduction of glove surface  
Every week--Finally
- Wear a watch



BUT

*WHAT IF THE **TOY**  
OCCASIONS THE SIB?*



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# The Case of the Bumble Ball

Carole Van Camp, et al, 2000

- Timon , a .hand biter, high levels of SIB across FAA conditions—BUT WAIT—that Toy...a Bumble Ball

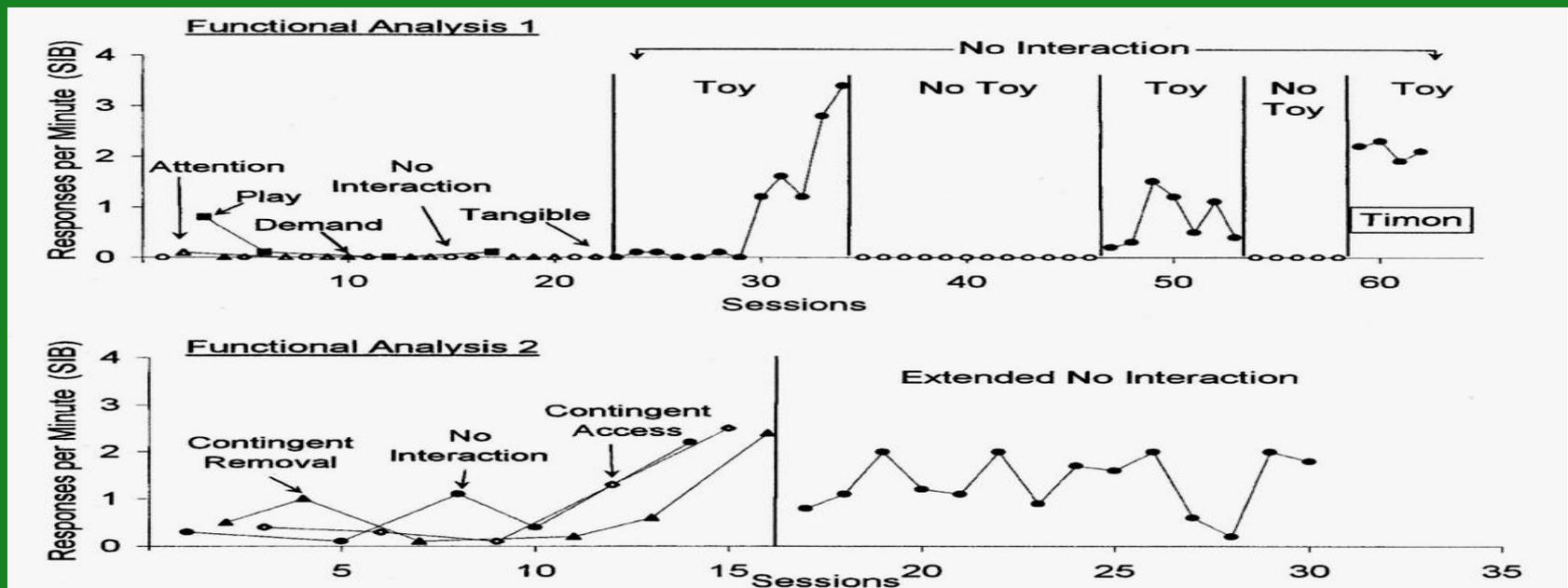
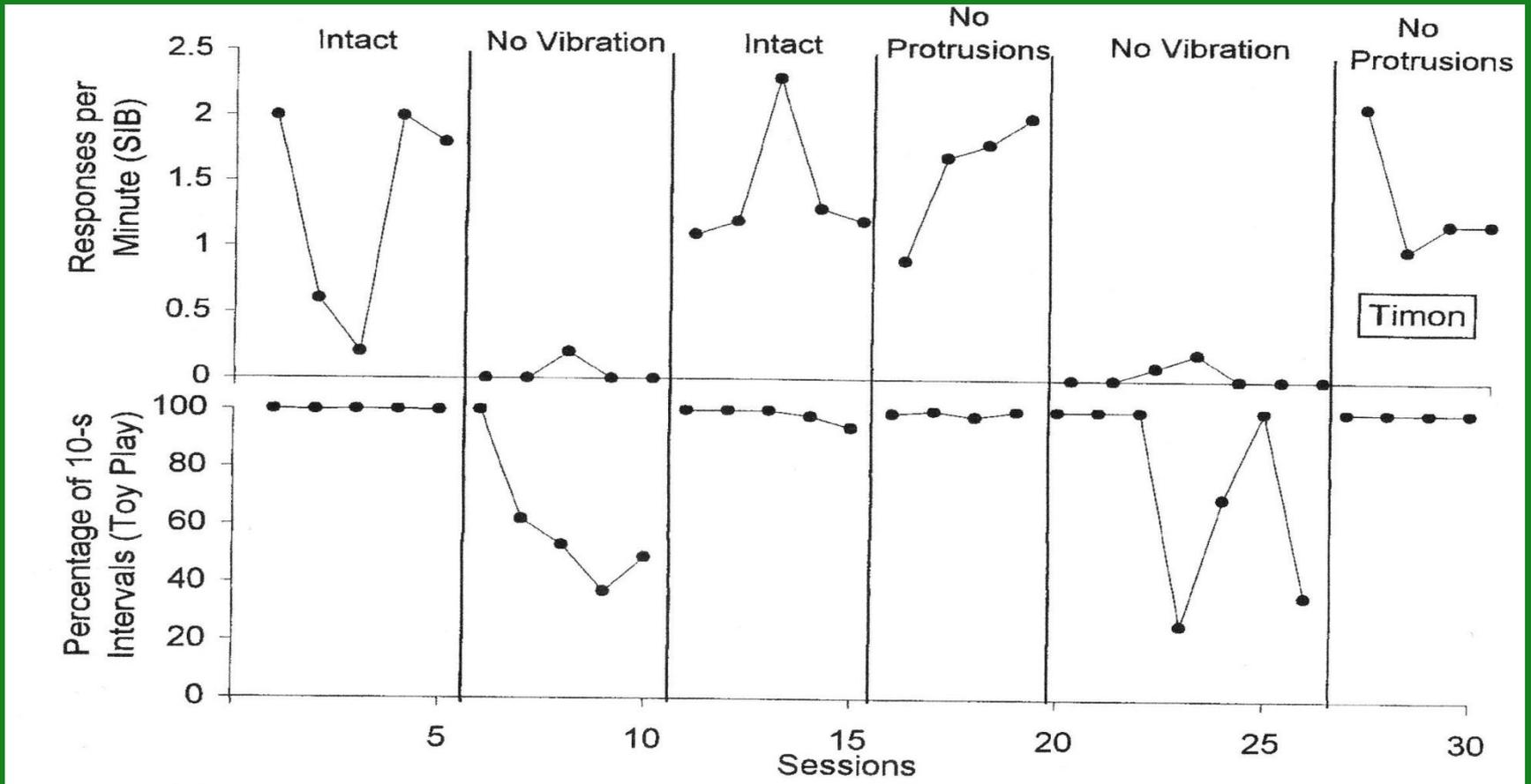


Figure 1. Responses per minute of hand biting across sessions during Timon's first functional analysis (top panel) and second functional analysis (bottom panel).



# What is it about that TOY?



No Vibration included audio

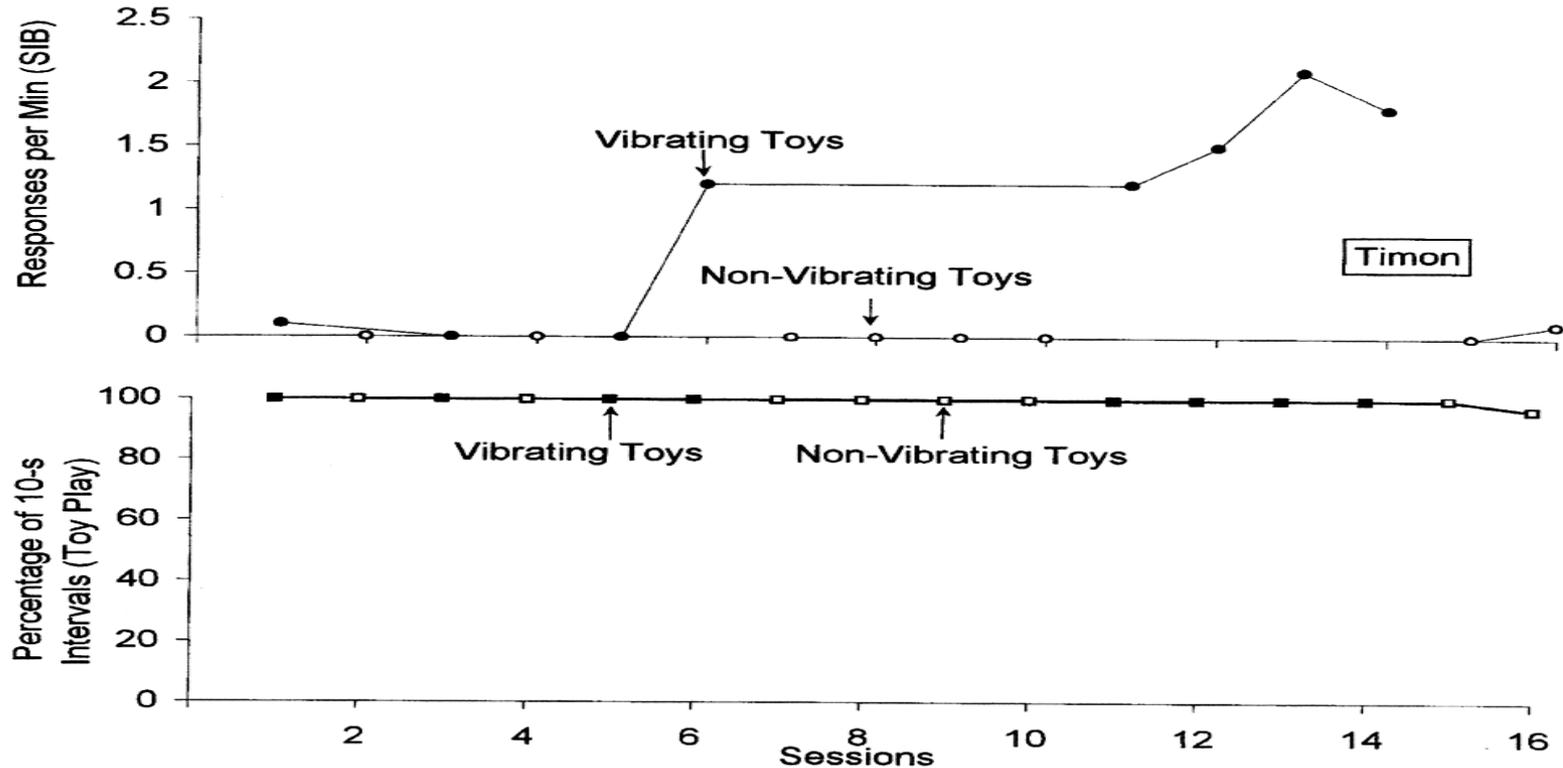
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# Thomas the Train Anyone??

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CAROLE M. VAN CAMP *et al.*



Vibrating Toys: train, bug doll. Plus See-N-Say, musical turtle, toy trucks.



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# *Treatment?*

- Remove Vibrating Toys—he plays with non-vibrating toys and does not bite his hand while doing so..



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## *Clare's Case*



The Computer is the Bumble  
Ball

Maybe Holding a Ball with the  
other hand will work



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# *Jason & Skin Picking*

- Only occurred during reading instruction
- Gave him a choice of 3 textured balls to hold during reading instruction...No Skin Picking...
- *I rest my case.*

Lane, Kathleen, 2006



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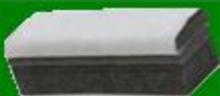


# *Because SIB is Dangerous*



- Sometimes long held assumptions just don't work
- The solution, quasi-experimental design based on the literature.

Mason, Iwata (1990), Artificial effects of sensory  
–integrative therapy on self-injurious behavior



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*The End*

B  
Y  
E



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