

Welcome

Grand Rounds
Surrey Place Centre
June 20, 2013
12:45-1:45pm



Behavioural, my dear Watson!

Community-based assessment and treatment of operant vomiting and head banging



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Objectives

- ✦ Service background
- ✦ Case 1: Demi
- ✦ Case 2: Christina
- ✦ Questions

Service background

- ✦ Our target population
- ✦ Interdisciplinary team
- ✦ Collaborative community partnerships

Service background

- ✦ Community-based behaviour therapy
 - ✦ Mediator model
 - ✦ Goal based
 - ✦ Types of referrals?
- ✦ Applied behaviour analysis (Cooper et al., 2007)

Demi

Demi

- ✦ Dx: ASD (severe range)
- ✦ Age: 2 y 9 mo
- ✦ Referring issues: vomiting, head banging, tantrums
- ✦ Home enviro: mom, dad, two siblings

Operant vomiting

- ✦ What does the research say?
 - ✦ Associated health risks (Fredericks et al., 1998)
 - ✦ Medical vs. operant causes
 - ✦ Lang et al. (2011) review - 21 studies; five with operant vomiting

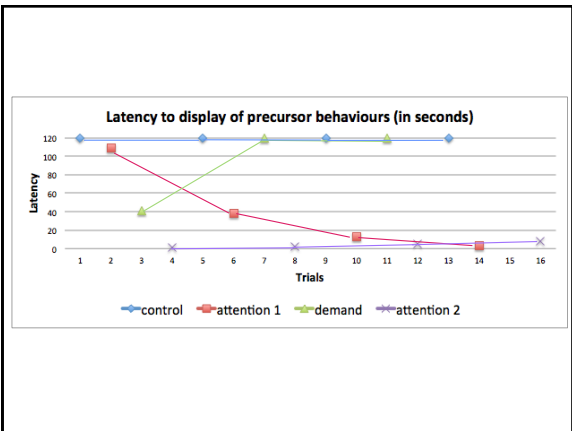
Lang, R., Mulloy, A., Giesbers, S., Pfeiffer, B., Delaune, E., Didden, R., Sigafoos, J., Lancioni, G., & O'Reilly, M. (2011). Behavioral interventions for rumination and operant vomiting in individuals with intellectual disabilities: A systematic review. *Res in Dev Disabilities, 32* (6), 2193-2205.

Demi

- ✦ Assessment
 - ✦ Parent interview, FAST (see Iwata et al., 2013), direct observations
 - ✦ Baseline data?

Demi

- ✦ Assessment
- ✦ Preference assessment
- ✦ Precursor functional analysis (Najdowski et al., 2008; Smith & Churchill, 2002)
- ✦ Response latency (Thomason-Sassi et al., 2011)



Treatment

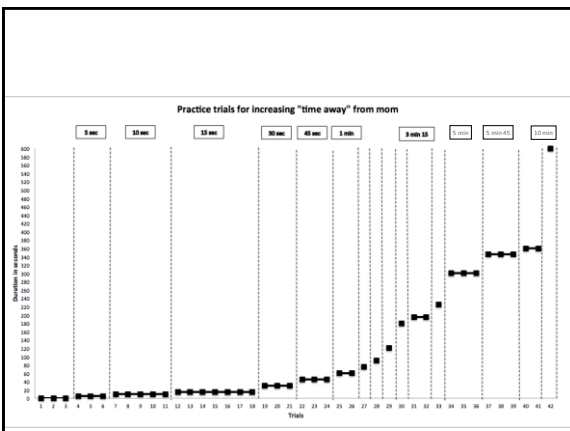
- ✦ The practice trials & protocol
- ✦ Stepwise criterion change design (Hartmann & Hall, 1976)
- ✦ Introduce a new discriminative stimulus
- ✦ Reinforcement (pairing and contingent delivery)
- ✦ \$30 shopping trip at Walmart

Instructions: seven steps

- ✦ Ensure a variety of highly preferred items
- ✦ Deliver the cue
- ✦ Show and set the timer
- ✦ Mom leaves
- ✦ Dad provides high quality praise and engagement with preferred items/activities
- ✦ Mom returns when bell rings
- ✦ Two possible outcomes for mom's re-entry

Date:

| Trial | Latency goal (min.sec) | Achieved? y/n | Location of mom during trial |
|-------|------------------------|---------------|------------------------------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |



Demi

- + Getting down to the brass tacks
- + Almost a year later...

Christina

Christina

- + Dx: chromosomal abnormalities (one deletion and one duplication), global developmental delay, complex medical history
- + Age: 2 y 0 m
- + Referring issue: severe head banging
- + Home enviro: foster care

Self-injurious behaviour

- ✦ What does the research say?
 - ✦ Three decades of research on effective assessment and treatment (Beavers, Iwata, & Lerman, 2013; Hanley, Iwata, & McCord, 2003)

Christina

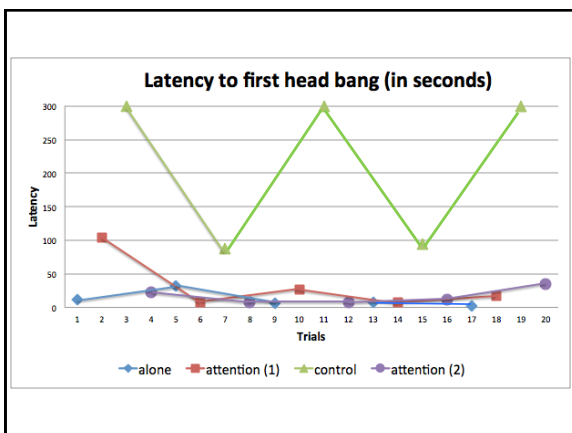
- ✦ Assessment
 - ✦ Parent interview, FAST
 - ✦ Baseline data collection?
 - ✦ Collateral service providers

Christina

- ✦ Paediatrician
- ✦ Developmental paediatrician
- ✦ Child protection worker
- ✦ Early interventionist
- ✦ Behaviour consultant
- ✦ SLP
- ✦ OT
- ✦PT
- ✦Geneticist
- ✦ENT
- ✦Neurologist
- ✦Psychologist
- ✦Nursing

Christina

- ✦ Assessment
 - ✦ Trial-based FA (Bloom et al., 2011)
 - ✦ Latency-based FA
 - ✦ Use of protective equipment during FA? (Borrero et al., 2002; Le & Smith, 2002)



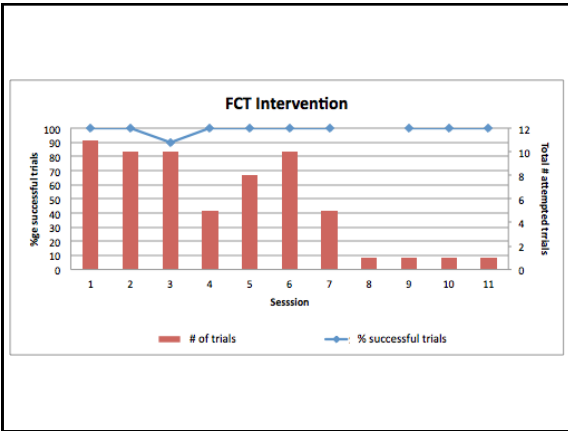
Christina

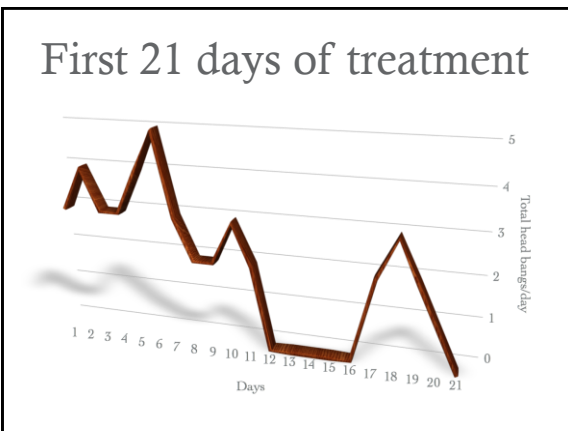
- ✦ Treatment
 - ✦ Input from collateral service providers
 - ✦ Functional communication training (FCT) (Carr & Durand, 1985; Durand, 1999; Durand & Carr, 1991; Kurtz et al. 2011)

Tiger, J.H., Hanley, G.P., Bruzek. (2008). Functional communication training: A review and practical guide. *Behav Anal Prac*, 1, (1), 16-23.

Data sheet based on Durand (1990)

| Date & location of trial | Total # of attempted trial | # of successful trials | Best response | Frequency of head banging |
|--------------------------|----------------------------|------------------------|---------------|---------------------------|
| | | | | |
| | | | | |
| | | | | |





Christina

- ✦ Getting down to the brass tacks
 - ✦ No head banging during the day after three weeks of intervention
 - ✦ Day time helmet use
 - ✦ Thinning the CRF schedule - the plan vs. what actually happened
 - ✦ Next steps

In summary

- ◆ Community-based assessment & treatment, can we do it? YES we can!
- ◆ Hindsight is 20/20
 - ◆ One thing I'll STOP doing
 - ◆ One thing I'll KEEP doing
 - ◆ One thing I'll DO for next time

A special thank you to

- ✦ Demi, Christina & their caregivers
- ✦ Collateral service providers
- ✦ ACWA (SPC)
- ✦ Placement student - Leah Plumley (Autism & Behavioural Science Program, St. Lawrence College)

Thanks for attending!

Questions?



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References

Beavers, G., Iwata, B.A., & Lerman, D.C. (2013). Thirty years of research on the functional analysis of problem behavior. *JABA*, 46, (1), 1-21.

Bloom, S., Iwata, B.A., Fritz, J.N., Roscoe, E.M., & Carreau, A.B. (2011). Classroom application of a trial-based functional analysis. *JABA*, 44, (1), 19-31.

Borrero J.C., Vollmer T.R., Wright C.S., Lerman D.C., & Kelley M.E. (2002). Further evaluation of the role of protective equipment in the functional analysis of self-injurious behavior. *JABA*, (35), 1, 69-72.

Carr, E.G., & Durand, V.M. (1985). Reducing behavior problems through functional communication training. *JABA*, 18, (2), 111-126.

Cooper, J.O., Heron, T.E., & Heward, W.L. (2007). *Applied Behavior Analysis*. 2nd ed. Upper Saddle River, NJ: Pearson Education, Inc.

Durand, V.M. (1990). *Severe Problem Behaviors: A Functional Communication Approach*. New York, NY: The Guildford Press.

Durand, V.M. (1999). Functional communication training using assistive devices: Recruiting natural communities of reinforcement. *JABA*, 32, (3), 247-267.

Durand, V.M., & Carr, E.G. (1991). Functional communication training to reduce challenging behavior: Maintenance and application in new settings. *JABA*, 24, (2), 251-264.

Fredericks, D.W., Carr, J.E., & Williams, W.L. (1998). Overview of the treatment of rumination disorder for adults in a residential setting. *J Behav Ther Exp Psychiatry*, 29, (1), 31-40.

Hanley, G.P., Iwata, B.A., & McCord, B.E. (2003). Functional analysis of problem behavior: A review. *JABA*, 36, (2), 147-185.

Hartmann, D.P., & Hall, R.V. (1976). The changing criterion design. *JABA*, 9, (9), 527-532.

Iwata, B.A., DeLeon, I.G., & Roscoe, E.M. (2013). Reliability and validity of the functional analysis screening tool. *JABA*, 46, (1), 271-284.

Kurtz, P.F., Boelter, E.W., Jarmolowicz, D.P., Chin, M.D., & Hagopian, L.P. (2011). An analysis of functional communication training as an empirically supported treatment for problem behavior displayed by individuals with intellectual disabilities. *Res in Dev Disabilities*, 32, (1), 2935-2942.

Lang, R., Mulloy, A., Giesbers, S., Pfeiffer, B., Delaune, E., Didden, R., Sigafoos, J., Lancioni, G., & O'Reilly, M. (2011). Behavioral interventions for rumination and operant vomiting in individuals with intellectual disabilities: A systematic review. *Res in Dev Disabilities*, 32, (6), 2193-2205.

Le, D.D., & Smith, R.G. (2002). Functional analysis of self-injury with and without protective equipment. *J of Dev and Phys Disabilities*, 14, (3), 277-290.

Najdowski, A.C., Wallace, M.D., Ellsworth, C.L., MacAleese, A.N., & Cleveland, J. (2008). Functional analysis and treatment of precursor behavior. *JABA*, 41, (1), 97-105.

Smith R.G., & Churchill, R.M. (2002). Identification of environmental determinants of behavior disorders through functional analysis of precursor behaviors. *JABA*, 35, (2), 125-136.

Thomason-Sassi, J.L., Iwata, B.A., Neidert, P.L., & Roscoe, E.M. (2011). Response latency as an index of response strength during functional analyses of problem behaviour. *JABA*, 44, (1), 44-51.

Tiger, J.H., Hanley, G.P., Bruzek. (2008). Functional communication training: A review and practical guide. *Behav Anal Prac*, 1, (1), 16-23.