



**USING A WRISTWATCH PAGER**  
**TO PROMOTE SAFE,**  
**INDEPENDENT**  
**MEAL TIMES**

**Sheena Morrissey MSc. & Dr. Maeve Bracken**  
**Brothers of Charity Services & Trinity College Dublin**

# INTRODUCTION

- Eating disorders
  - Anorexia Nervosa
  - Bulimia
  - Pica
  - Rumination
  - Rapid Eating?!
- Health implications of rapid eating behaviour
  - Kedesky & Budd (1988) highlighted gastro-intestinal discomfort, vomiting, ulcers and aspiration as outcomes of this behaviour.



- Difficulties in implementing a programme to reduce rapid eating behaviour.
  1. Reinforcement-Lennox, Miltenberger & Donnelly (1987)
  2. Learned History-Barton, Guess, Garcia & Baer (1970)
  
- Current approaches in applied settings?
  - Supervision
  - Verbal & physical prompts to 'slow down'



# LENNOX, MILTENBERGER & DONNELLY(1987)

- Time-based response interruption procedure
  - Spaced responding DRL procedure
  - DRL with prompts.
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- incompatible response-putting down forks and placing hands in lap.
  - Limitations:
    - Salient use of verbal prompts
    - Generalization to other mealtimes required further training
    - No probes for generalization to other foods or settings outside of those trained.



## WRIGHT & VOLLMER (2002)

- Adjusting DRL with response blocking and prompts
- Limitations:
  - Continued to need monitoring whilst eating following the intervention.
  - Increased incidents of challenging and self-injurious behaviour .
  - No record of the amount of food taken per bite. Possibly compensating for the food restriction by taking larger bites.



## ANGLESEA, HOCH & TAYLOR (2008)

- They used a self-monitoring pager prompt to reduce rapid eating in three teenagers with autism.
- Vibrated at predetermined intervals-the rate of eating of a typically developing adult.
- Limitations:
  - No generalization of the reduced rates of eating to other foods and to settings outside of those trained.
  - Taking bites and swallowing? Or Chewing?



# CURRENT STUDY

## ○ Research Questions...

- Probes for generalization to ascertain if the procedure would affect eating rates across other foods and settings outside of those trained.
- Would a reduction in the bite rate increase the amount of time spent chewing?
- Monitored the bite rate to ensure participants did not take bigger bites to compensate for the delay in accessing the next bite.



# METHOD

## PARTICIPANTS:

- **Participant 1:** Matthew (65)-mild learning disability and a generalized anxiety disorder.
- **Participant 2:** Mark (63)-moderate learning disability
- **Participant 3:** Luke (46)-schizophrenia and a mild Autism spectrum disorder.
- G.P. attributing health problems to engaging in rapid eating.





# MATERIALS

- Target food
- A camcorder
- Vibralite 3™ wristwatch
  - which was set to vibrate at intervals at the rate a typical adult eats a sandwich.
- Data collection sheets
- A timer



## DATA COLLECTION & DESIGN

- Data collection sheets were drawn up to record data taken from the taped footage Data was taken on the total time taken to eat the sandwich, the number of bites taken and the amount of time spent chewing.
- The study is a reversal design to assess the **effect of the pager prompt** on the rate of eating and amount of time spent chewing.



# PROCEDURE

- *Pager Prompt inactivated (Baseline)*
  - Vibralite 3™ wristwatch inactivated.
  - The observer sat with the participants whilst they were eating the target food.
  - No additional prompts or reinforcement provided.
  - Baseline data was gathered on
    - total time taken to eat the sandwich
    - the number of bites
    - the amount of time spent chewing between bites



## ○ *Training sessions*

- Training sessions were carried out outside of lunchtime with snack foods.
- During preliminary training participant's hands were guided to the pager to wait for it to vibrate before taking a bite.
- Following the bite, their hand was guided back to the pager to wait for the next prompt.
- Physical guidance was faded out.
- Verbal praise was given for waiting for the page.
- Attempts to bite before the page were blocked and verbally reminded to wait.
- Mastery criterion




○ *Pager prompt activated*

- These sessions were identical to the pager prompt inactivated condition but the pager prompts were activated.
- Prompts were set at the rate of eating of a typical adult.

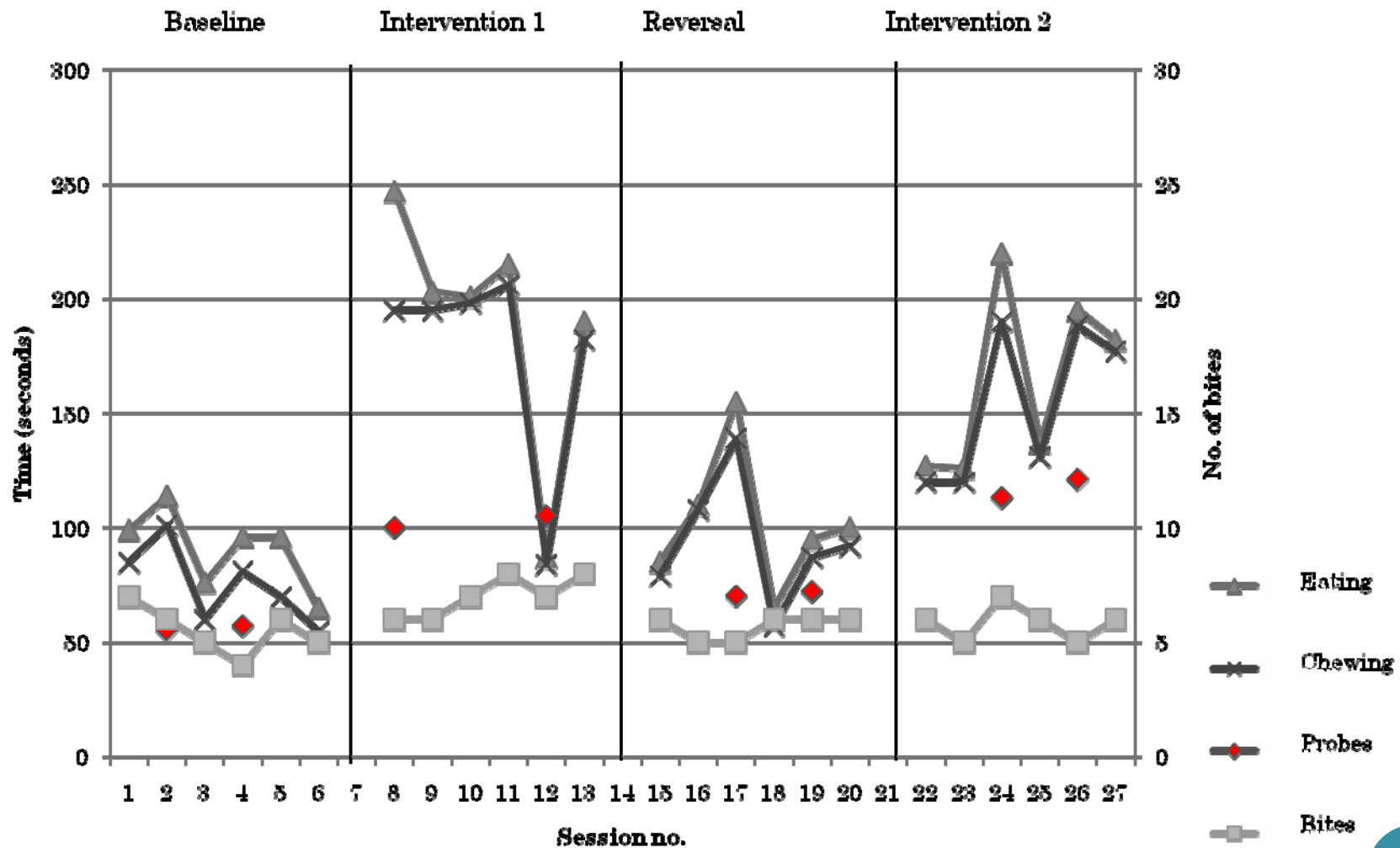




- *Generalization*

- Generalization probes were taken with a different target food in the participants' residence to investigate whether the rates of eating would generalize to foods and settings that were not trained.
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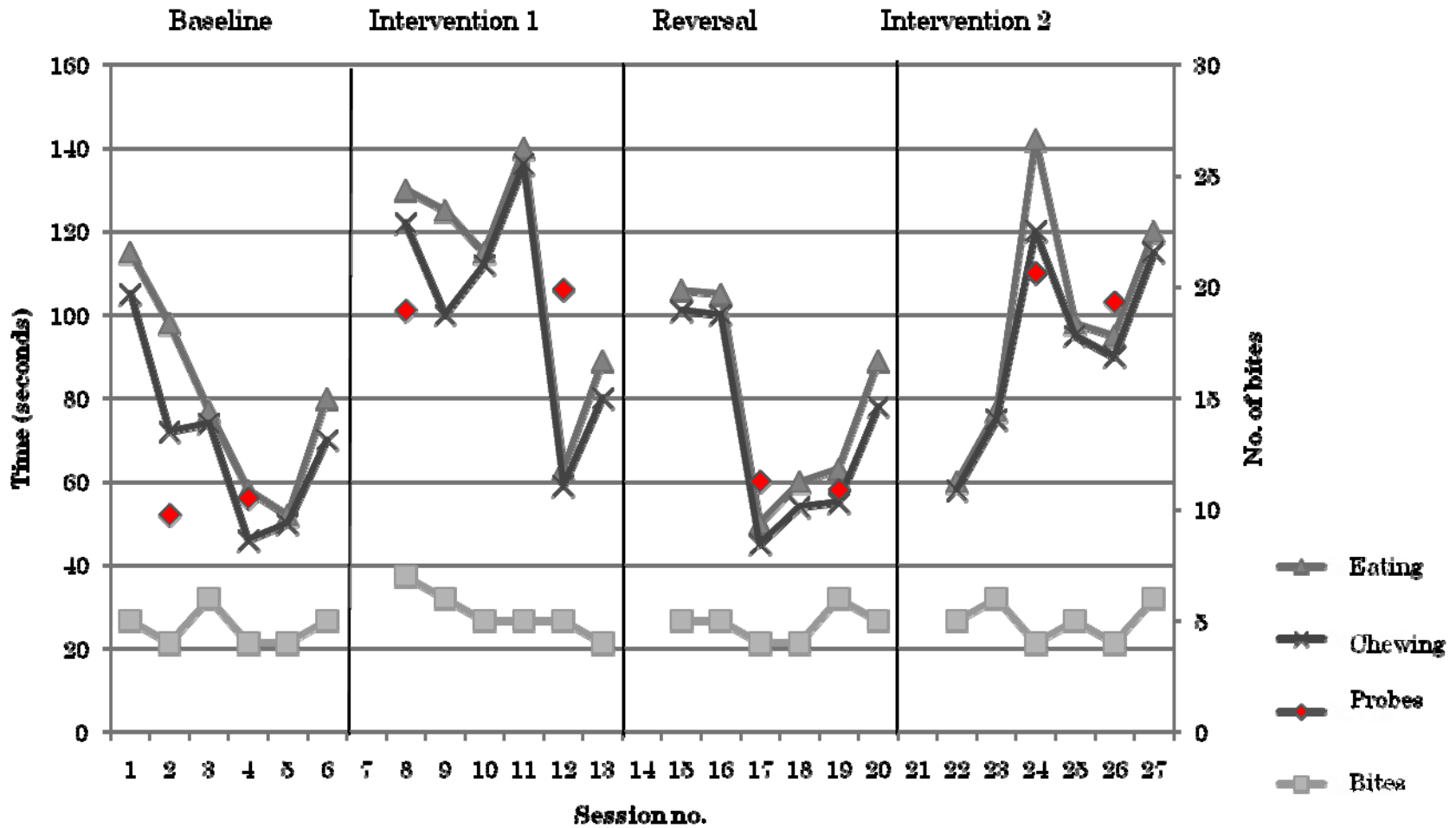
# Matthew



**FIG 1. TOTAL TIME (SECONDS) TO EAT TARGET FOOD/TOTAL TIME SPENT CHEWING/TOTAL NO. OF BITES ACROSS SESSIONS**



# Mark

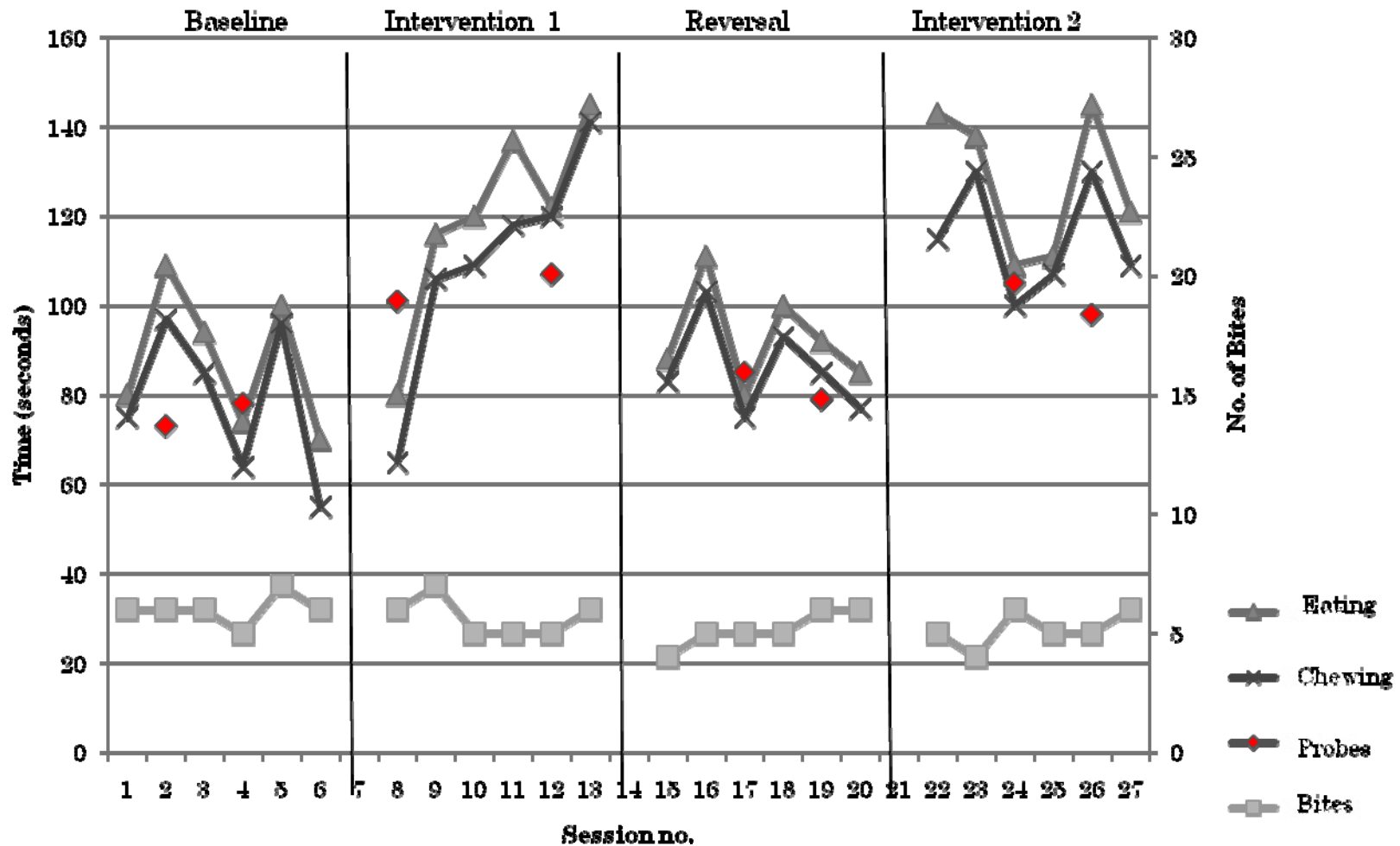


**FIG 2. TOTAL TIME (SECONDS) TO EAT TARGET FOOD/TOTAL TIME SPENT CHEWING/TOTAL NO. OF BITES ACROSS SESSIONS**





# Luke



**FIG 3. TOTAL TIME (SECONDS) TO EAT TARGET FOOD/TOTAL TIME SPENT CHEWING/TOTAL NO. OF BITES ACROSS SESSIONS**



## IN SUMMARY

- Mean total of seconds spent eating the target food was 91s, 80s and 90s in baseline and was increased to 191s, 111s, and 120s.
- Bite rate remained the same.
- Chewing-mean of 75s, 70s and 79s per sandwich in baseline, to 177s, 102s and 110s during the pager activated phase.
- Generalization probes.
- Novel Behaviours



## Advantages

- Promotes Independence
- Discrete/Unobtrusive
- Staffing
- Extends the Literature
- Rare Participant Group
- Modern Technology

## Limitations

- Generalization
- Effects of Observer



# FUTURE RESEARCH

- Successfully fading the use of the pager prompt so that the individual learns to independently pace their eating without the use of an external prompt.
  - Possibly with a pager whose vibrations can be faded



## OTHER USES:

- Medication Reminders?
- Prompts for a change in activity?



## REFERENCES

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A sincere thank you for listening....

- Any questions or comments?

Or contact me at....[morriss4@tcd.ie](mailto:morriss4@tcd.ie)

