

## **Effects of an 8-week constraints-based coaching intervention on emergent behaviour in Mini Tennis**

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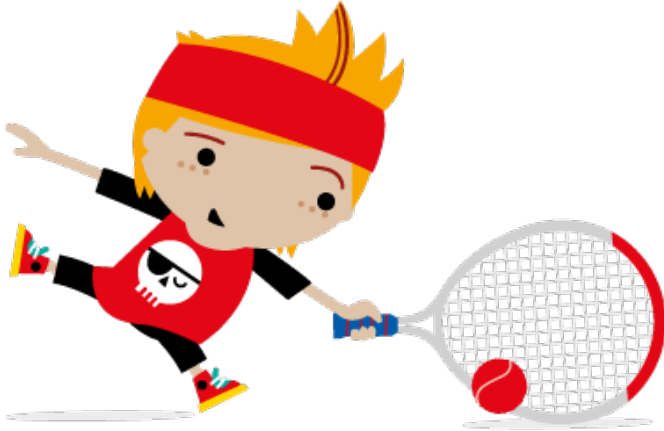
# Effects of an 8-week constraints-based coaching intervention on emergent behaviour in Mini Tennis



[Image credit: <https://www3.lta.org.uk/lta-mini-tennis>]

**Joe Stone, Anna Fitzpatrick & Keith Davids**

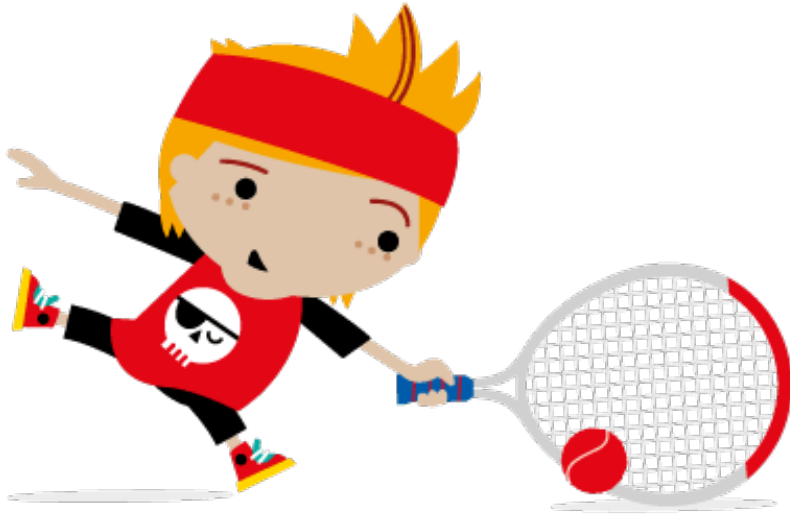
# What is Mini Tennis?



## Lawn Tennis Association



# Mini Tennis Red



**8 years and under**

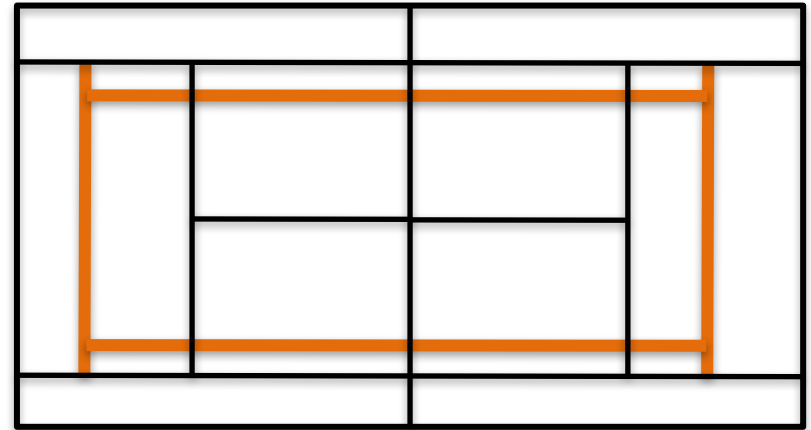





# Mini Tennis Orange



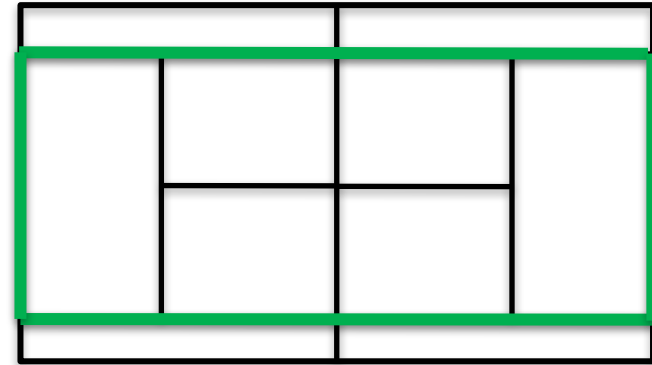
**8-9 years**



# Mini Tennis Green



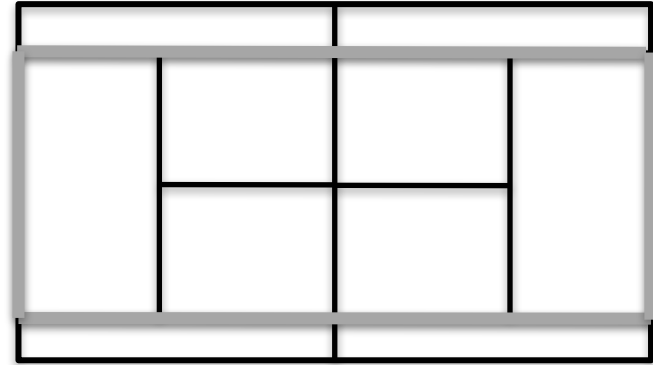
**9-10 years**



# Full Ball (Yellow)

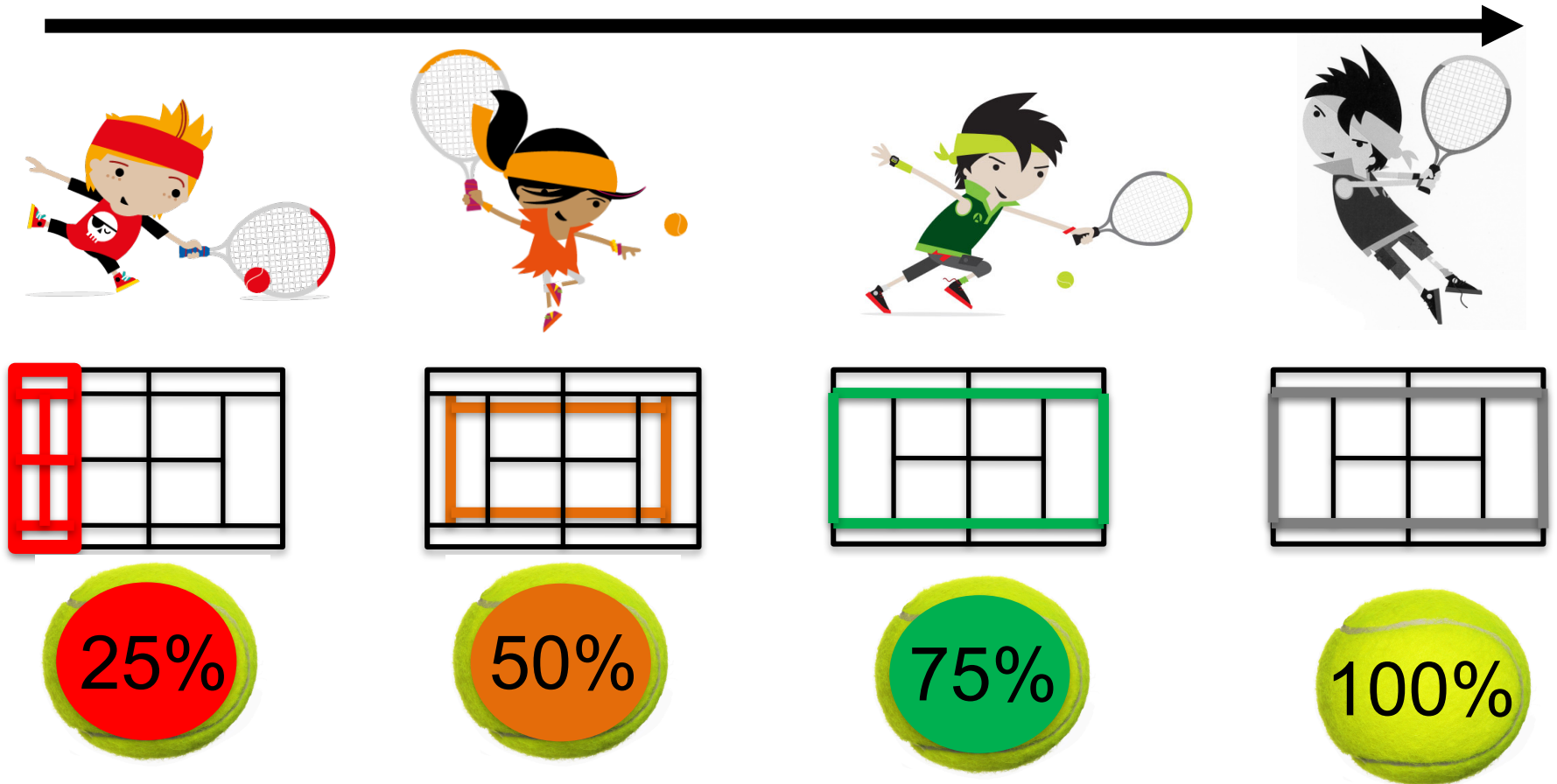


**11+ years**

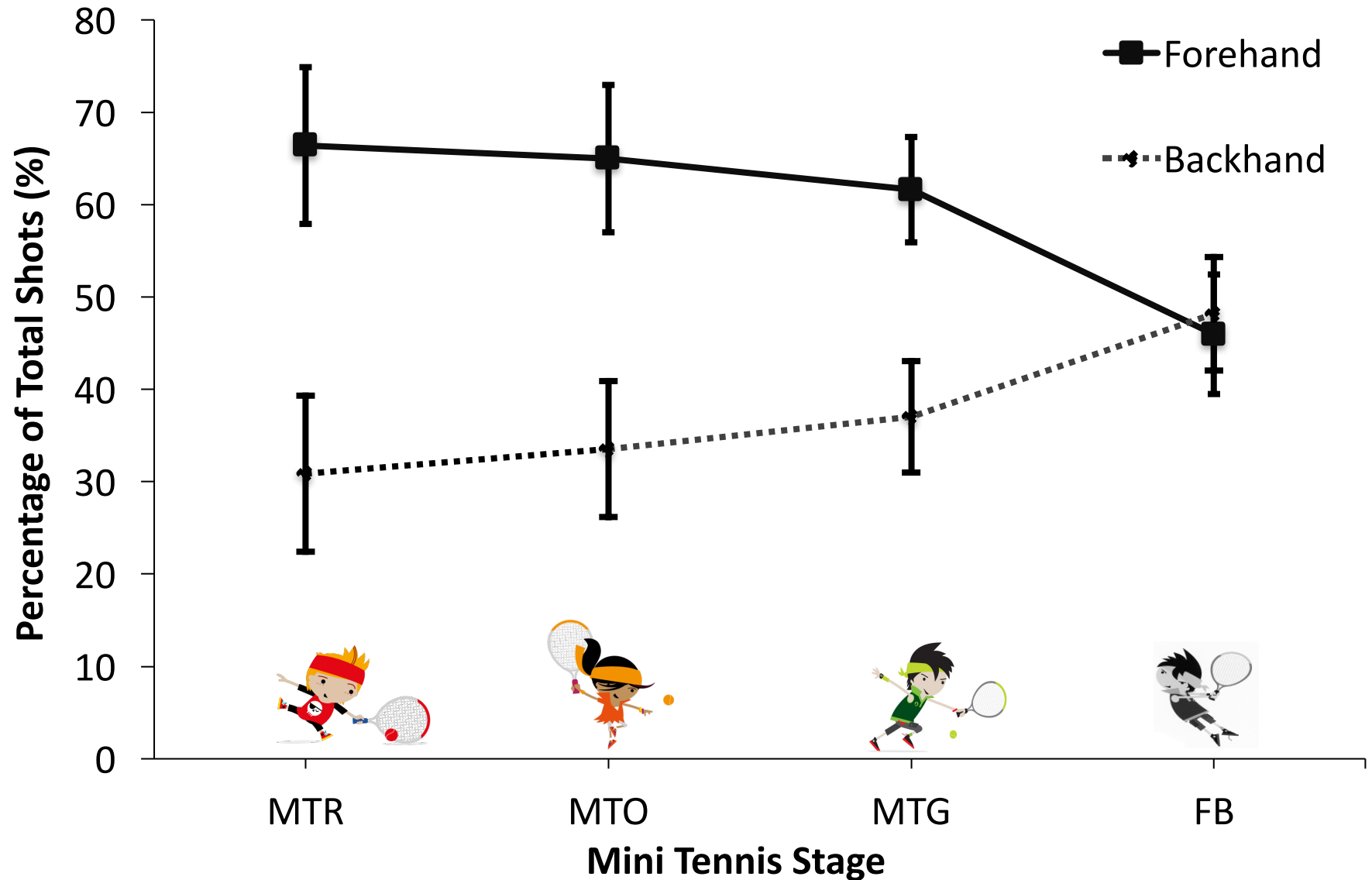


# Study 1: Mini Tennis Match Play

48 Children, Match Play, Notational Analysis



# Results: Shot Type



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# Running Around The Ball

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Video

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## Aim: Study 2

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- Mini Tennis scaling could lead to a **neglect** on **backhand** development in the **early** stages (Fitzpatrick et al. 2017)

### Aim

- Focus on Mini-Tennis **Red** stage
- Manipulate **constraints** during **8-weeks** of mini tennis with a focus on **backhand** development
- Examine the **movement** behaviours which emerged

## Method: Study 2

- Two groups
- **Control** ( $n = 8$ , age =  $7.2 \pm 0.6$  years)
- **Experimental** ( $n = 8$ , age  $7.4 \pm 0.4$  years)





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# Method: Pre-Test and Post-Test

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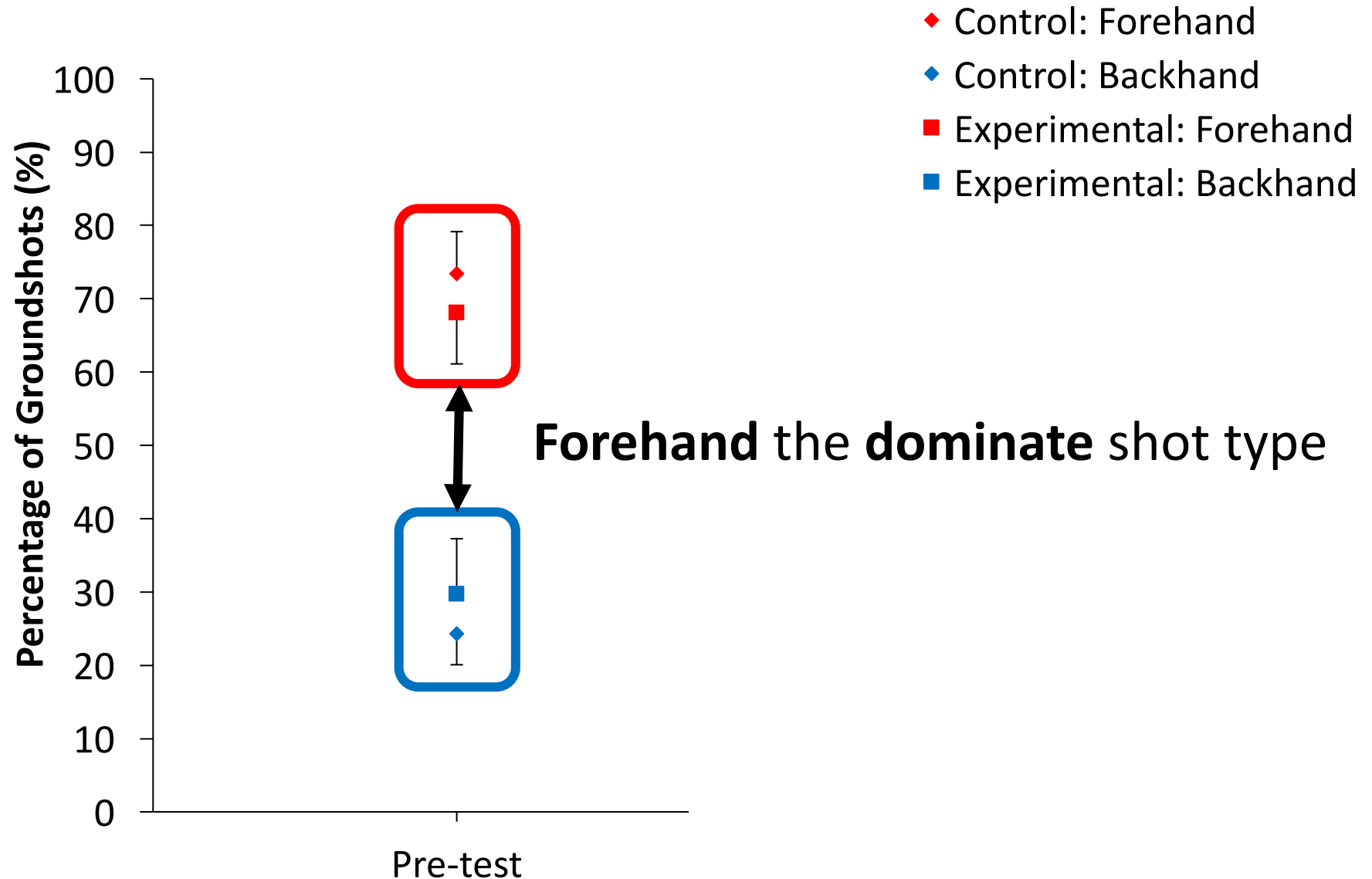
## Match Play

- Completed **three** standard MT Red matches of 'first to 10 points' (LTA, 2017), against three randomly assigned participants

## Tennis Specific Skill Test (Farrow & Reid 2010)

- Maintain three **groundstroke rallies** for as long as possible with the coach
- **Technical** assessment of stroke production using **four** aspects (preparation, backswing, forwardswing & impact, follow-through)

# Pre-Test Results



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# Practice Sessions

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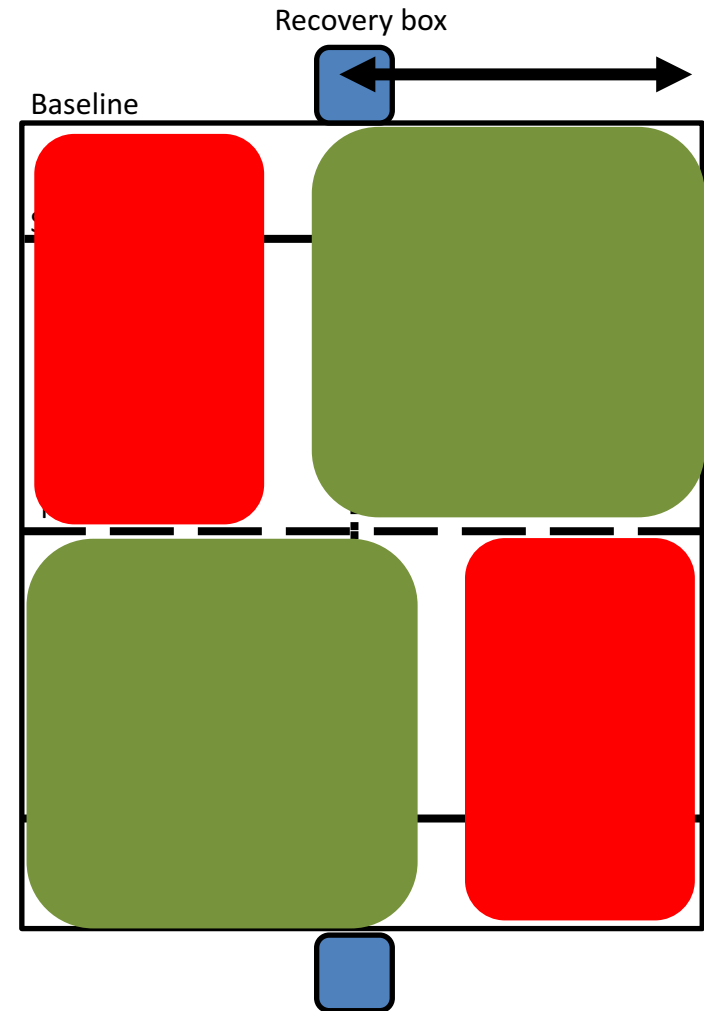
- **1 hour** practice per week for **8 weeks**
- **Same** practice sessions for **control** and **experimental** group

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Activity	Duration (minutes)
Introduction and group warm-up	6
Skill practice 1	12
Skill practice 2	12
Competition/points-based activity	15
Fun, skill-based game	10
Cool down and session review	5

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# Experimental Manipulations



- **Bonus points** were awarded by the coach if a participant created a perturbation using their backhand

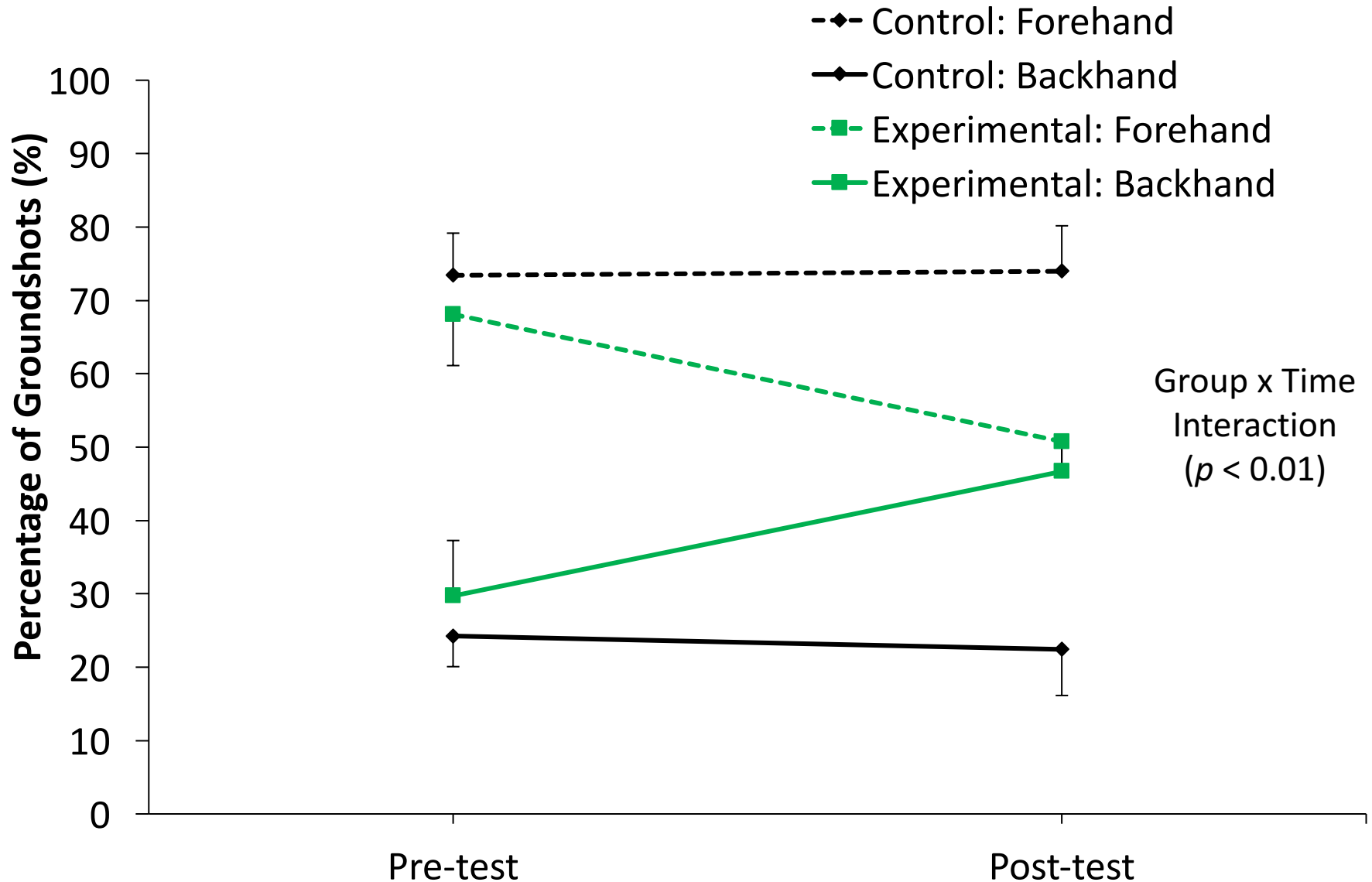
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# Strokes Per Session

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- The control group played **117.0** ( $\pm 7.7$ ) strokes per session, the experimental group played **120.3** ( $\pm 8.3$ ) strokes per session ( $p > 0.05$ )
- Therefore, differences in outcome variables were **not** attributable to **differences** in **frequency** of actions practiced

# Post-Test Results



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# Pre-Test

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Video

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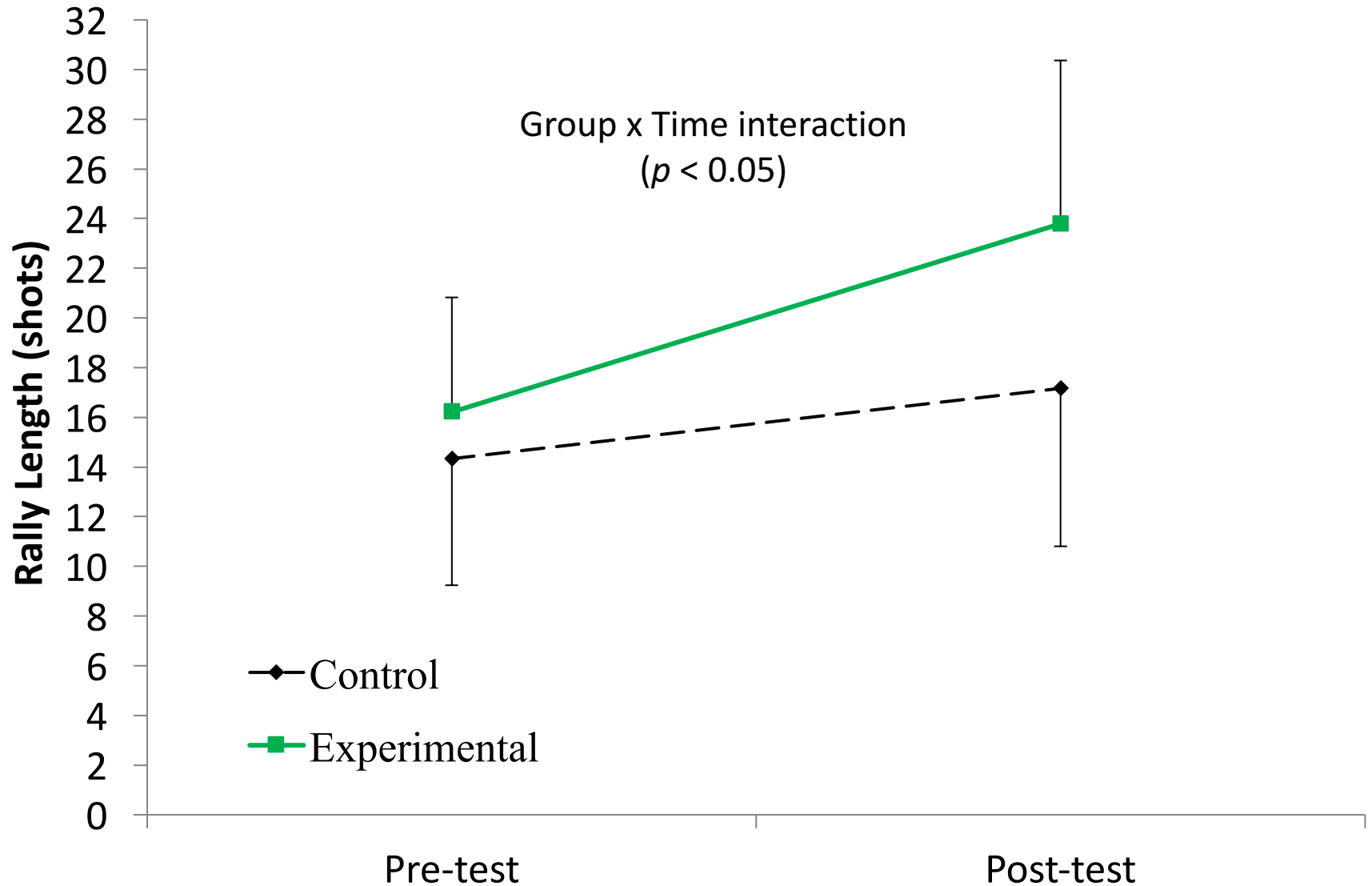
# Post-Test: Experimental Group

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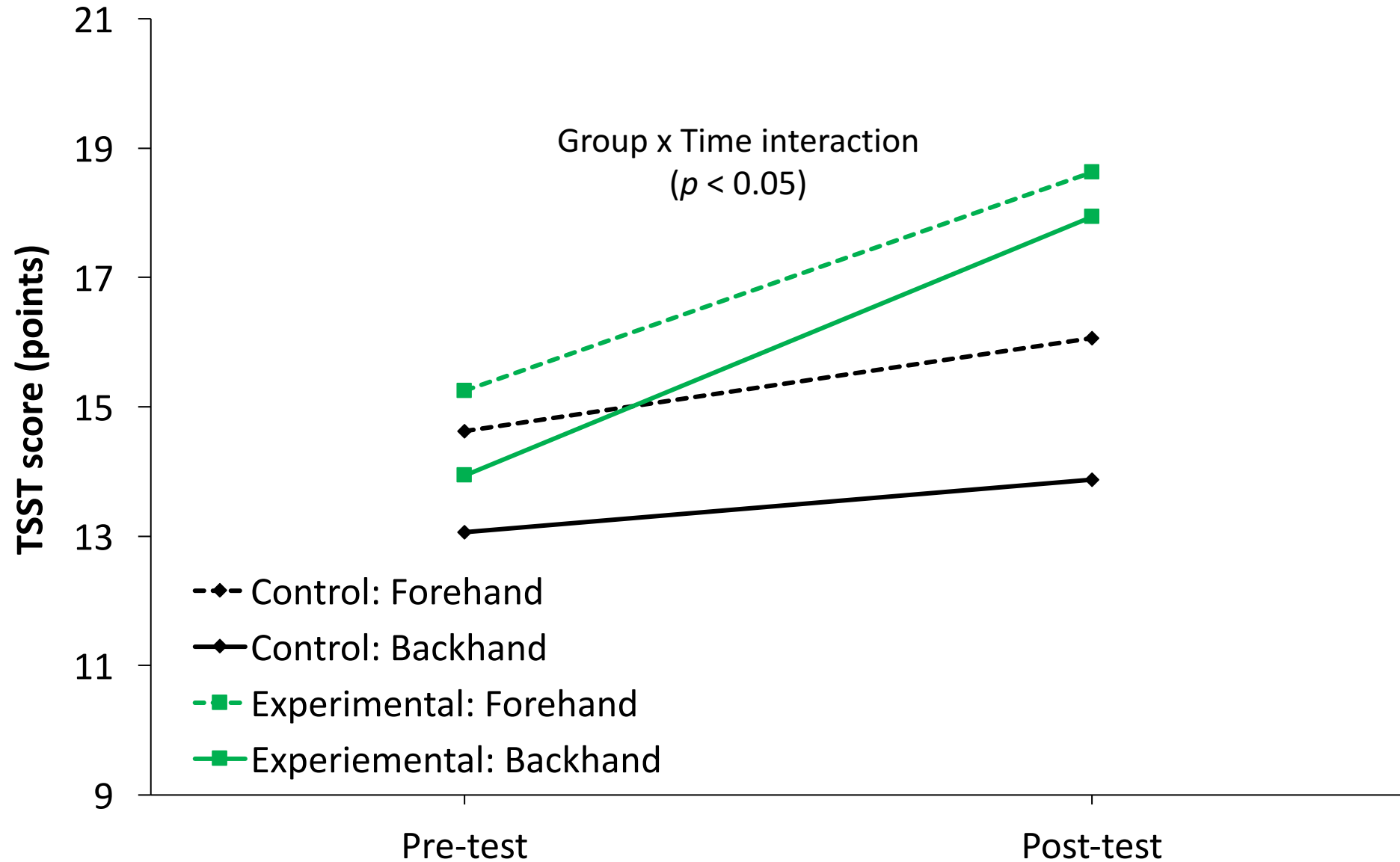
Video



# TSST: Rally with Coach



# TSST: Technical Skill



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# Take Home Message

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The **disparity** between the percentage of **forehands** and **backhands** performed during match-play was reduced in the **experimental** group

**Careful consideration** needs to be applied when **manipulating/scaling constraints** in practice

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# Acknowledgement

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# Questions

