

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

STONE, Joseph <<http://orcid.org/0000-0002-9861-4443>>, FITZPATRICK, Anna and DAVIDS, Keith <<http://orcid.org/0000-0003-1398-6123>>

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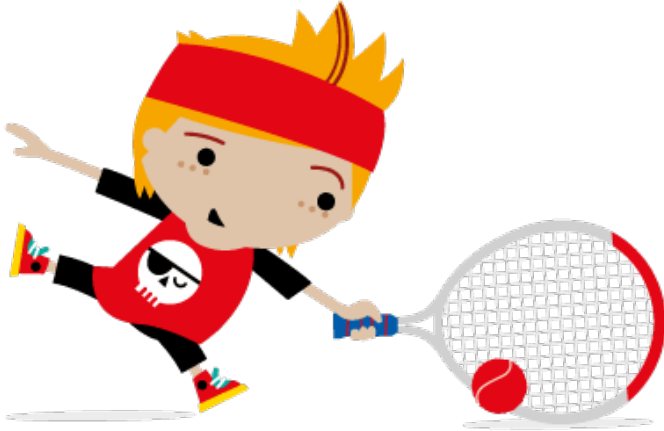
Effects of an 8-week constraints-based coaching intervention on emergent behaviour in Mini Tennis



[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



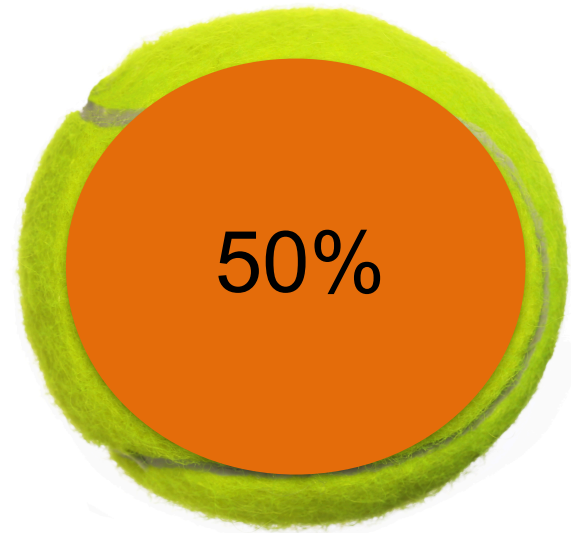
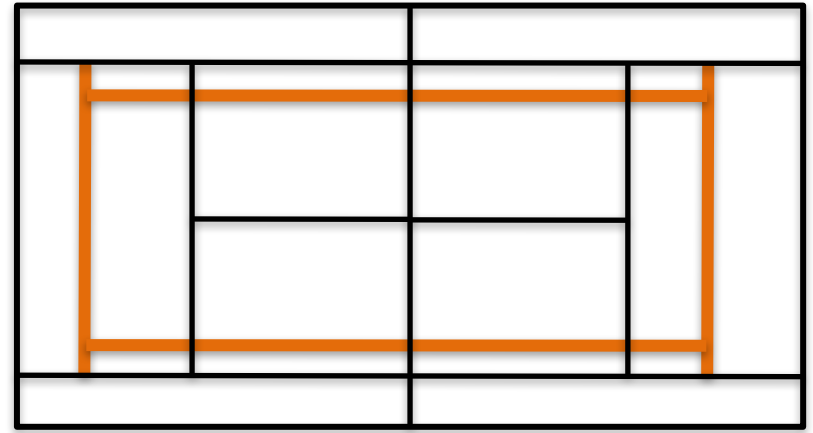
8 years and under



Mini Tennis Orange



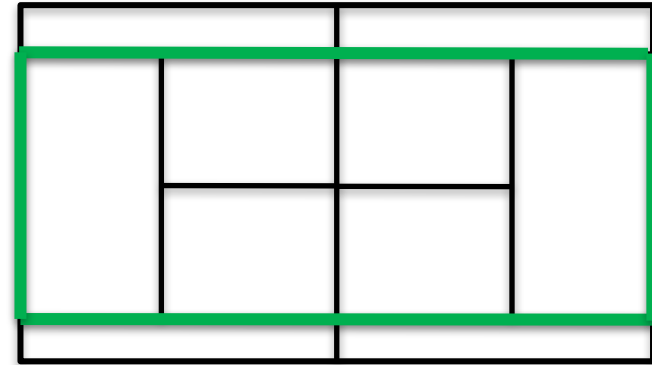
8-9 years



Mini Tennis Green



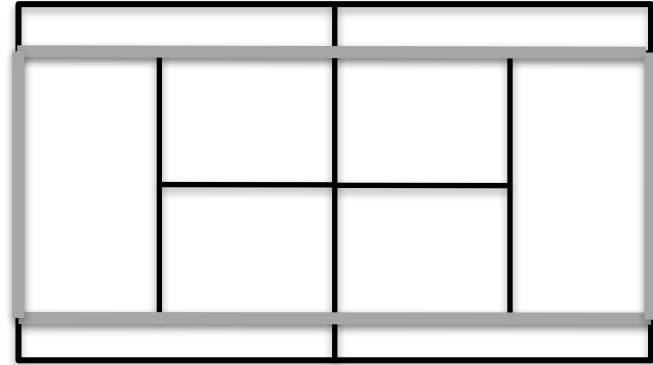
9-10 years



Full Ball (Yellow)

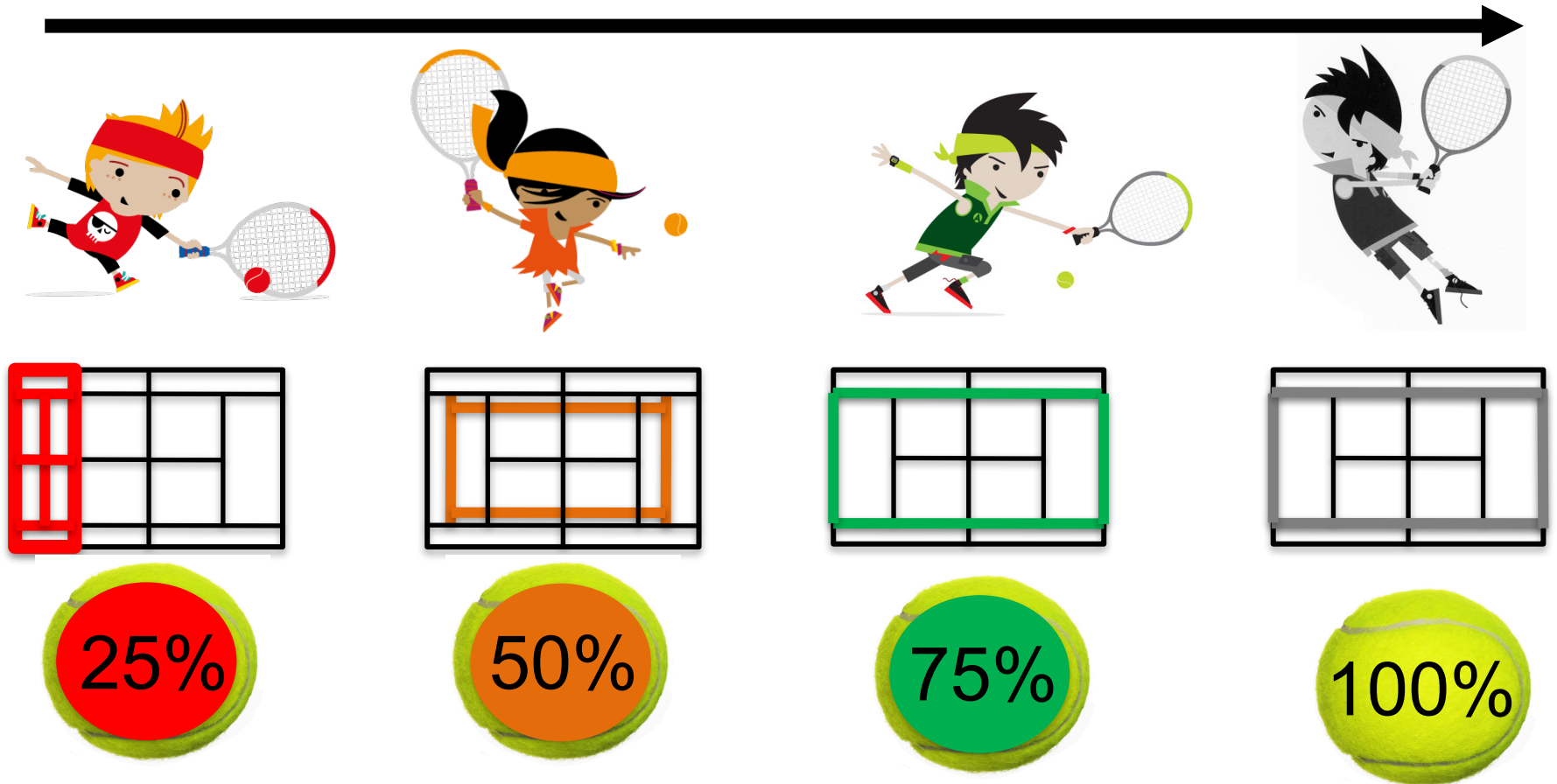


11+ years

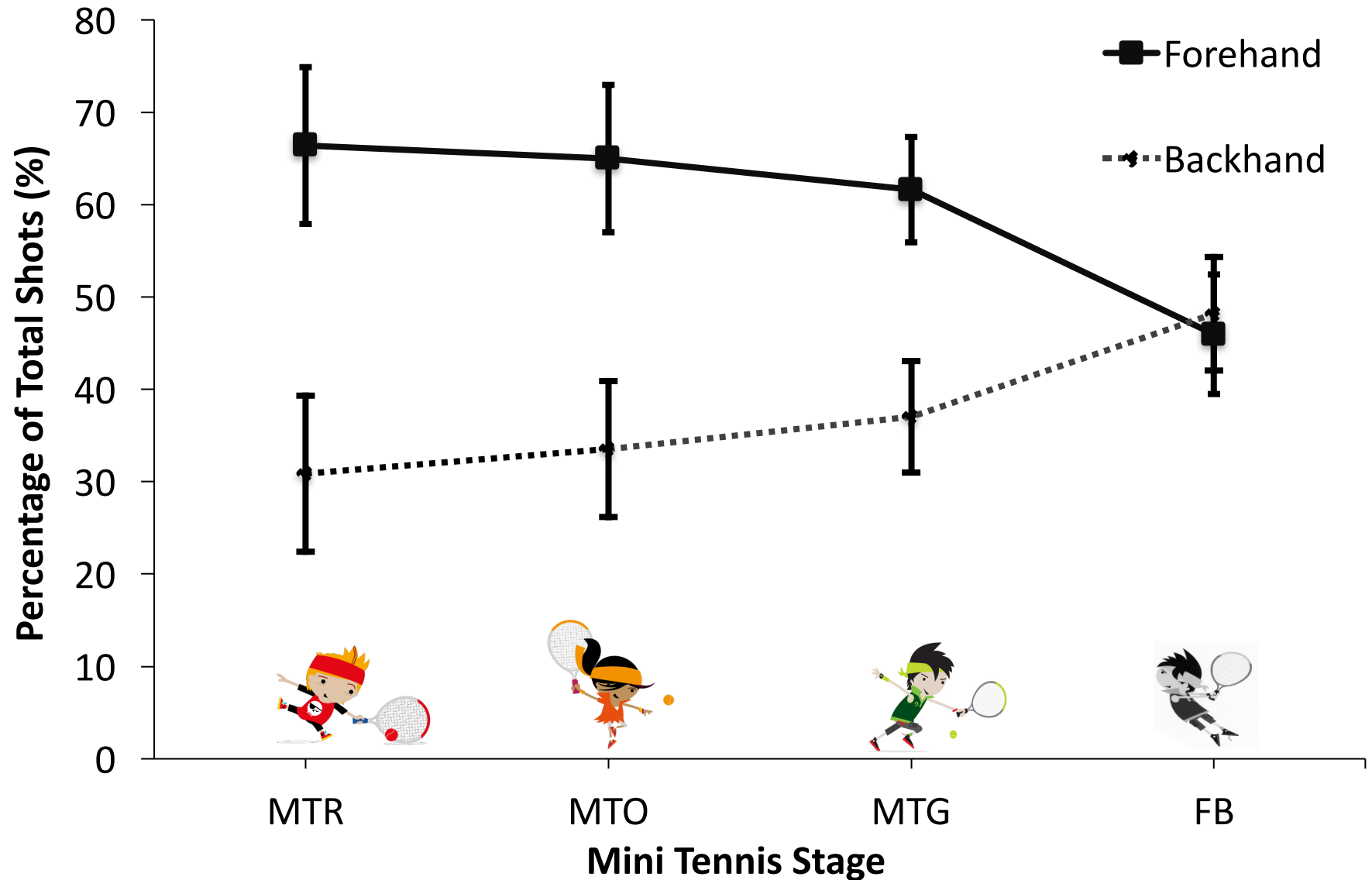


Study 1: Mini Tennis Match Play

48 Children, Match Play, Notational Analysis



Results: Shot Type



Running Around The Ball

Video

Aim: Study 2

- 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 ± 0.6 years)
- **Experimental** ($n = 8$, age 7.4 ± 0.4 years)



Method: Pre-Test and Post-Test

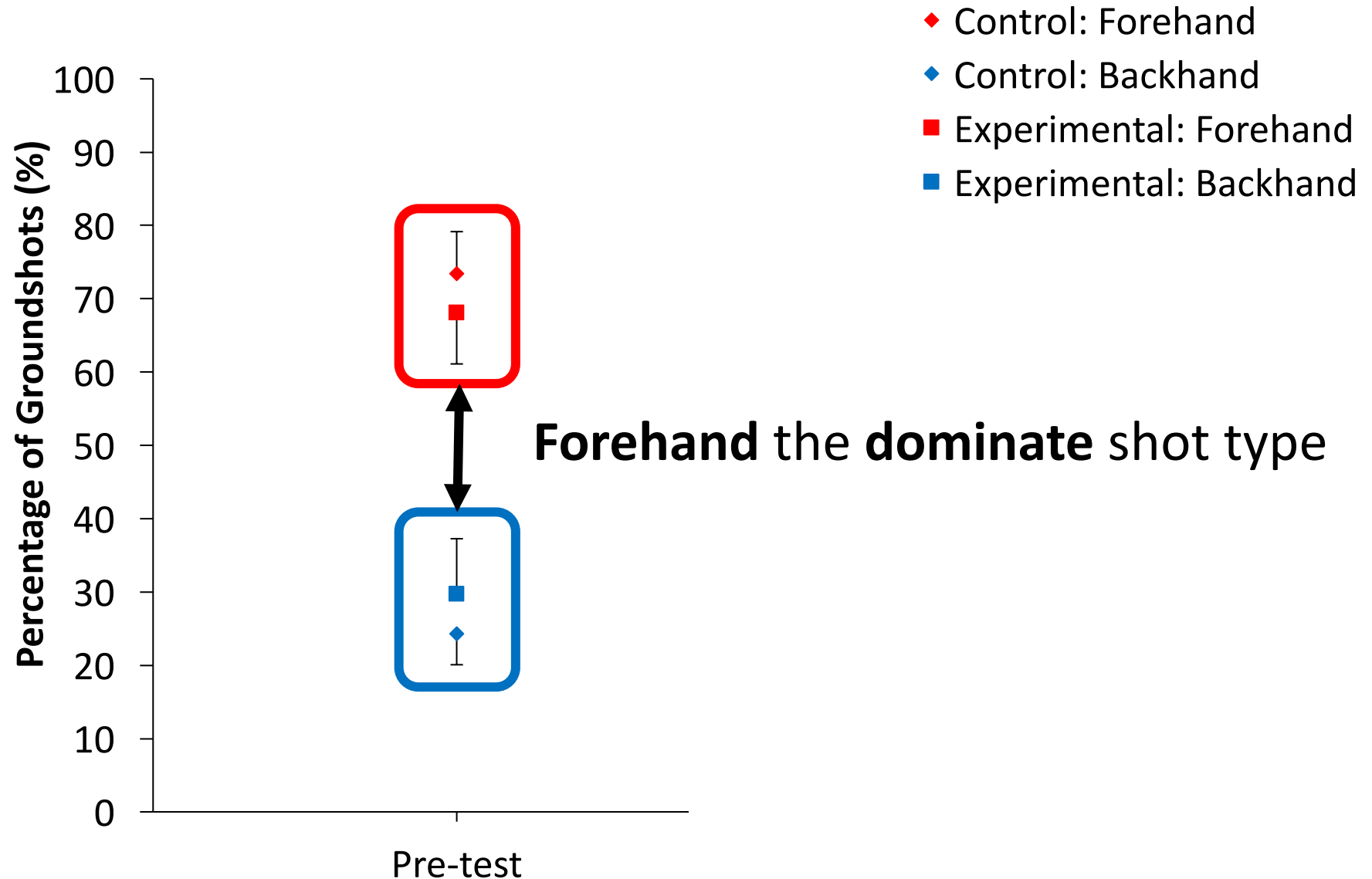
Match Play

- 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

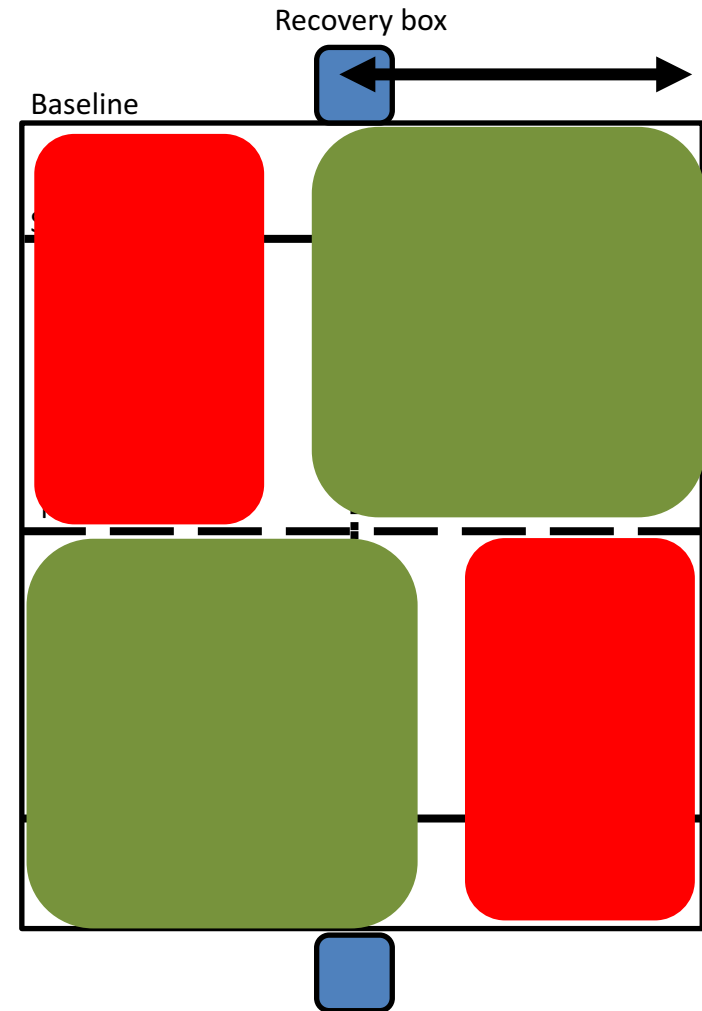


Practice Sessions

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

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

Experimental Manipulations

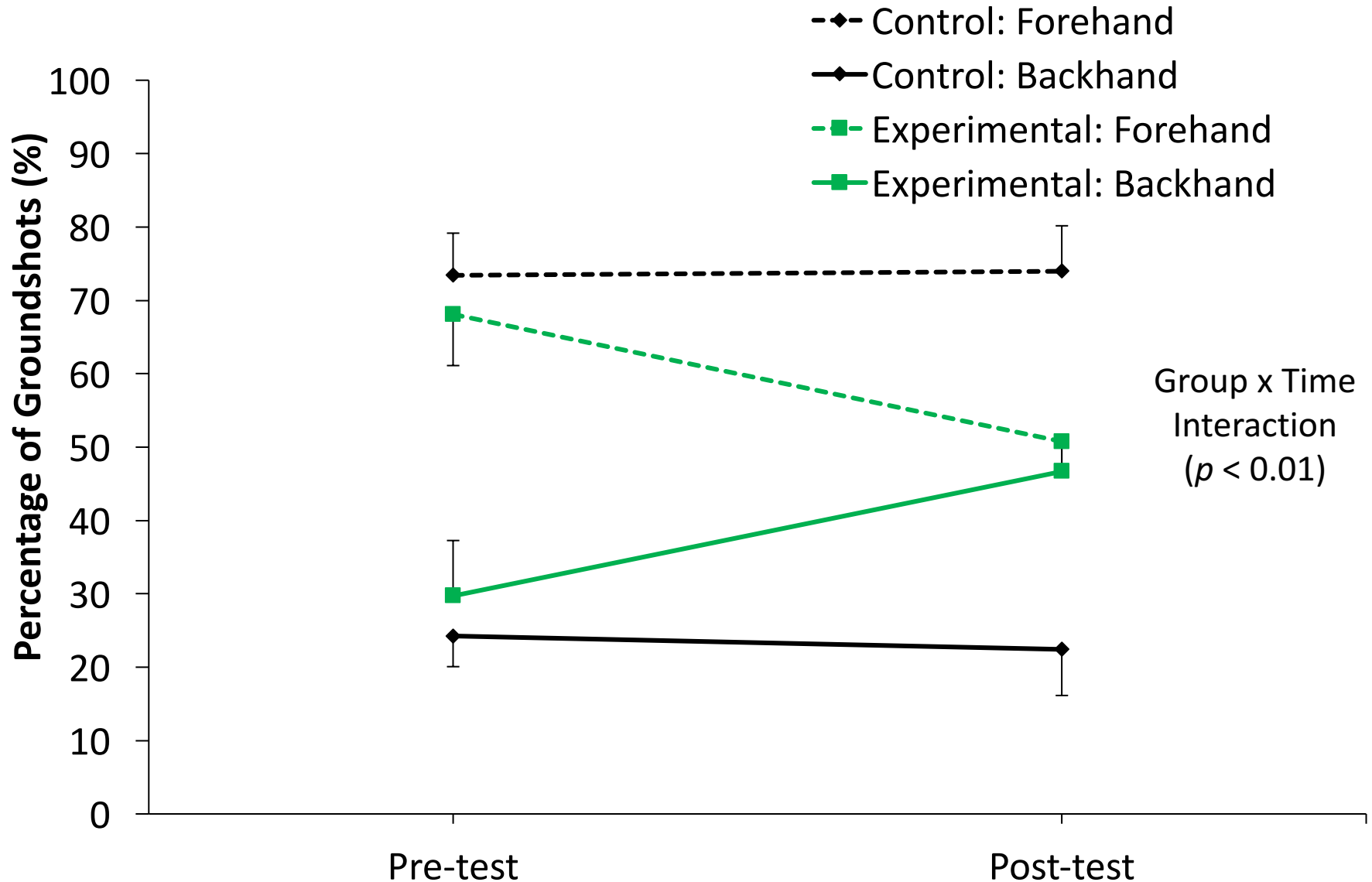


- **Bonus points** were awarded by the coach if a participant created a perturbation using their backhand

Strokes Per Session

- The control group played **117.0** (± 7.7) strokes per session, the experimental group played **120.3** (± 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



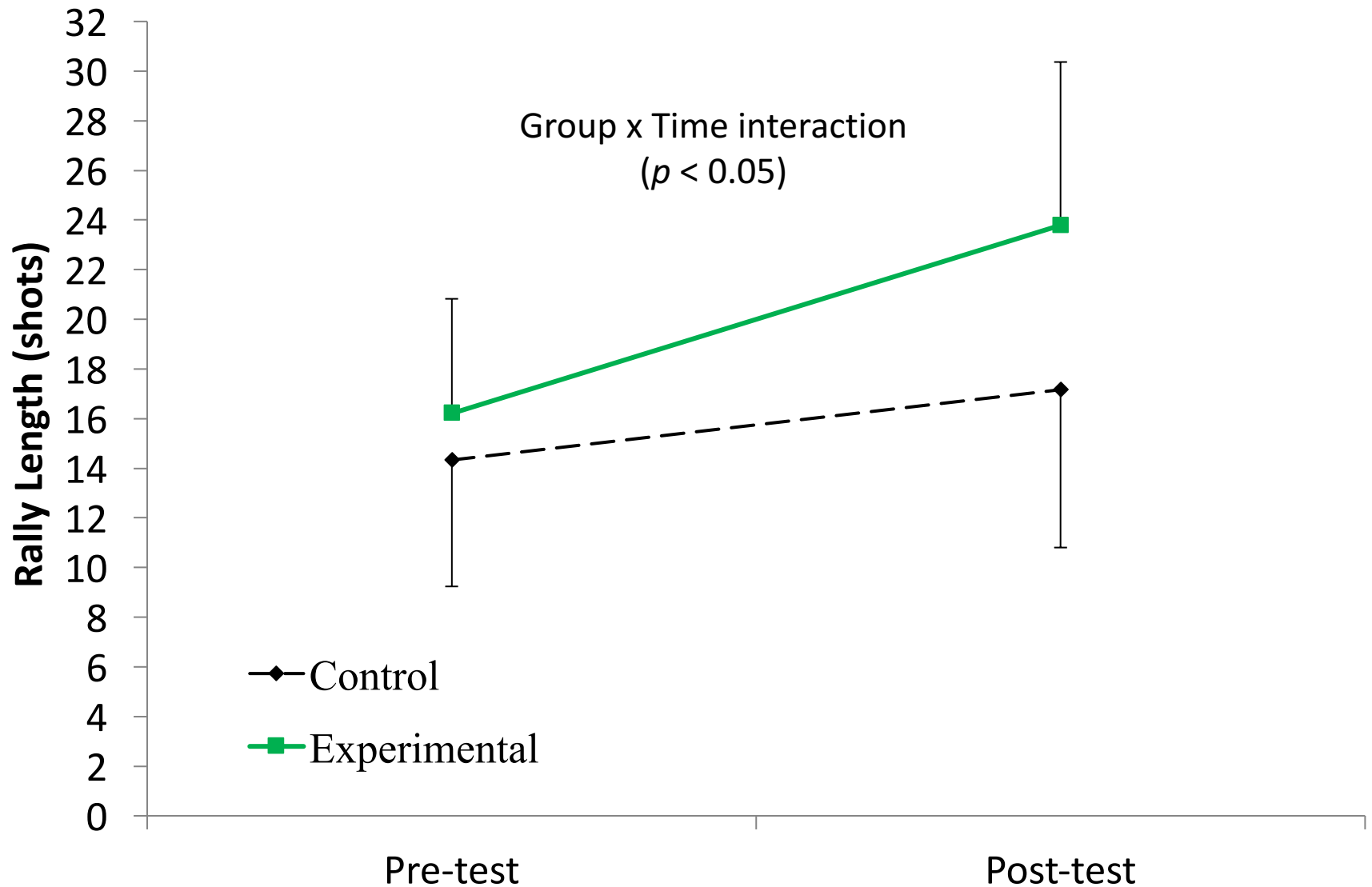
Pre-Test

Video

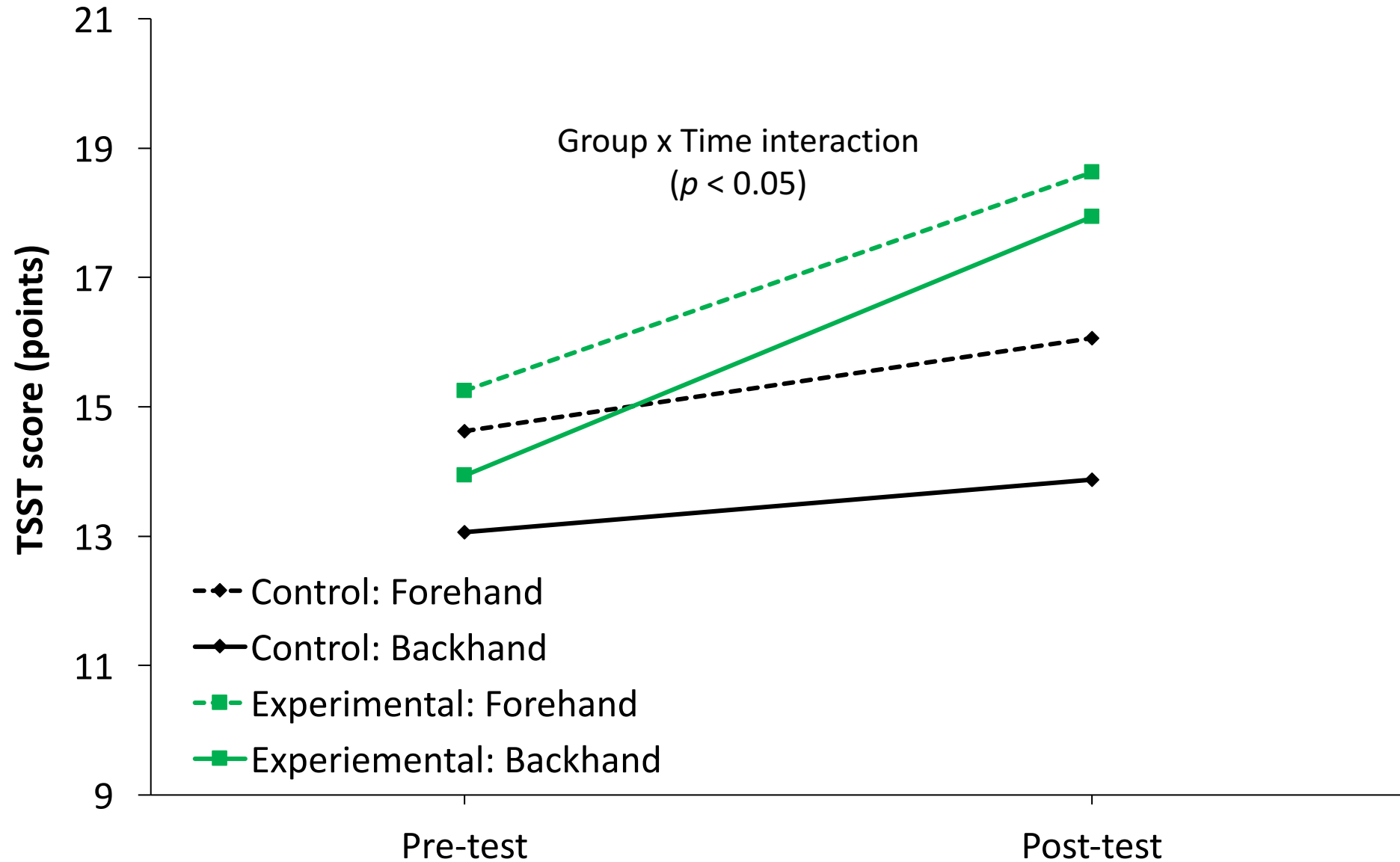
Post-Test: Experimental Group

Video

TSST: Rally with Coach



TSST: Technical Skill



Take Home Message

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

Acknowledgement



Questions

