

The Use of Ability Based Training in Police Force Recruits



A/Prof Rob Orr; SGT Michael Stierli; Ms Kelsie Ford



Background

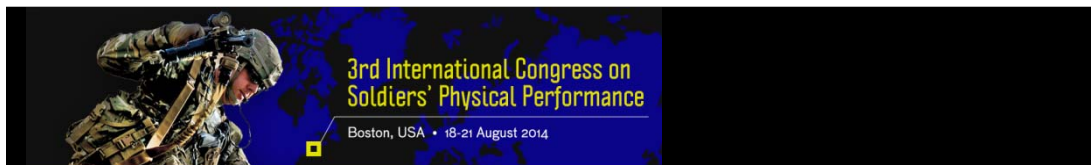


Background



Ability-Based Training (ABT):

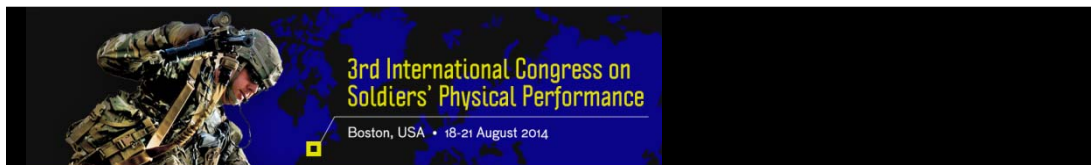
- Tailoring physical training (running) programs to the ability level of the individual or group
- Removes the ‘One size Fits all’ approach without compromising fitness benefits and saving time
- Proven to ↓ injury risk and severity in military populations without compromising fitness (Knapik et al, 2003; Orr, 2010)



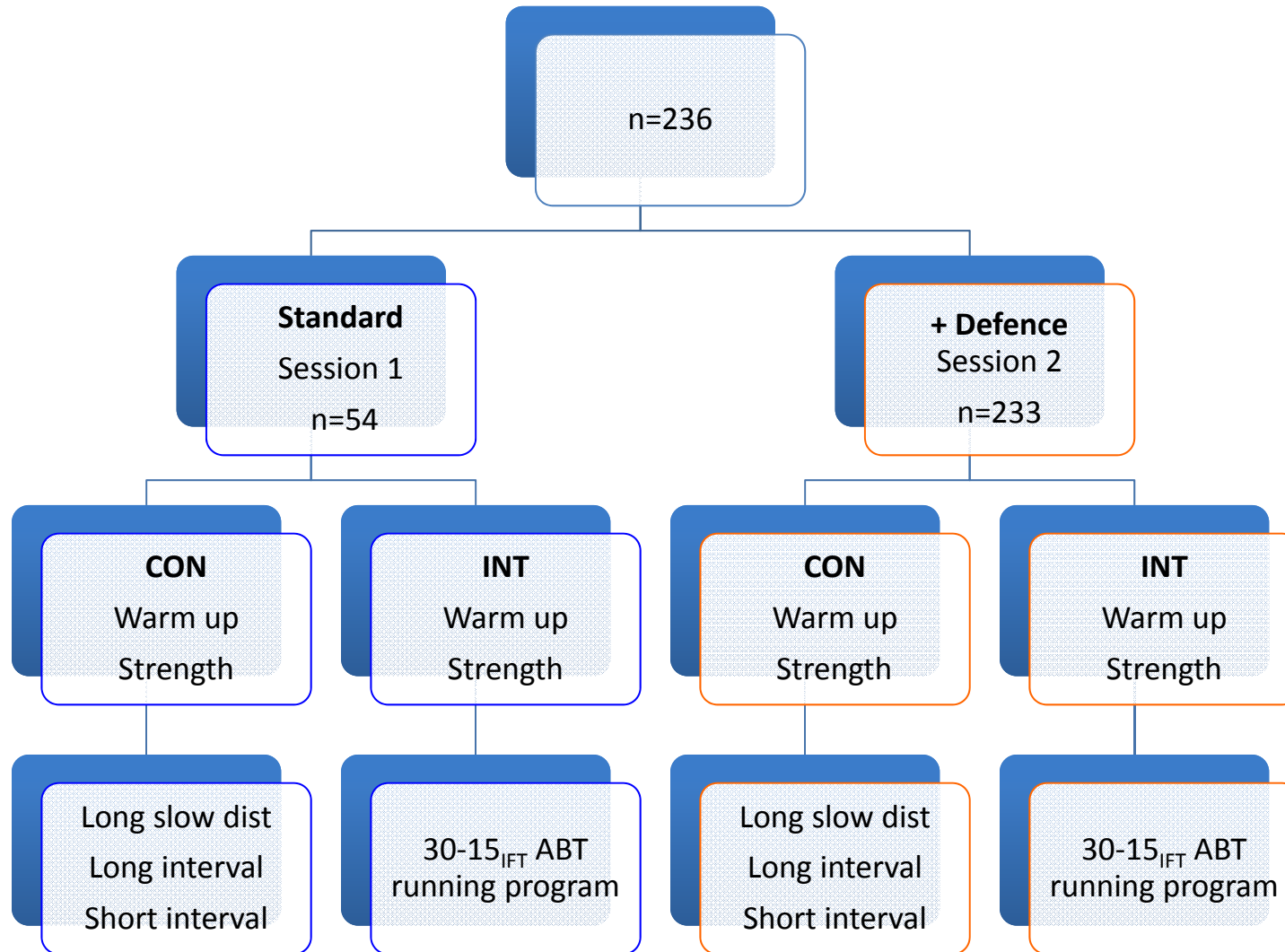
Aim



- The aim of this study was to investigate whether an Ability Based Training (ABT) program derived from the 30-15 Intermittent Fitness Test (IFT), would improve the aerobic fitness of police recruits to the same extent as current training processes, in less time and with fewer injuries.



Methods



Methods



Control Group - Current Police recruit physical training for metcon:

- Long slow distance running: Long interval training (400m): Some short interval training (20m)

Intervention Group – 30-15 Derived metcon program

- Interval distance was derived from the formula: *Interval distance = running speed in m/s (score) x % of effort x duration of interval.*
- % of effort increased by 2.5% from 90% in Week 1 to 97.5% in Week 4 then 92.5% in Week 6 to 100% in Week 9
- Each cycle = 10s on: 10s off for 6 mins
- Cycles: Weeks 1-4 = 2 cycles with 2 min rest between:
Weeks 6-9 = 3 cycles with 3 mins rest between
- Weeks 5 & 10 Rope Run ‘team challenge’



Methods

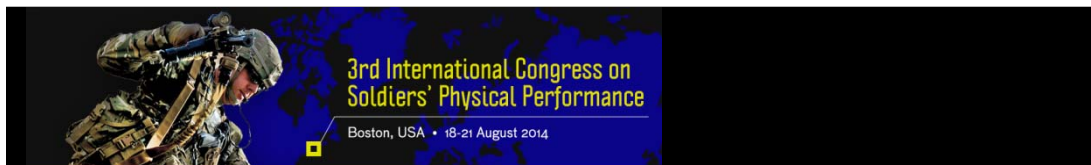


Outcome measures

- 20 Meter Progressive shuttle run test
- Injury rates: determined through injury data collected from the Academy's Accident and Incident forms and database

Analysis

- SPSS v20, alpha .05
- T-tests were used to investigate differences in fitness between (independent) and within (paired) cohorts
- Chi-squared test investigating differences in injuries between cohorts



Results



Initial Data - Session 1 and Session 2

Session		Subjects		30-15 _{IFT} (Score) M(SD)	MSFT (# Stages) M(SD)
		Male n	Female n		
Session 1	Control	20	5	16.36 (1.71)	8.2 (1.68)
	Intervention	14	6	16.56 (2.10)	8.3 (1.78)
Session 2	Control	59	37	16.62 (1.63)	8.2 (1.49)
	Intervention	59	36	16.45 (1.71)	7.9 (1.60)

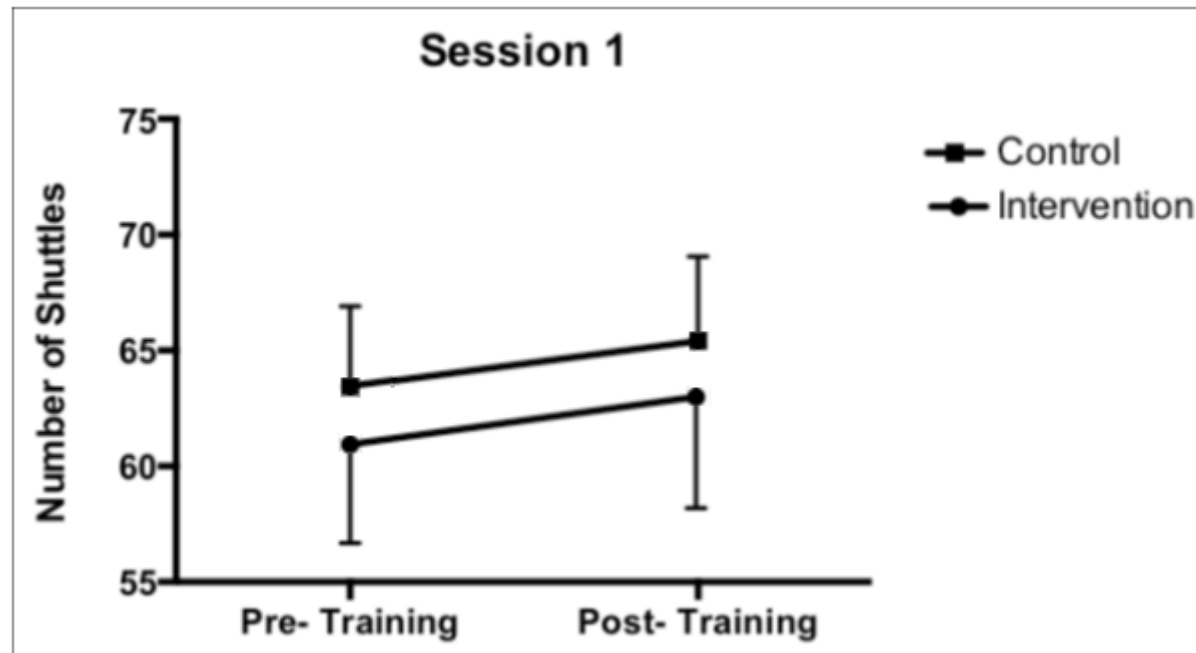
- No sig difference between CON and INT groups in Session 1 and Session 2
- No sig difference between Session 1 and Session 2



Results



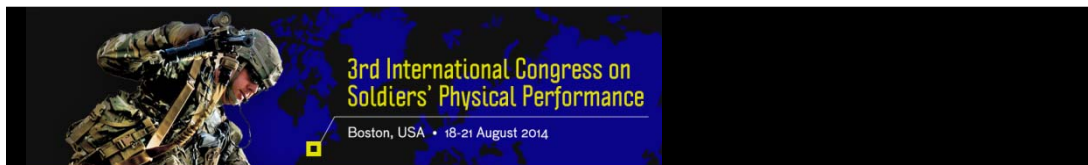
Number of Shuttles Completed pre and post training- Session 1



No significant improvement Control pre vs post, $p=0.476$

No significant improvement Intervention pre vs post, $p=0.493$

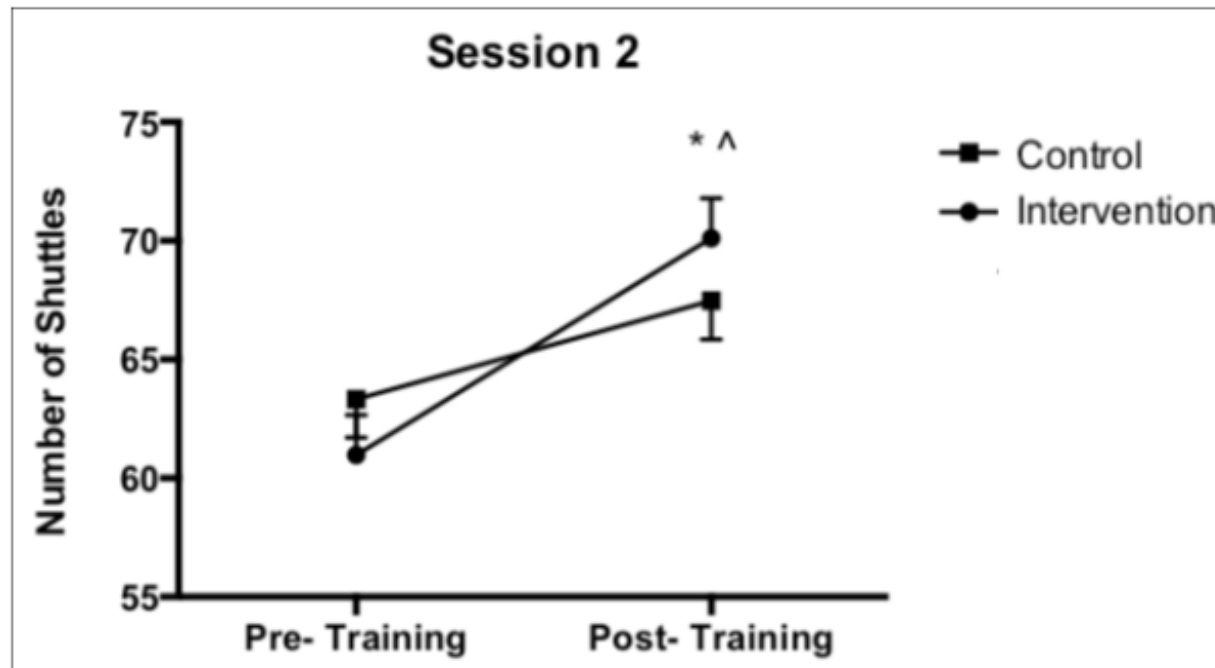
No significant difference between Control and Intervention post training, $p=0.09$



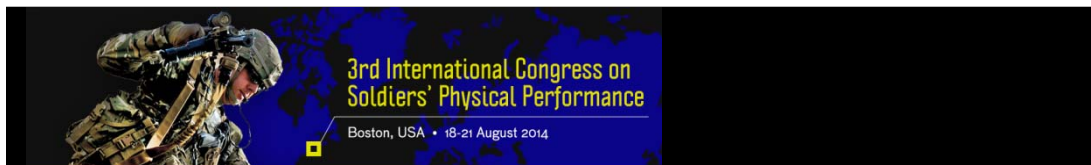
Results



Number of Shuttles Completed pre and post training- Session 2



* $p < 0.0001$ Control pre vs post ^ $p < 0.0001$ Intervention pre vs post



Results

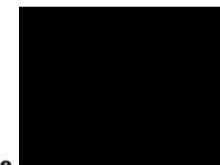
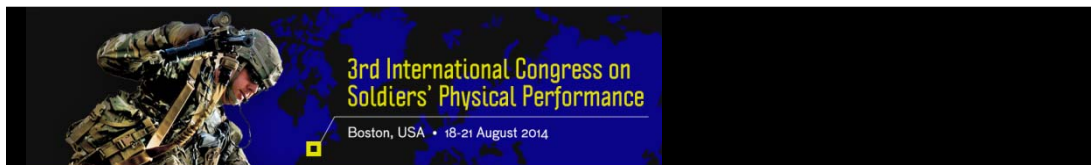


	Session 1		Session 2	
	Control	Intervention	Control	Intervention
Size n	29	25	118	115
Injuries n (%)	4 (14%)	1 (4%)	12 (10%)	7 (6%)
Injury sites	Foot x1	Foot x 1	Foot x1	
	Knee x 2		Knee x 3	
	Back x 1			Back x 2
			Ankle x 2	Ankle x 1
			Calf x 1	Calf x 1
			Lower leg x 3	Lower leg x 2
			Wrist x 2	Finger x 1

Conclusion



- Recruits who did the ABT maintained/improved aerobic fitness comparable to their standard physical training counterparts
- Injury rates were lower in ABT groups
- ABT groups performed significantly less mileage, were running **for less time** and arguably trained for the required demands of their occupation (intermittent)
- Saved time ...
 - Does a specific conditioning program introduced in ‘spare’ time decrease injury potential?



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