

ACT for athletes

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Thanks to!

- MODO hockey
- Markus Näslund, Per Svartvadet, Ulf Samuelsson, youth coaches, Players and my students Emil Jäder, Olle Lööf, Maria Larsen and Oscar Anderblad

Background

- PST (Psychological Skills Training)
 - Visualisation
 - Self talk
 - Arousal control techniques
 - Control of private events
- Gardner & Moore (2006, 2007, 2009)
 - Mindfulness, Acceptance and Commitment Training (MAC)
 - Hasker (2010), Thompson et al, (2011) Wollanin, Gardner, Moore (2005)

Remember 1!

- We work with probabilities!
- We want to increase the probabilities for effective behaviors and decrease probabilities for ineffective behaviors.
- A good start is to help players define values and behaviors in line with those values.

Remember 2!

- We want to develop flexible players!
- Flexible players: can have all different emotions and thoughts, are present on the ice and reacts on what happens on the ice and their values as players.
- Inflexible players: are restricted by their private events, self focused, afraid of failing and their attention is not on the ice but on private events and those private events decrease effective valued consistent behaviors

Flexible &
Present player
Reacting on
“whats out on
The ice”

Effective action

Emotions ok!

Thoughts ok!



Experiences “bad”

Reacting to emotion, fears
Instead of reality

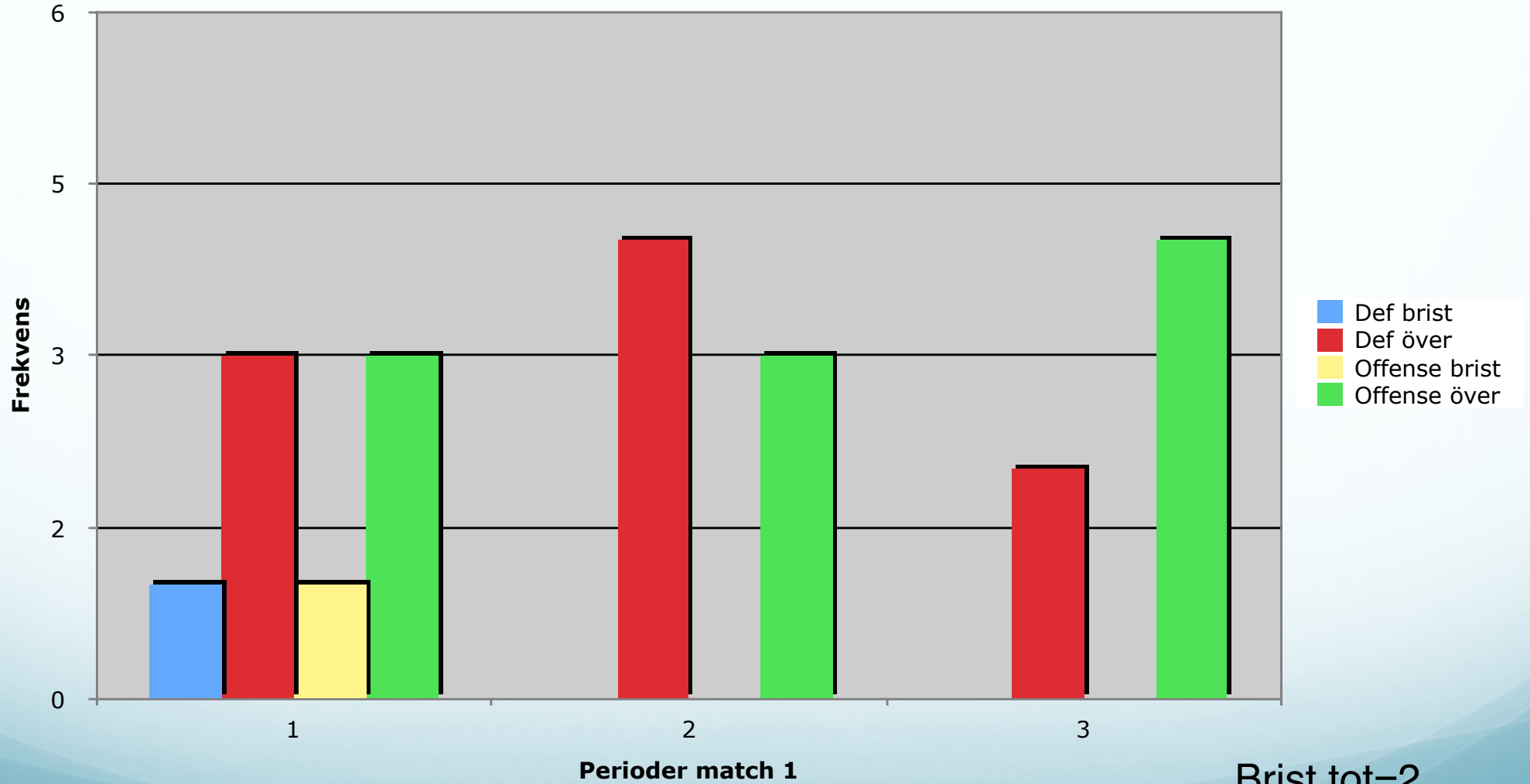
Rigid
action
pattern

Case study ABA design

- Player description
- Two games. 3 measure points/game
- DV=frequency of behaviors to do more/less of
- OBV
 - Hockey life line (Functional analysis on the floor with values as a reference)
 - Definition of hockey behaviors to more and less of(Check with coach)
 - Continuous feedback during game.
 - Feedback on bull's-eye dartboard between periods and refocus on important behaviors
 - Feedback directly post game
 - Use video the day after to get more feedback on hockey behaviors.
 - Same procedure after each game.

Results

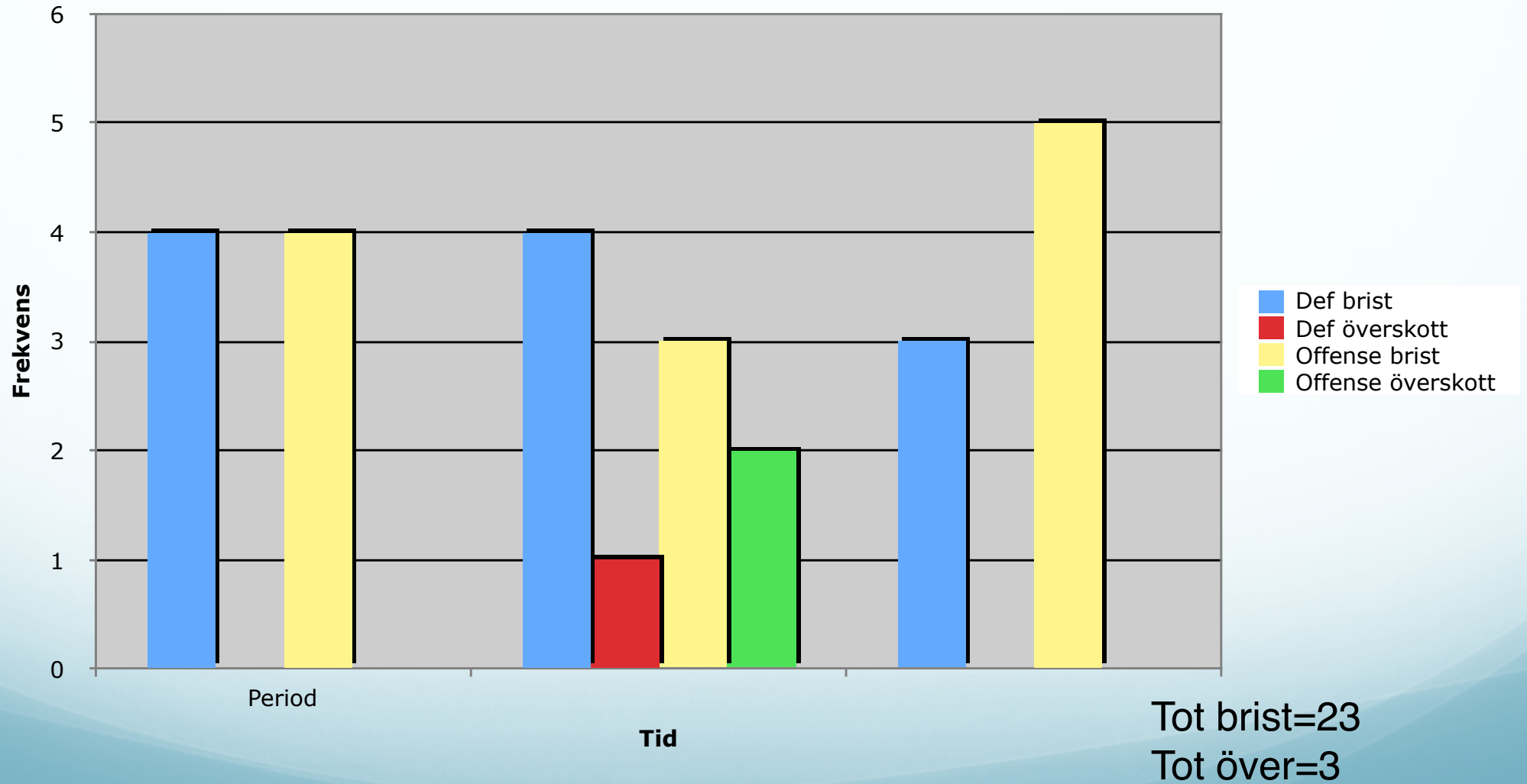
Resultat spelare 1 match 1



Brist tot=2
Över tot=19

Results

Resultat spelare 1 match 2



Preliminary Psychometric Properties:

Values, Acceptance, Flexible Attention Scale
(VAMS) for Ice Hockey Players

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Concurrent and predictive Validity

VAMS-hockey.

Instruments	N	VAMS-hockey 16 item version
DASS-t	56	.501**
AAQ-II	20	.640**
SWLS	55	-.458**
+/-	56	-.483**

**= $p < .01$, Depression, Anxiety and Stress Scale- Total (DASS-T, $M=10.2$, $Sd=8.9$) Acceptance and Action Questioner-II, (AAQ-II $M=16.2$, $Sd=5.4$), Satisfaction With Life Scale, (SWLS, $M=25.2$, $Sd 4.5$), +/- ($M=2.9$, $Sd 10.1$)

ACT as a training method for ice hockey players

- a Controlled group study

Lundgren et al, *under preparation*

- Can an ACT based intervention effect ice hockey related psychological flexibility as measured by the VAMS?

Intervention sensitivity tested in a controlled group trial for elite hockey players

	Participants	Pre ACT	Post ACT	Cohen's d	T-value	P-value
		M (SD) VAMS	M (SD) VAMS			
ACT-training	13	54 (9,4)	45,8 (6,1)	1.04	2.83	.015
Control group	8	50,25 (10,4)	50,5 (10,8)	.02	.05	.96

Preliminary evaluation of the effects of
an ACT based intervention for Ice
hockey players:
a randomized controlled trial

Lundgren T, et al, *Under preparation*

Method

- Design: Randomized Controlled Trial, N=40
 - Pre, post and 3 month follow up,
 - Repeated measures ANOVA, effect size and post hoc tests was calculated.
 - No significant group differences at pre.
- IV= ACT vs Waitlist control
 - Matched groups:
 - Skill (national team players), age, and position on the ice (defenders, forwards and goalies) were accounted for.

Method

- Dependent variables: Goals, assists, total points, coach ratings (blind), and players evaluation of training.
- Total of 4 hours training with homework between sessions
 - Same structure of each session
 - Session Purpose
 - Summary of last session
 - Experiential exercise
 - Homework assignment

Intervention

- Session 1:
 - Values and commitment
 - Exercises (hockey life line, get focused hockey App)
 - Metaphors
 - Homework (values game work sheet, mindfulness to practice refocusing, preparation B-E)
- Session 2:
 - Defusion and flexible attention training
 - Exercises (Juggle while under attack of experiences, Sing a song)
 - Metaphors
 - Homework (mindfulness to practice refocusing, refocus during games and practices)

Intervention

- Session 3:
 - Acceptance and willingness to experience whatever is available in the present context
 - Exercises (carry experiences close to you, increase persistence by making room for experiences “holding your breath”)
 - Metaphors
 - Homework (mindfulness to practice refocusing, values challenge of the week, post game work sheet)
- Session 4:
 - Repetition of open, aware and engaged
 - And importance of practice
 - Exercises (triggers, eyes on, summary of the course,)
 - Metaphors
 - Homework (mindfulness to practice refocusing, feedback on hockey development)

Post game exercise to save mental energy

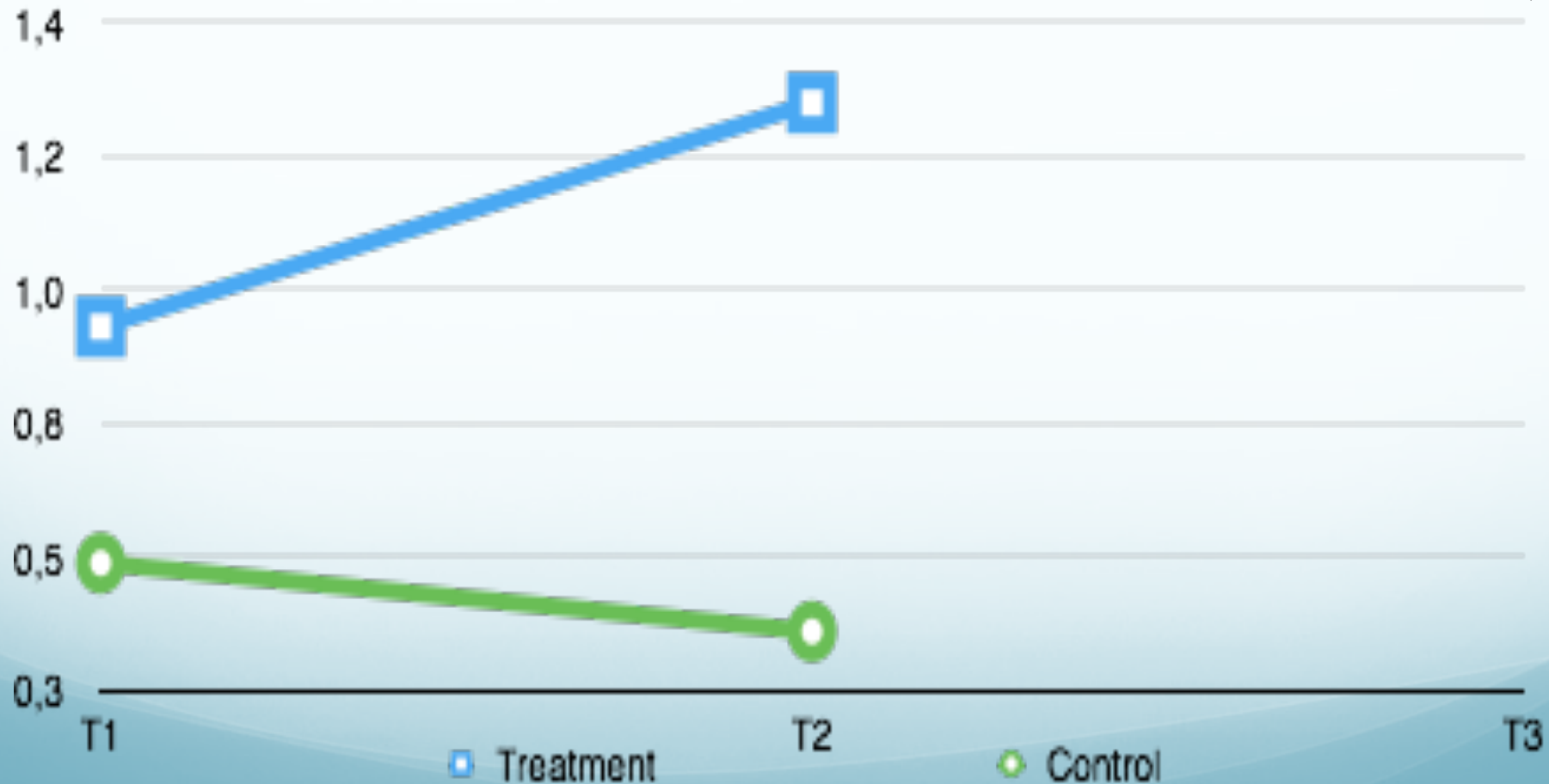
- Three step model for post game work:
 - Aim: systematic approach to mental work, develop your skills as a player, and shorten the time for rumination
 - 1) Set a time, say 1 hour. During that hour you are happy, angry or disappointed. Be with what ever is present.
 - 2) Think about your game, is there anything you want to change or do differently? What did you do good? (write it down in your post game sheet)
 - 3) Close the books (bokslut) for the game and use the skills we practiced on to do other things (engage in other areas in life, family, friends, girlfriends etc)

Results: Total Points

Effect sizes (ES) in ETA Squared 0,01 = small effect 0,06 = moderate effect, 0,14 = large effect

Mean of Assists + Goals

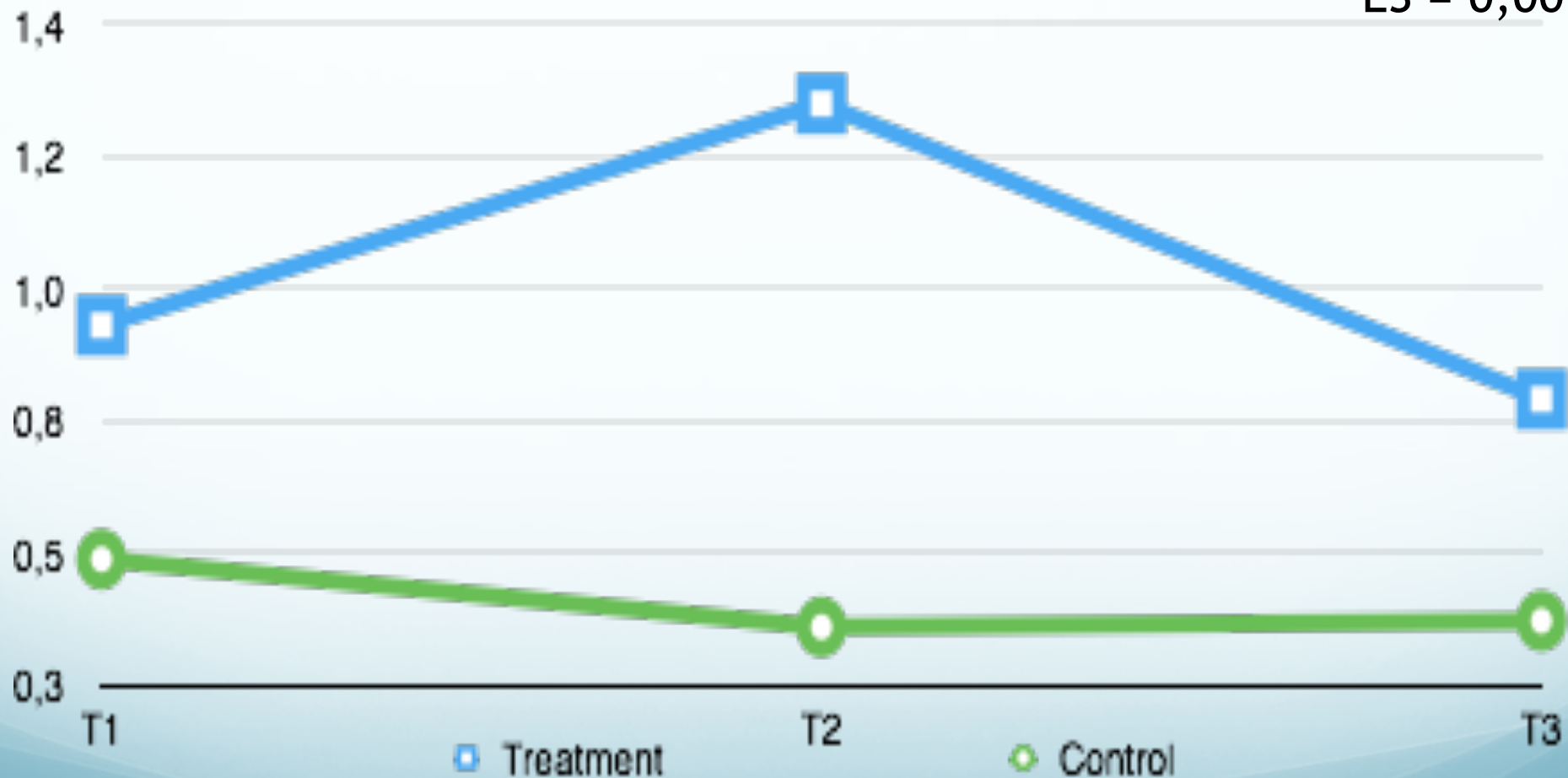
$p = 0,027$
 $F = 5,359$
 $ES = 0,15$



Total points: At Follow Up

Mean of Assists + goals

$p = 0,950$
 $F = 0,004$
 $ES = 0,00$



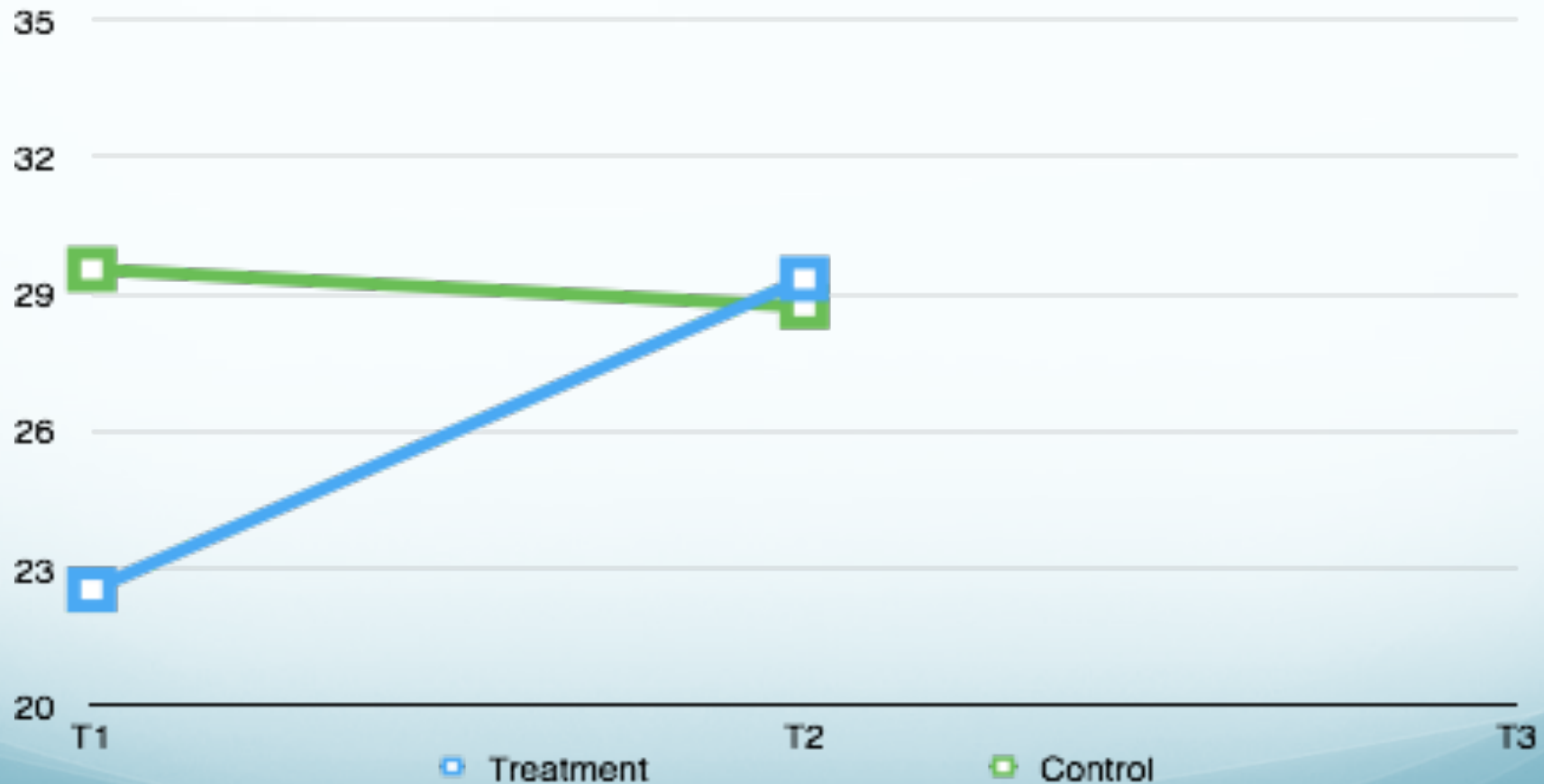
On Ice Performance Summary

- Approximately 50 % increase in total points in the ACT group at post. However no long term effects was established.
- Significant effects between pre and post but not sustained at follow up.

Coach ratings (blind)

Mean ratings : Athlete dedication, focusing ability, performance

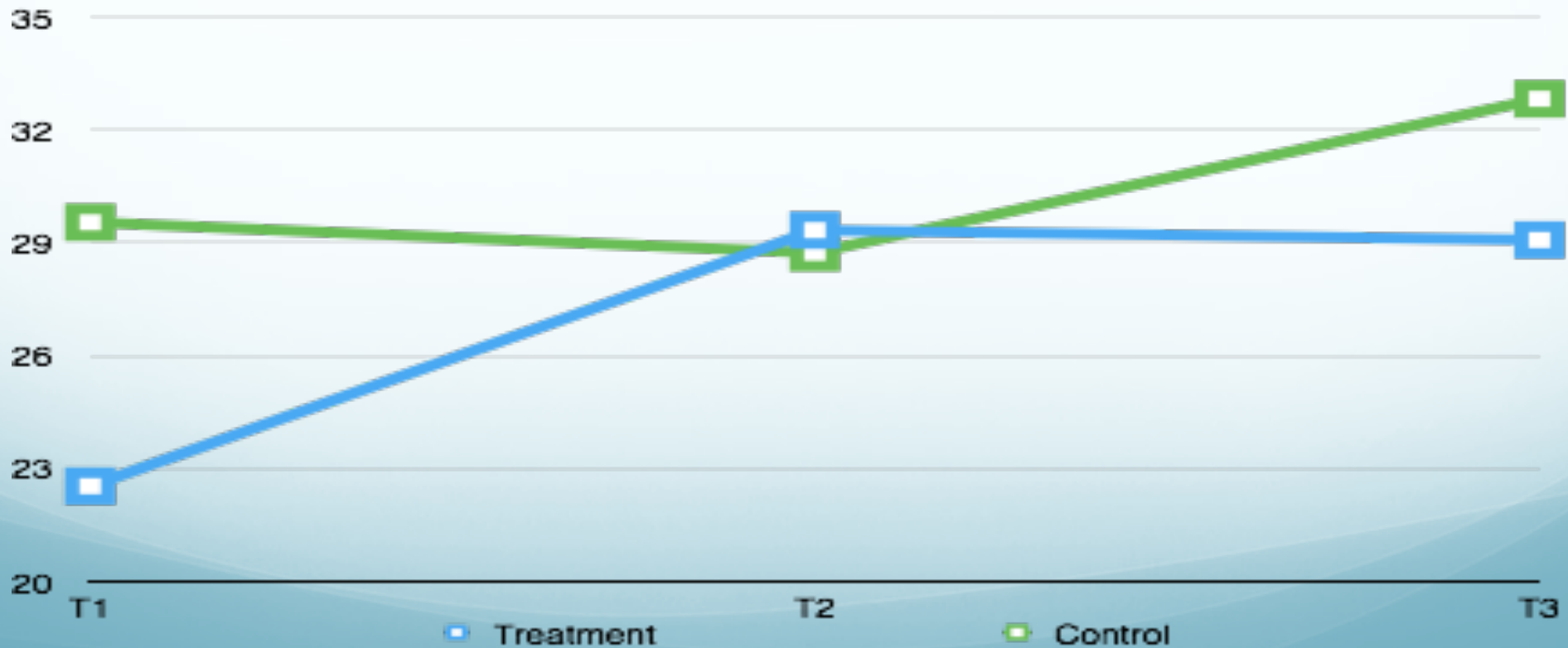
$p = 0,012$
 $F = 7,440$
 $ES = 0,24$



Coach Evaluation

Mean rating: Athlete dedication,
focusing ability, performance

$p = 0,265$
 $F = 1,304$
 $ES = 0,05$

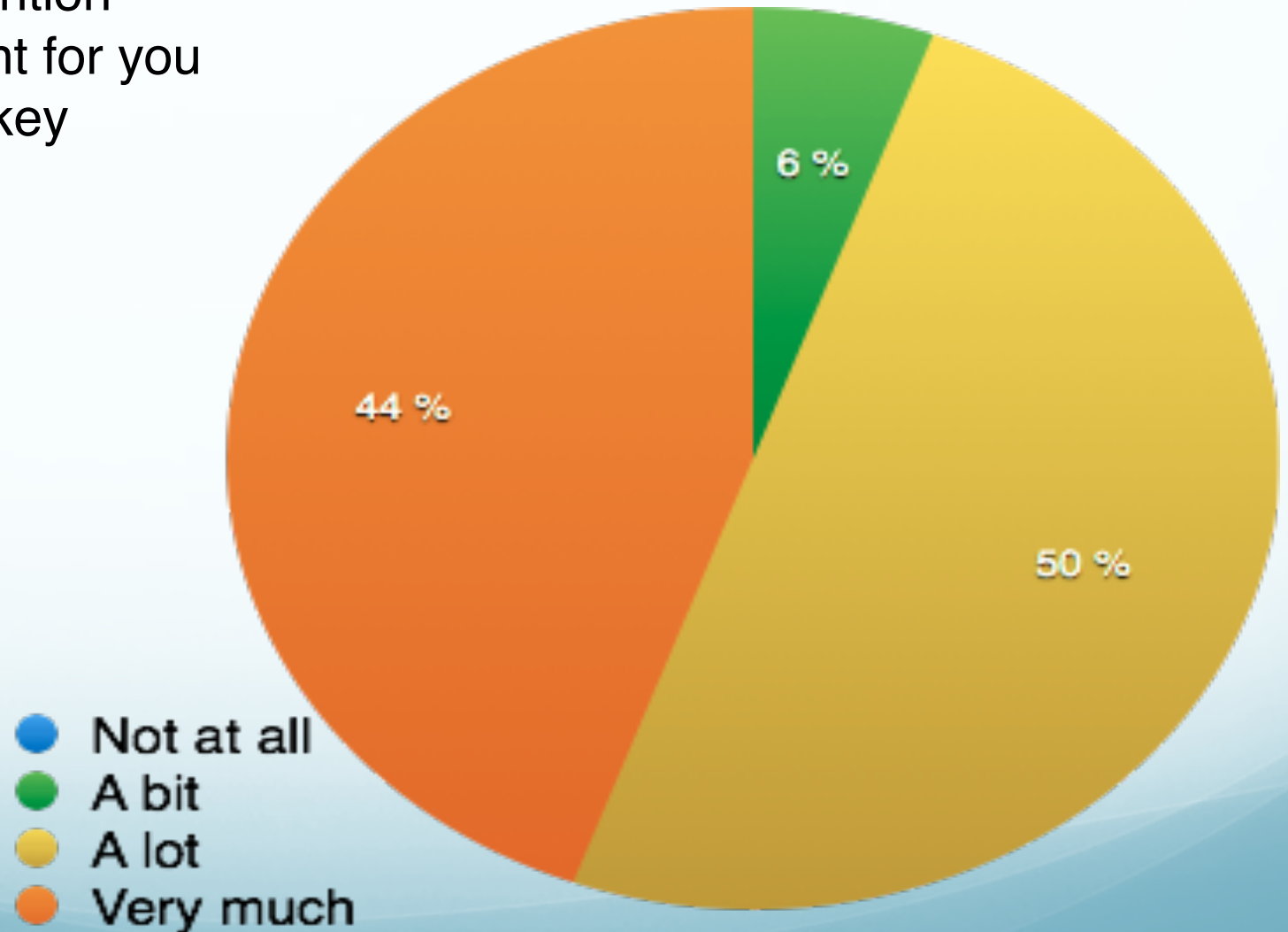


Coach Evaluation Summary

- Coaching staff report a marked improvement (significant) in athletes, especially during training, when Athletes were exposed to ACT interventions.
 - Effects maintained over the three months period.

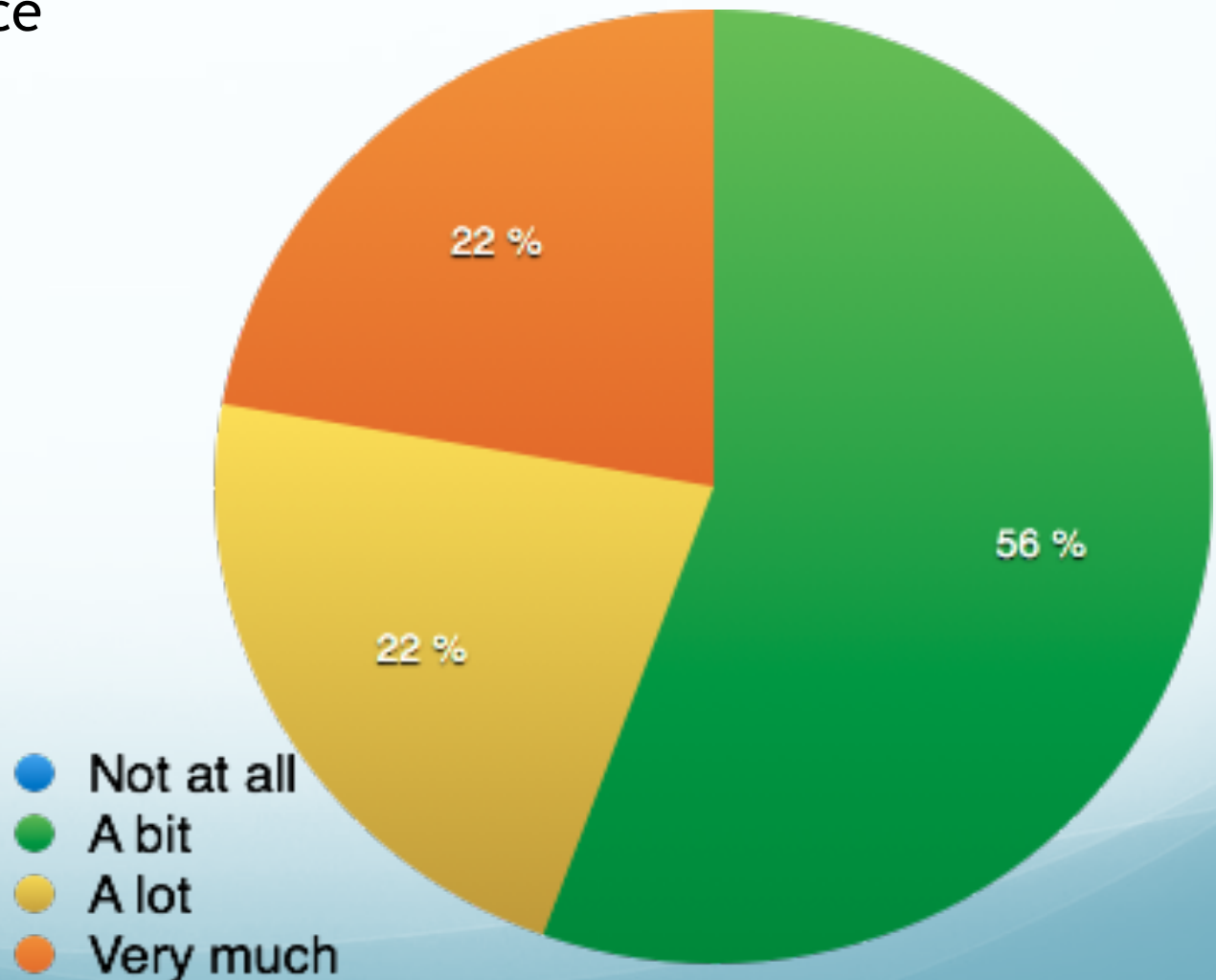
Players Evaluation

Has the intervention been important for you as an ice hockey player?



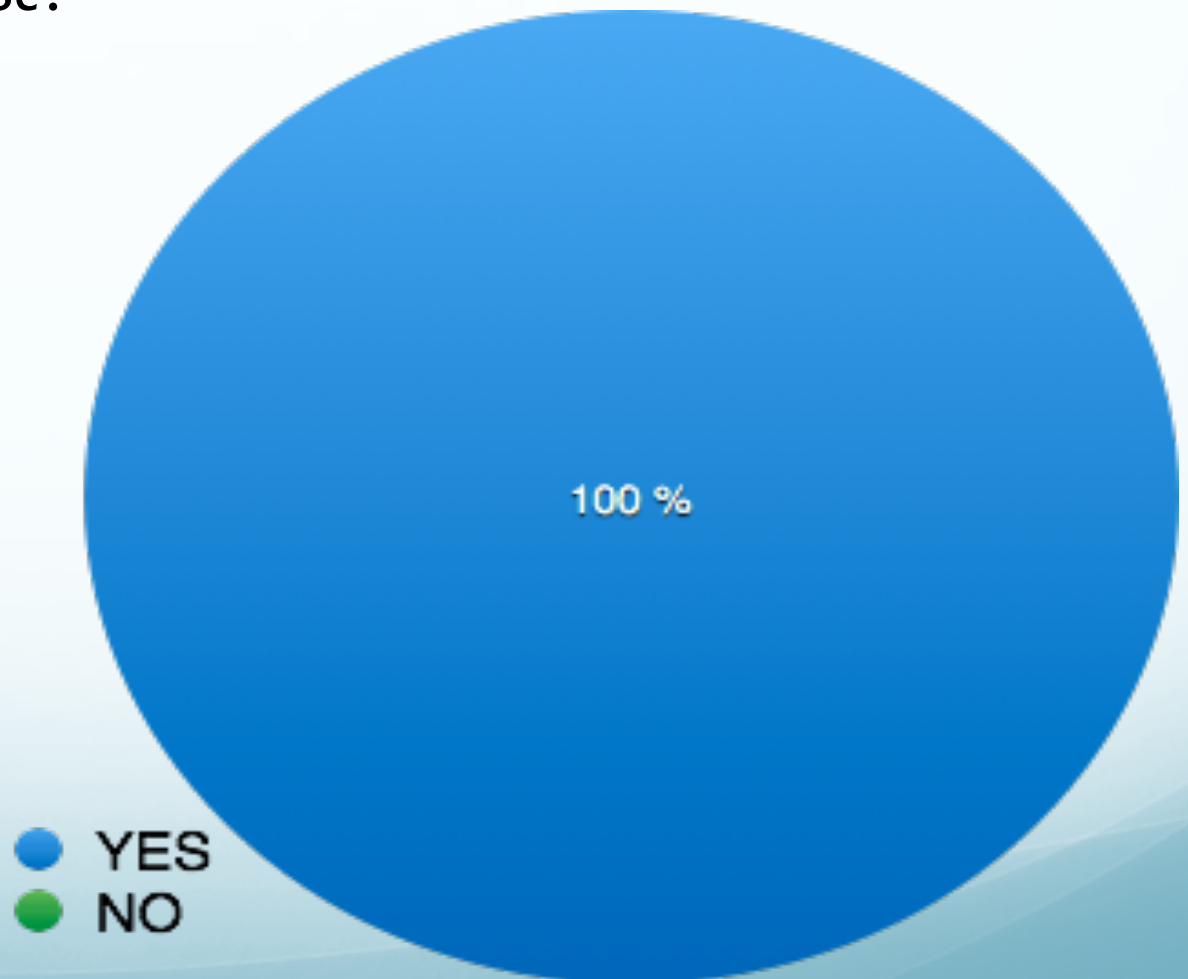
Players Evaluation

Has the intervention helped you develop as an ice hockey player?



Athlete Evaluation

*Would you recommend
others to take the course?*



Exercises

- Sports life line
- Sports eyes-on
- Carry experiences with you close
- Letting your thoughts bounce.
- Post game work sheet
- Values work sheet
- Mindfulness exercise
- APP for valued actions and to track your mental development
- Track your hockey development
- Give your self feedback on hockey behaviors work sheet
- If this was your last game in your career exercise
- Develop new hockey skills work sheet
- Preparation Bull's-Eye

Thanks for your time

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