CITY UNIVERSITY LONDON

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National & Kapodistrian University of Athens

Investigating the effectiveness of word level therapy in two different approaches

Evangelia – Antonia Efstratiadou

E. Efstratiadou, I. Papathanasiou, K. Hilari

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Disclosures

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Thales Aphasia Project

Thales Aphasia project is:

- 47 months project (Start: 01.01.2012 End:30.11.2015)
- Takes place in Greece
- Host institution: University of Athens
- 3 different research streams take part:
    a. Neurolinguistics
    b. Neuropsychology
    c. Speech and Language Therapy

This study runs within the framework of Thales Aphasia project.

Research Aims

Compare and contrast the effectiveness of a word level therapy, delivered through different therapy approaches:

a) direct therapy (one-to-one / individual therapy),
b) combination therapy (individual and group).

Relative impact of each therapy approach on outcomes tapping WHO ICF framework levels and quality of life.

Word Level Therapy

Focus:

Improve the recalling ability of words by accessing semantic networks.

Applied Therapy Type:

Elaborated Semantic Feature Analysis (ESFA) (Papathanasiou, 2006)

ESFA is based on SFA approach (Boyle & Coelho, 1995; Coelho et al, 2000; Boyle, 2004), but also allows the participant to **elaborate** the described features to a sentence.

Purpose:

transferring naming ability to connected speech. (Papathanasiou, 2006)

Procedure of ESFA

Category
furniture

Location
kitchen / dining room

Use
for dining

Physical Properties
wooden

Action
eat / sit

Association
chair

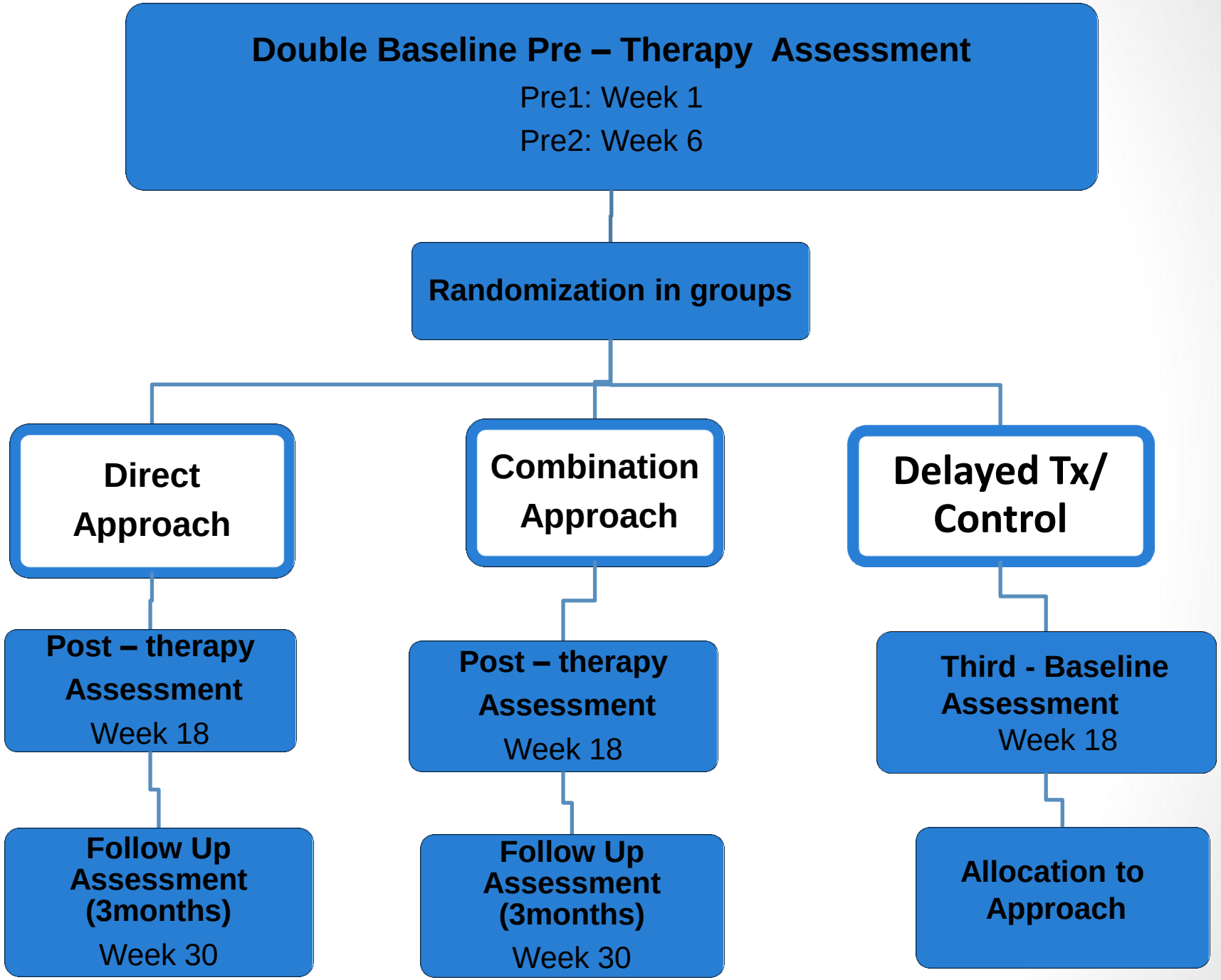
Sentence: The table is used for dining. / The table is a piece of furniture in the kitchen.

Methodology

Participants: 36 individuals with aphasia, meeting pre determined selection criteria.

Design:

- allocation of people to therapy approach(direct, combination) or control (delayed tx) by recruitment order.
- repeated measure within and between group design.
- assessments: pre-tx 1, pre-tx 2 (double baseline), post-tx, and 3-month follow-up.


Double Baseline Pre – Therapy Assessment
Pre1: Week 1
Pre2: Week 6
Randomization in groups
Direct Approach
Combination Approach
Delayed Tx/ Control
Post – therapy Assessment
Week 18
Post – therapy Assessment
Week 18
Third - Baseline Assessment
Week 18
Follow Up Assessment (3months)
Week 30
Follow Up Assessment (3months)
Week 30
Allocation to Approach

Duration of Intervention

12 weeks / 3 hours per week

Direct therapy

3 * 1-hr
one – to – one
sessions
per week

Combination therapy

1 * 1½-hr group
2 * 45-min
one – to – one
sessions
per week

Assessments

- Profiling measure

Outcome measures:

Speech - language outcome measures included a range of assessments tapping on WHO ICF framework levels.

- Primary outcome measure

- Secondary outcome measures

Assessments

- **Profiling measure:**

Greek version of the Boston Diagnostic Aphasia Examination(BDAE)(Papathanasiou et al., 2008), provide information on participant's aphasia.

- **Primary outcome measure:**

Oral - Confrontation naming task of 260 colorized Snodgrass and Vanderwart nouns pictures (Rossion & Pourtois, 2004).

Assessments

➢Secondary outcome measures:

- Impairment Level:
  a) Boston Naming Test for word recall (BNT)(Simos et al., 2011)

- Activity & Participation Level:
  a) Greek version of ASHA FACS (Frattali *et al*., 1995)
  b) Discourse scores from the BDAE Cookie Theft Picture

- Well being and Quality of Life measures:
  a) General health questionnaire -12 (GHQ-12) (Garifalos et al., 2001)
  b) EQ-5D (Kontodimopoulos, 2008)
  c) Greek SAQOL-39g (Kartsona & Hilari, 2007; Efstratiadou *et al.,* 2012)

Results: Preliminary Data

- Preliminary results: comparative results between direct and combination approach.

- Outcome Measures:

- Primary outcome measure
- Boston Naming Test
- Greek SAQOL-39g
- General Health Questionnaire -12 (GHQ-12)

- Two way mixed ANOVAs on each of the OMs, with time as the within subjects factor (4 levels: BL1, BL2, PT, FU) and approach as between subjects factor (2 levels: direct vs combination)

Participants Characteristics

Variable	Direct Group (22)	Combination Group (14)
Gender	16 Male, 6 Female	8 Male, 6 Female
Age (yrs) Mean(SD) Range 18 - 45 46 - 65 66+	 58,23(11,45) 38-84 3 13 6	 58,36 (11,66) 40-79 2 7 5
Stroke Type Ischaemic Haemorrhagic	 23 1	 14
Time post stroke (months) 4-6 6-12 13-24 25-36 37-48 49+	 8 5 2 2 5	 5 2 1 2 4

Primary Outcome Measure

Oral – Confrontation naming Task (Snodgrass Pictures)

- **Significant main effect of time:**

Greenhouse – Geisser

$F(1.31,39.44)=41.22$, $p<0.001$ $\eta_p^2=0.579$

η_p^2 Cohen's guidelines (1988): 0.01 = small, 0.06 = medium, 0.13 = large

Primary Outcome Measure

Oral – Confrontation naming Task (Snodgrass Pictures) Direct Approach

Pairwise Comparisons: Direct Approach				
(I) time	**(J) time**	**Mean Difference (I-J)**	**Std. Error**	**Sig.**
BL1	BL2 **PT** **FU**	-5,667 -44,389* -39,167*	1,969 9,124 8,477	,063 **,001** **,001**
BL2	BL1 **PT** **FU**	5,667 -38,722* -33,500*	1,969 8,264 7,442	,063 **,001** **,002**
PT	**BL1** **BL2** FU	44,389* 38,722* 5,222	9,124 8,264 4,442	**,001** **,001** 1,000
FU	**BL1** **BL2** PT	39,167* 33,500* -5,222	39,167* 33,500* -5,222	**,001** **,002** 1,000

Primary Outcome Measure

Oral – Confrontation naming Task (Snodgrass Pictures) Combination Approach

Pairwise Comparisons: Combination Approach

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.
BL1	BL2	-13,143	4,423	,065
	PT	-54,643*	11,135	**,002**
	FU	-49,500*	10,465	**,002**
BL2	BL1	13,143	4,423	,065
	PT	-41,500*	9,120	**,003**
	FU	-36,357*	8,530	,006
PT	**BL1**	54,643*	11,135	**,002**
	BL2	41,500*	9,120	**,003**
	FU	5,143	3,143	,754
FU	**BL1**	49,500*	10,465	**,002**
	BL2	36,357*	8,530	,006
	PT	-5,143	3,143	,754

Primary Outcome Measure

Oral – Confrontation naming Task (Snodgrass Pictures)

- **No significant interaction between time and approach:**

  Greenhouse – Geisser

  $F(1.31,39.44)=0.397$, $p=0.588$ $\eta_p^2 =0.013$

- **No significant approach effect:**

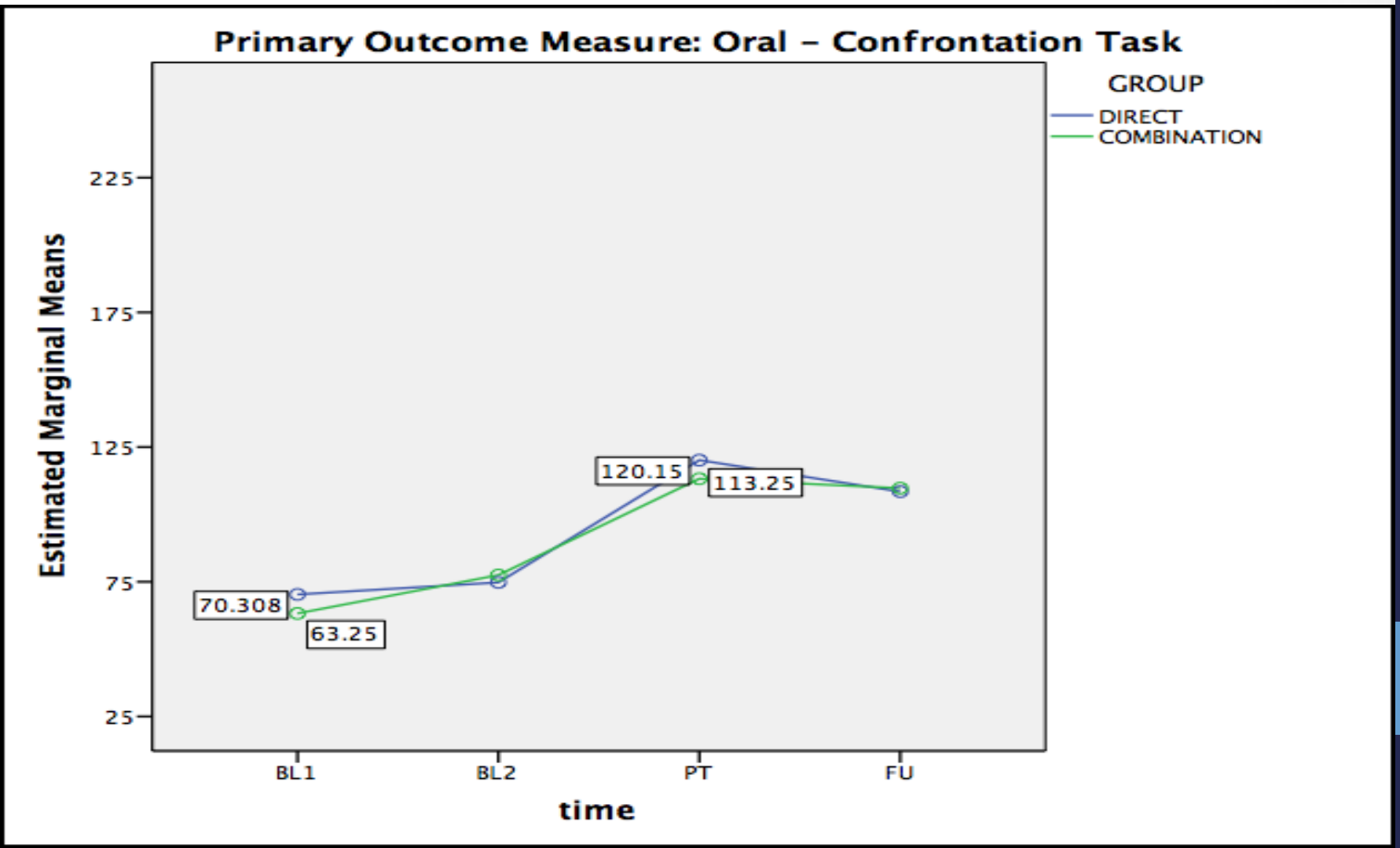
  Greenhouse – Geisser

  $F(1,30)= 0.179$, $p=0.675$ $\eta_p^2 =0.006$

η_p^2 Cohen's guidelines (1988): 0.01 = small, 0.06 = medium, 0.13 = large

Primary Outcome Measure

Oral – Confrontation naming Task (Snodgrass Pictures)



Secondary outcome measures: BNT

- **Significant main effect of time:**

  Greenhouse – Geisser

  $F(2.04,58.29)=14.58$, $p<0.001$ $\eta_p^2=0.335$

- **No significant interaction between time and approach:**

  Greenhouse – Geisser

  $F(2.01,58.29)=0.550$, $p=0.581$ $\eta_p^2=0.019$

- **No significant approach effect:**

  Greenhouse – Geisser

  $F(1,29)=0.066$, $p=0.798$ $\eta_p^2=0.002$

η_p^2 Cohen's guidelines (1988): 0.01 = small, 0.06 = medium, 0.13 = large

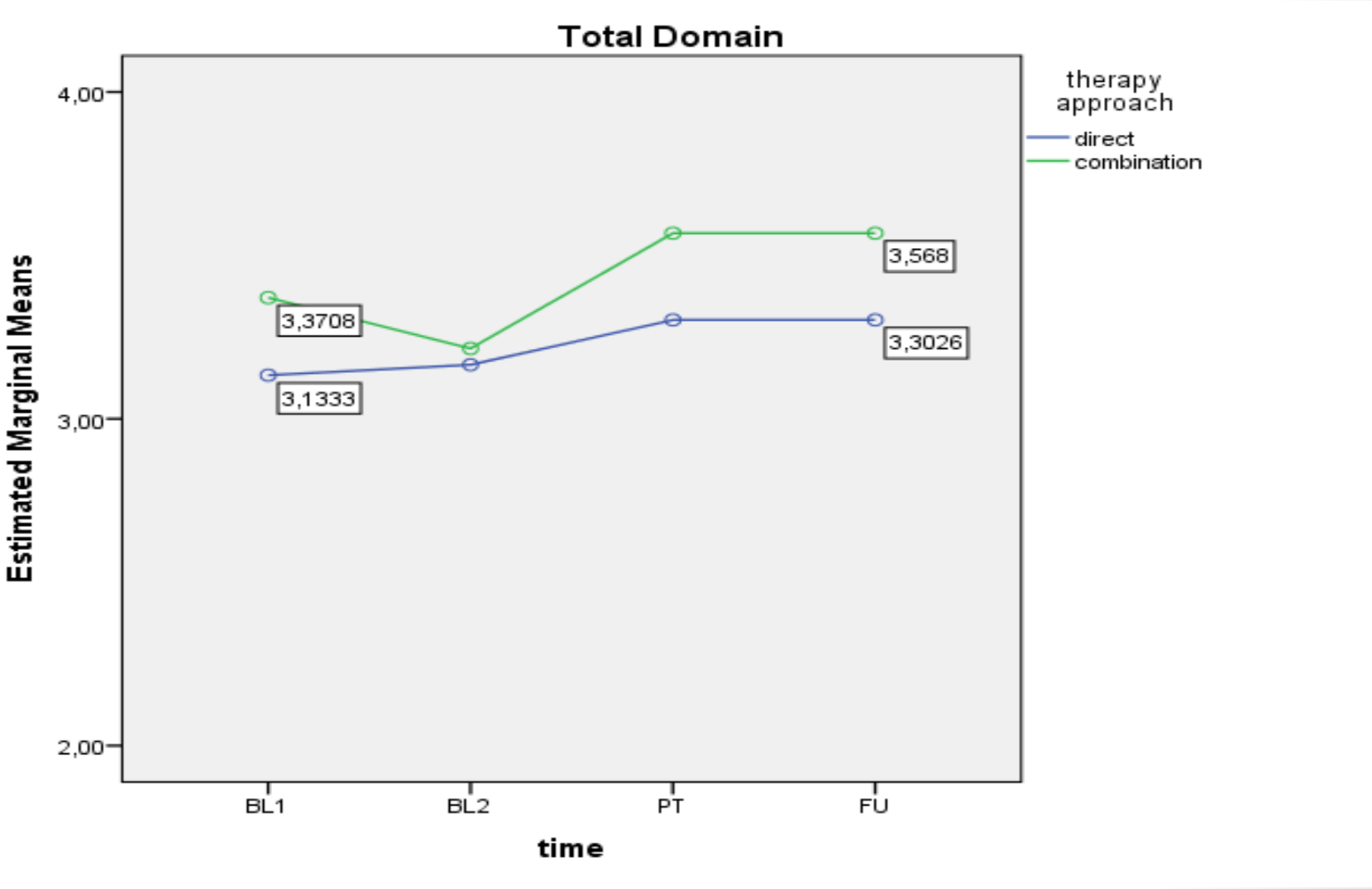
Secondary outcome measures: SAQOL-39g

- **No significant** main effect of **time** for any sub-domain
  - η_p^2 =0.039 – 0.059**.**
- **Significant main effect of time for the overall score:**

$$F(3,93)=3.452,\ p=0.020\ \eta_p^2=0.100$$

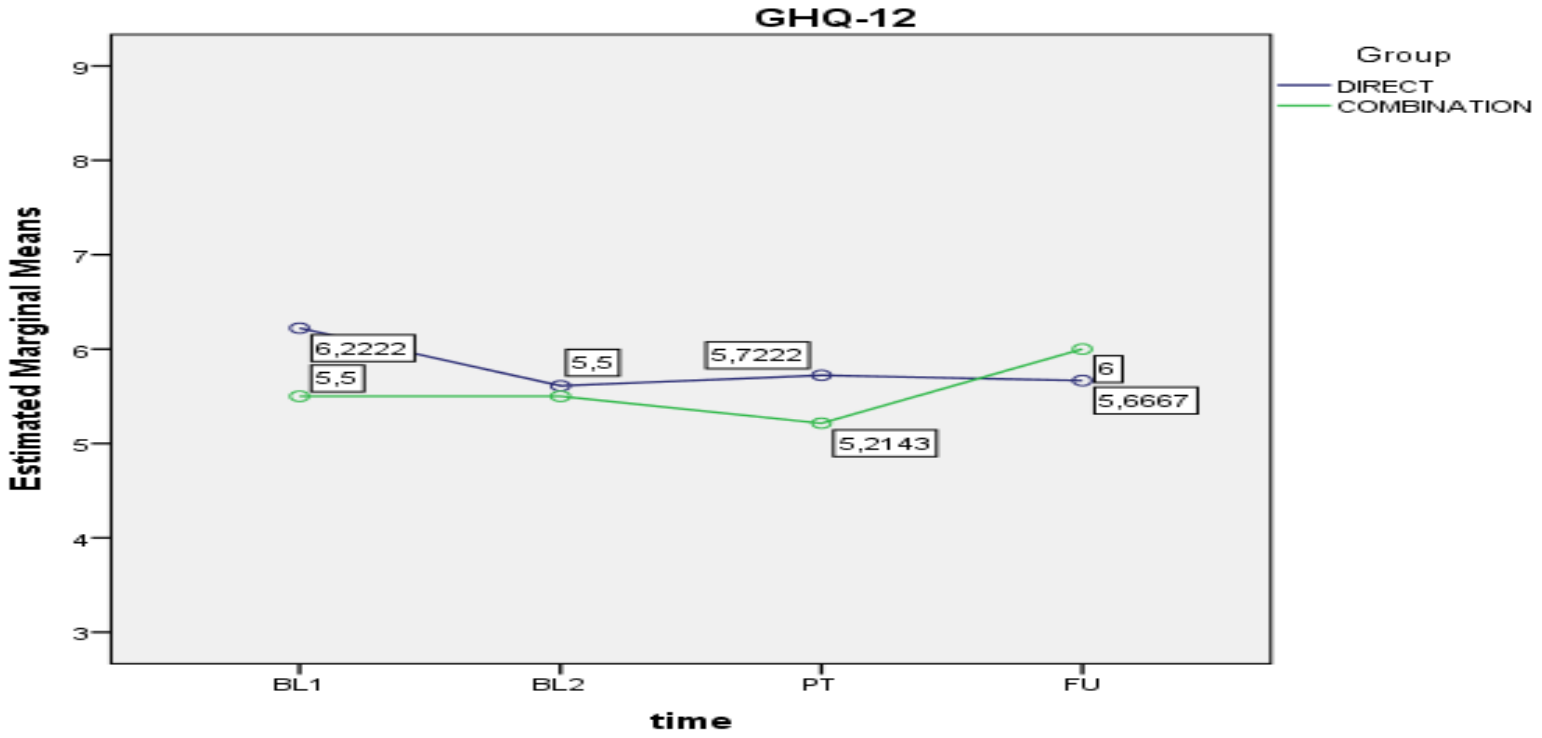
- **No significant** interaction effect between **time and approach.** For any sub-domain and overall score.
- **No significant approach effect.**

Secondary outcome measures: SAQOL-39g



Secondary outcome measures: GHQ-12

- **No significant** main effect of **time**.
- No significant interaction effect between **time and approach** were found for GHQ-12.
- **No significant approach effect.**



Conclusions so far

- First results are generally promising.
  - Significant results reported on primary OM for the effectiveness of the therapy (ESFA).
  - Significant differences in qol across time
  - No significant differences between direct and combination ESFA.

Conclusions so far

- Results of primary OM are consistent with the literature findings of SFA treatment (Boyle,2010).

- Limitations: small number of participants – issues of power.

- The question of therapy effectiveness will be more eloquently answered when not only comparisons of different therapy approaches (individual vs combination) but also among different groups (therapy vs control) are completed…

Thank you !
Questions ?

Evangelia-Antonia.Efstratiadou.1@city.ac.uk
evaef85@gmail.com