Experimental analysis of defusion exercise in ACT: The mechanism is not clear

Luis Valero-Aguayo & Maria de los Angeles López-de-Uralde-Selva

Department of Personality, Assessment and Psychological Treatment

University of Malaga, Spain

Email: *lvalero@uma.es*

Abstract

From Acceptance and Commitment Therapy (ACT) and from the Relational Frame Theory (RFT), the defusion is a process that creates a new verbal context that separates the functions of words, diminishing the emotional responses or discomfort with those words. The exercise of "milk-milk-milk" that use ACT is a typical verbal task to get that defusion. Nevertheless, it is not clear what are the mechanisms of acting in this type of verbal exercise. The influence of therapist, his/her instructions and shaping during therapy could be one of those key variables.

We present a comparative study with 4 experimental conditions, in order to test what of them produces defusion and diminishes the discomfort with words. It was used a factorial design (4x2) between the 4 groups and pre-post comparisons. They were measured different variables: descriptive valuation of words, the emotional valuation of words, and time-latency in different sentences self-referred. They had been used a set of phrases positives and negatives, and also a word self-referred that was chosen by the participant. Also, some questionaries' (AAQ, ERQ, EOSS) were applied before and after the exercises. Had participated 105 students randomized in the 4 conditions: Group 1 that made the typical defusion exercise repeating "milk-milk-milk" and the word self-referred; Group 2 received direct instructions by computer about the independence between words and emotions; Group 3 received direct instructions about anti-defusion, that is, assuring the close relationship between words and emotions; and Group 4 as control without verbal exercises.

The results did not show differences between the 4 groups, there were not statistical significance. The discomfort and emotional valuation of sentences did not decrease, not general neither self-referred. They were statistical differences in the pre-post latency, but all the groups showed the same change because of repetition effect.

There arise the question of differences with the Masuda experiments (2004, 2009, 2010), that found to decrease in discomfort of self-referred words. We think our experiment was best controlled, with four conditions including control, measurement pre-post, more number of stimuli, and applied to computer without verbal intervention of the researcher. Our study is a direct replication of Masuda experiments, getting better the experimental control, but the supposed effects of defusion did not appear.

Participants

- 105 undergraduate students
  - Group 1 = 27
  - Group 2 = 27
  - Group 3 = 26
  - Group 4 = 25
- Mean age = 24,30
- 88% female, 12% male

Instruments

- Emotional Regulation Questionnaire *(ERQ, Gross & John, 2003)*
- Acceptance and Avoidance Questionnaire *(Hayes et al., 2004)*
- I am Questionnaire *(LaRossa & Loving, 1991)*
- Experiencing of Self Scale *(Kanter, Parker & Kohlenberg, 2001)*
- Software Description.exe
- Software Emotion.exe

Design

- **4 Groups randomized**
  - Group 1 = Defusion
  - Group 2 = Direct instructions
  - Group 3 = Anti-defusion
  - Group 4 = Control
- **2 Repeated measurement (pre-post):**
  - Questionnaires (AAQ, ERQ, EOSS, I am)
  - Valuation of tacting words (Likert 0-10) 15 positives & 15 negatives words self-referred
  - Valuation of discomfort words (Likert 0-10) 15 positives & 15 negatives words self-referred
  - Response latencies for all words self-referred

Procedure

1 – Assessment with all questionnaires
2 – Assessment of tacting words self-referred
3 – Assessment of discomfort of words self-referred
4 – Treatment with verbal exercises, different for each group
5 – New assessment with all questionnaires, tacting and discomfort with all positive and negative words self-referred

Groups

Defusion
Exercise "*milk-milk-milk*"

Direct instructions
"Milk is only a words, it is not the emotion"
"Your emotion is a words, it's not the emotion"
"Emotions and words are different things"

Anti-defusion
"Milk is more than word, milk is the emotion produced"
"Your emotions are words and also produce emotions"
"Words and emotions are together, they have the same effects"
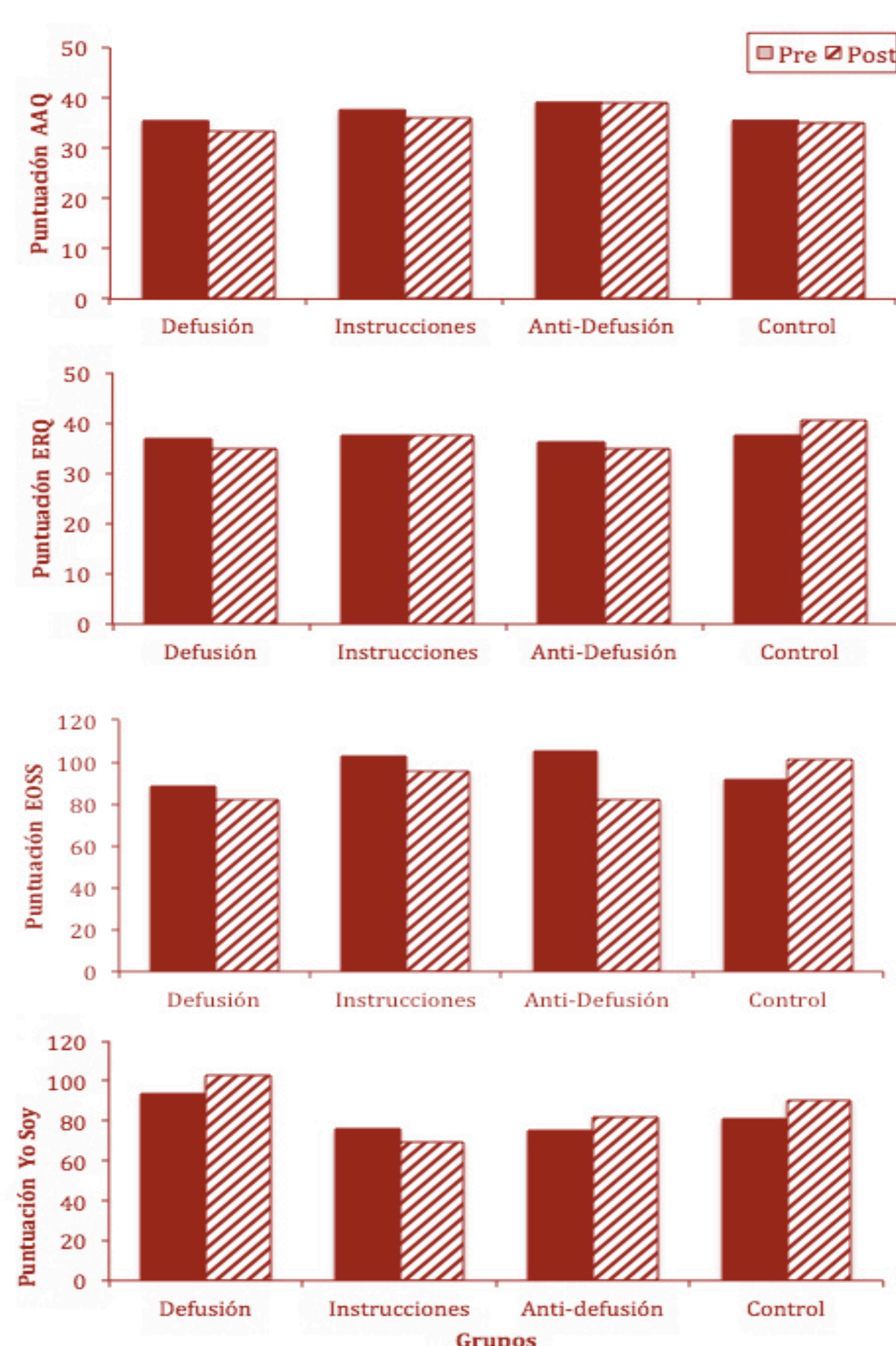
Control - No exercise

Results

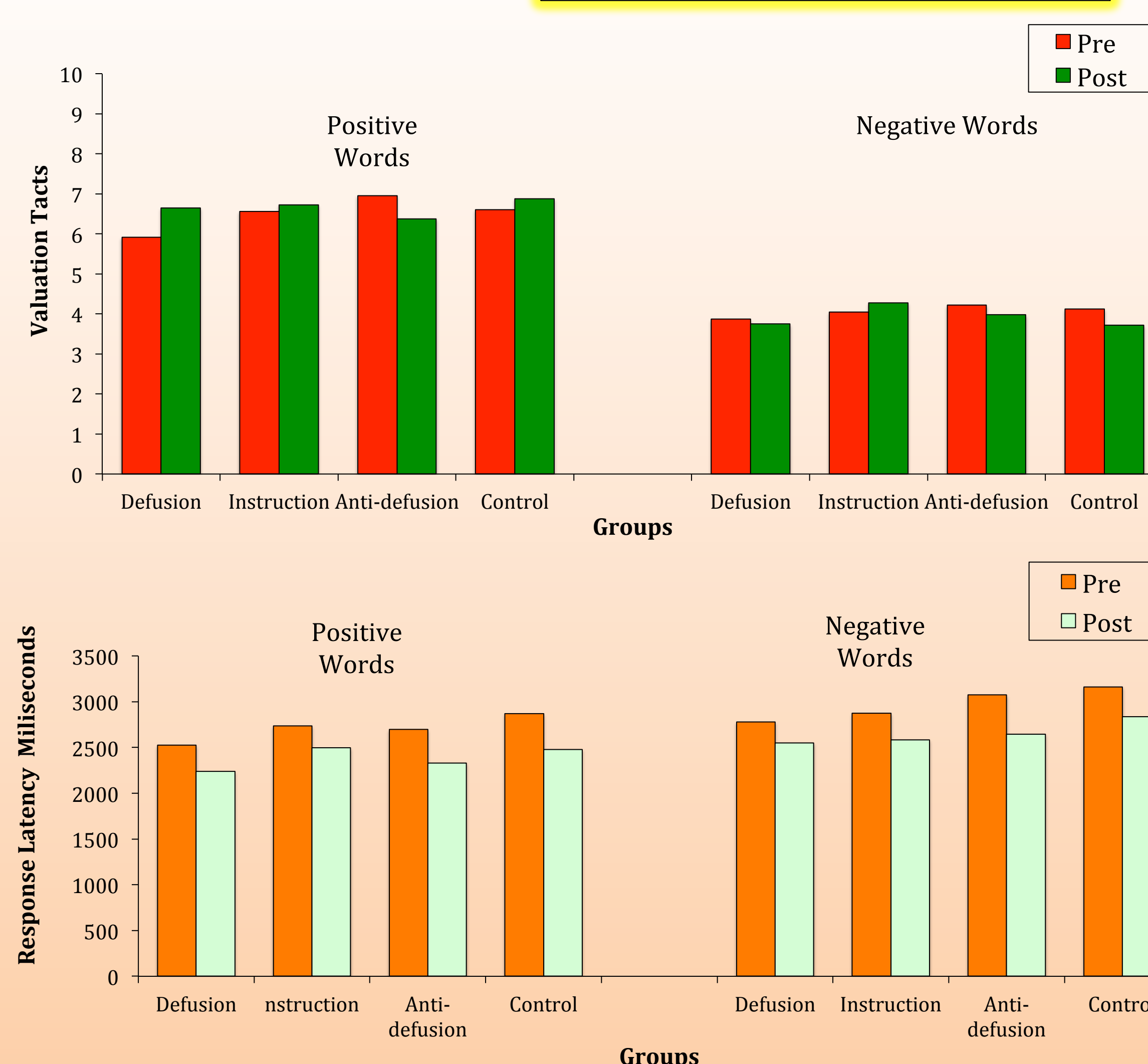Figure 1.- Meanss of the 4 groups in the questionnaires. They are not significance.

Figure 2.- Meanss of the 4 groups in the valoration of tacts words self-referred, and latency in those words. They are not significance.
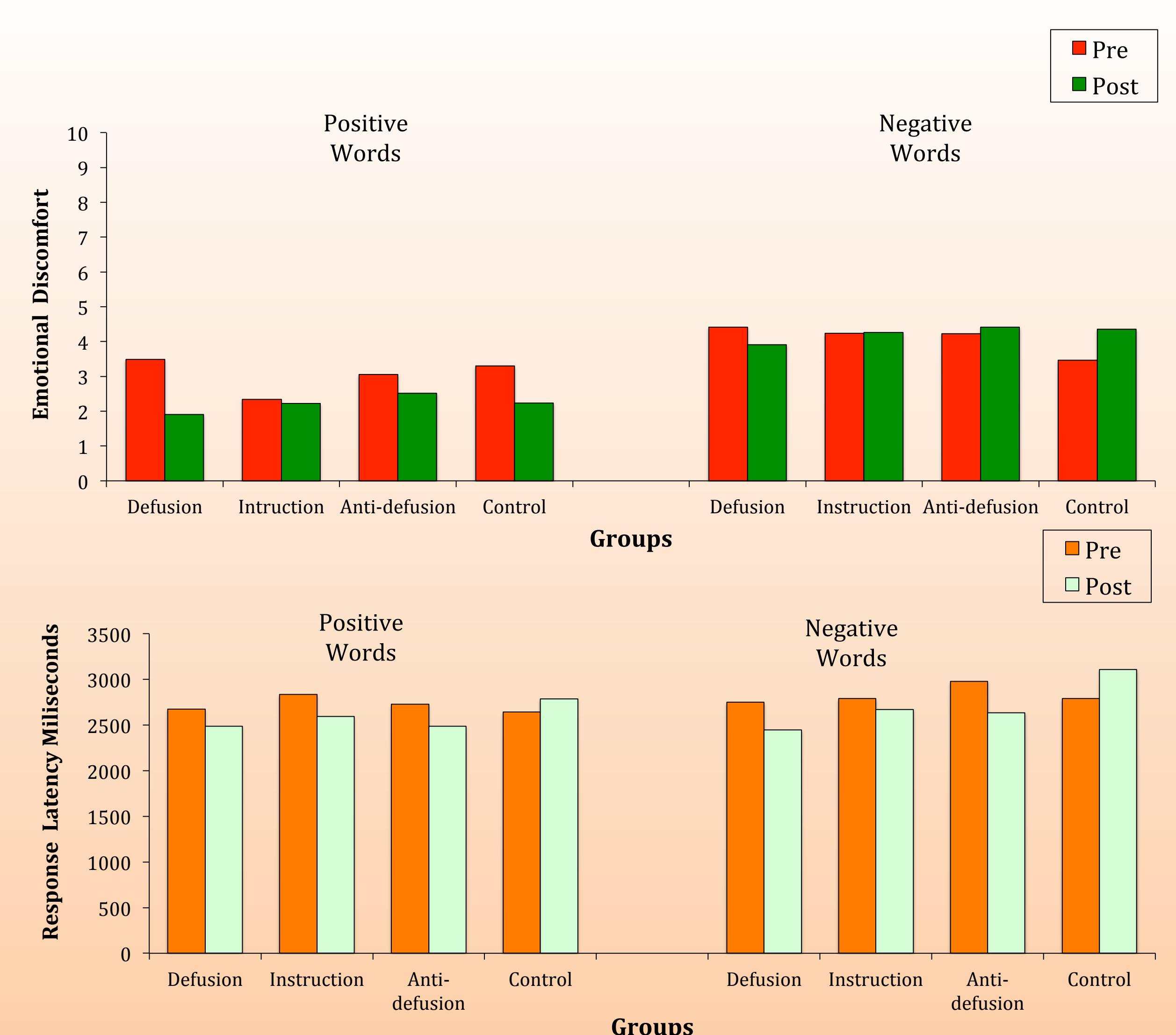

Figure 3.- Means of the 4 groups in the valoration of emotional discomfort, and latency in those words. They are not significance.

- No significance between-groups in questionnaires
- No significance between-groups in tacting words
- No significance between-groups in discomfort
- No significance between-groups in latencies
- They are significance differences in pre-post latencies, but in all groups.

- The exercise of defusion "*milk-milk-milk*" doesn't decrease discomfort, neither valoration of words, neither latency, for words self-referred.
- It doesn't reply the effect from Masuda et al. (2009) and Keogh (2008)
- This experiment control effects of instructions, therapist and placebo effects. The control pre-post showed a non genuine effect of group.
- The emotional effect of defusion is not clear.