



## INTRODUCTION

Although there has been an increase in studies regarding the efficacy of Acceptance and Commitment Therapy (ACT; Hayes, Strosahl & Wilson, 1999, 2014; Wilson & Luciano, 2001) with young clinical population, studies in school settings are rare. In addition, recent research shows the importance of addressing the "Big Ones" (most problematic self-beliefs, or self-concepts) (Gil-Luciano et al., 2019; Ruiz et al., 2016, 2018; Luciano, 2017), in that they unleash an inflexible class of behaviors that produce multiple limitations. To our knowledge, no prior studies have addressed psychological inflexibility with teenagers this way. The aim of this pioneer study was to develop an ACT-based protocol focused on the "Big Ones" and assess its impact on academic performance.

## METHOD

### SAMPLE

Sixteen adolescents, nine boys (56%) and seven girls (44%) between 14 and 17 years old. All of them were studying in a public Spanish High School, eight were in 3<sup>rd</sup> grade and eight in 4<sup>th</sup> grade. They were selected for having very poor academic performance.

### MEASURES

- School scores (0-10) as an indicator of academic performance.
- D2 test (Seisdedos, 2012): general measure of attention, processing speed and precision.
- Ruminative Response Scale, RRS (translation by Hervás, 2008) as a measure of rumination.
- Avoidance Fusion Questionnaire for Youth, AFQ-Y (Spanish translation by Valdivia et al., 2016) evaluates experiential avoidance and cognitive fusion.
- Depression, anxiety and stress scale, DASS-21 (Atúnez and Vinet, 2012) evaluates depression, stress and anxiety.

### DESIGN

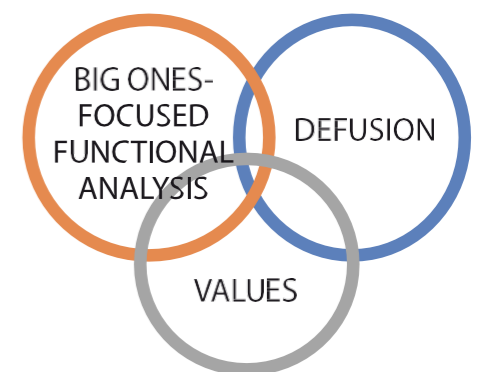
A single case design with replics was used.

### ANALYSIS

At a group level, Student's test conducted individual data were analyzed descriptively.

## INTERVENTION PROTOCOL

7 sessions (two per week) that consisted of a multiple exemplar training on discriminating private events as they emerged in several academic tasks (memory tasks, numerical series, reading comprehension, etc.), learning to frame them in hierarchy with the deictic I and promoting flexible reactions. Each exercise consisted of two parts: firstly, the participant performed the academic task alone and the therapist conducted a functional assessment of inflexible behavior and its consequences on the task; secondly, while performing the task again, the therapist helped valued behavior through defusion interactions.



## PROCEDURE

1. **Pre-intervention:** (1<sup>st</sup> and 2<sup>nd</sup> session) participants filled in the questionnaires and a functional assessment was performed.
2. **Intervention** (3<sup>rd</sup> to 9<sup>th</sup> session): the ACT-based protocol was tailored to each participant.
3. **Post-intervention:** (10<sup>th</sup> session): all measures were taken again.

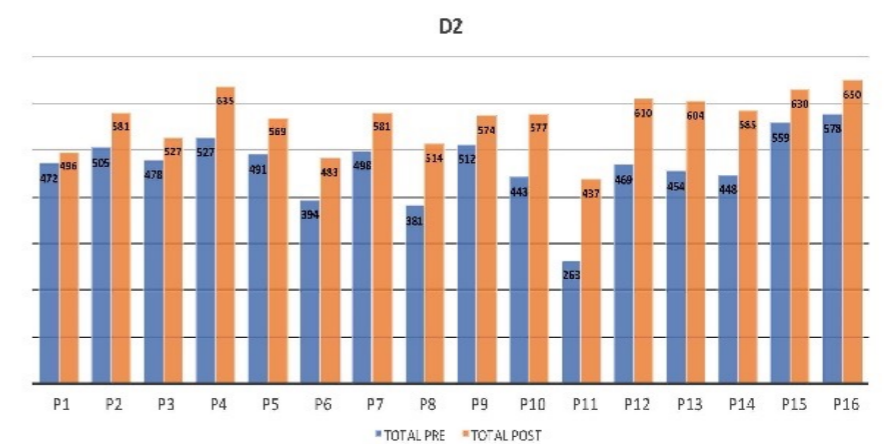
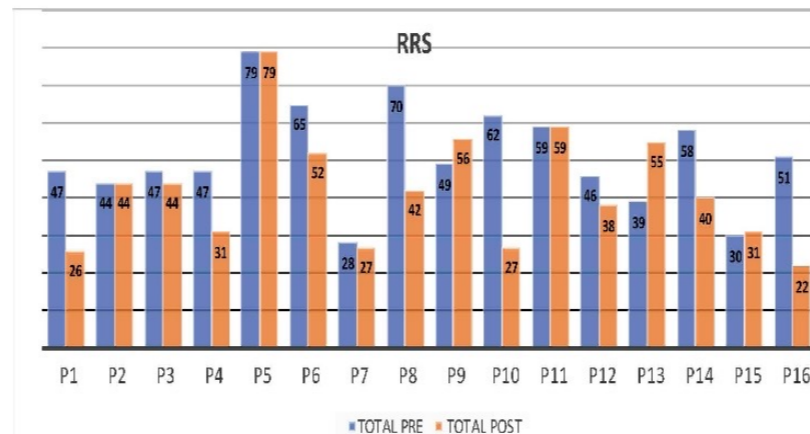
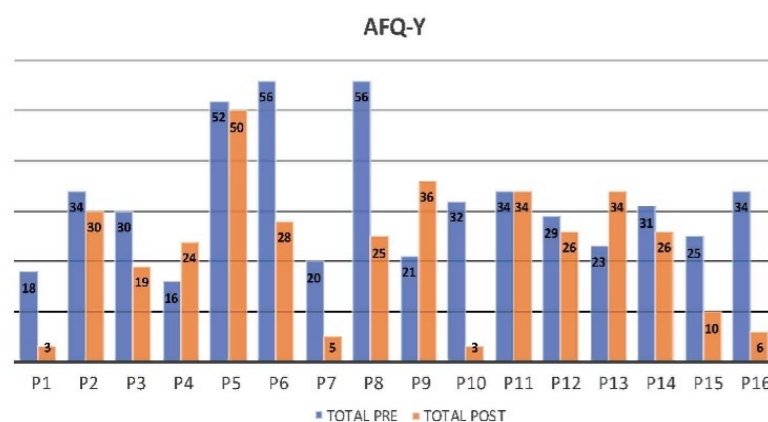
## RESULTS

GROUP LEVEL	MEASURE	Statistically significant differences PRE-POST
	AFQ-Y	↓9,500 points (p = 0,020)
	RRS	↓9,250 points (p = 0,020)
	DASS-21	No differences
	D2_TOT	↑98,813 points (p = 0,000)

INDIVIDUAL LEVEL

- **AFQ-Y:** Most participants (75%) decreased their score, with a particularly drastic reduction in P6 and P8, who had clinical scores in pre-intervention.
- **RRS:** More than a half (62,5%) reduced their scores, with P6, P8 and P10 having very high scores in the pre-treatment.
- **D2 test:** All participants improved in all pre-post rates, except P6 in Precision.
- **Academic scores:** P6, P4, P9 and P11 improved their average score from the 1<sup>st</sup> to the 2<sup>nd</sup> evaluation (pre-post).

INDIVIDUAL LEVEL



## DISCUSSION

- To our knowledge, this is the 1<sup>st</sup> study that addresses the effectiveness of a protocol aimed at promoting psychological flexibility by working with the so-called "Big Ones" in adolescents in the context of academic performance.
- The protocol has been shown to be effective in reducing psychological inflexibility (AFQ-Y) and rumination (RRS), as well as in improving attention/concentration (D2). In addition, four of the participants (P7, P9, P12 and P14, 25%) obtained better academic scores in the immediate school examinations post-intervention.
- Depression, anxiety and stress scores (DASS-21 test) did not change through out the intervention, while there were improvements in the rest of the measures. Discomfort was therefore present, but the participants did not act on it (through inflexible reactions). This seems to indicate that a flexible repertoire has been promoted in the participants, and it is consistent with research findings on the impact of ACT protocols on discomfort in the short term.
- Future studies should analyze the impact of a more systematic, and longer, protocol on academic scores. Although most participants improved psychological flexibility, only a few improved their academic scores. Changes might be produced with more training.
- Future studies should analyze CRB1 (examples of the inflexible repertoire) and CRB2 (examples of the flexible repertoire) in session, which would allow to precisely analyze to what extent flexible repertoire is being developed throughout the training.
- Future studies should expand the sample and have control groups (i.e. traditional study techniques), which would improve the methodological richness.

## REFERENCES

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