

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 or hierarchical (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. The Big Ones are overarching self-contents characterized by a high degree of abstraction and a high magnitude of aversive functions linked to them, and contain other, more concrete and contextualized self-contents that get organized in a hierarchical way. Based on transformation of functions in hierarchical framing, recent studies have targeted the Big Ones to alter their discriminative functions for psychological inflexibility and an earlier disrupt of inflexible chain of reactions (Gil-Luciano et al., in press; Ruiz et al., 2016, 2018). To our knowledge, no prior studies have addressed psychological inflexibility with adolescents this way. The aim of this pioneer study was to develop an ACT-based protocol on the academic performance and promoting psychological flexibility through the central intervention tools (1), functional analysis assessing and focusing on the impact of the Big Ones, (2) defusion exercises, and (3) values amplification.

METHOD

SAMPLE
Eight adolescents, five boys (75%) and two girls (25%) between 14 and 17 years old. All of them were studying in a public Spanish High School, five were in 3 rd grade and three in 4 th grade. They were selected for having very poor academic performance.

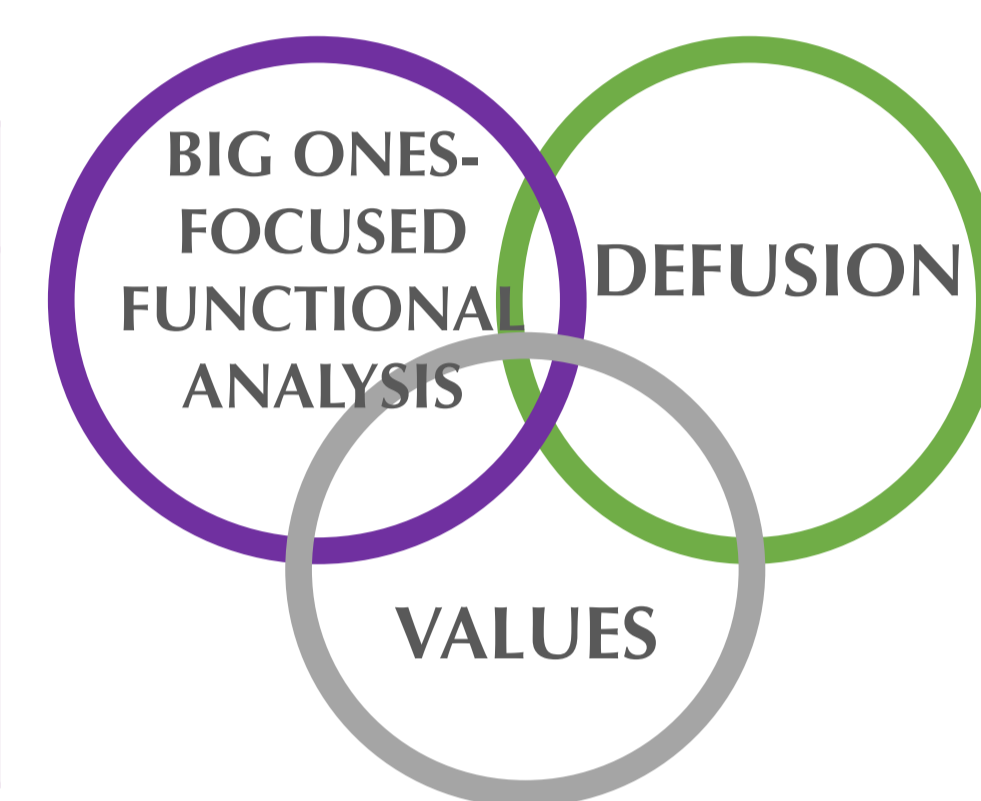
MEASURES
<ul style="list-style-type: none"> • School scores (0-10) as an indicator of academic performance. • D2 Test of Attention (Seisdedos, 2012). General measure of attention, processing speed and precision. • Ruminative Response Scale, RRS (Spanish translation by Hervás, 2008) as an indicator of rumination. • Avoidance Fusion Questionnaire for Youth, AFQ-Y (Spanish translation by Valdivia et al., 2016) as a indicator of psychological inflexibility. • Depression, Anxiety and Stress Scale, DASS-21 (Antúnez and Vinet, 2012) evaluates depression, stress and anxiety.

DESIGN
A single case design with replics was used.

ANALYSIS
At a group level, Student's-t test were conducted. Individual data were analyzed descriptively.

INTERVENTION PROTOCOL

7 sessions (two per week) that consisted of 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 shaped valued behavior through defusion interactions.



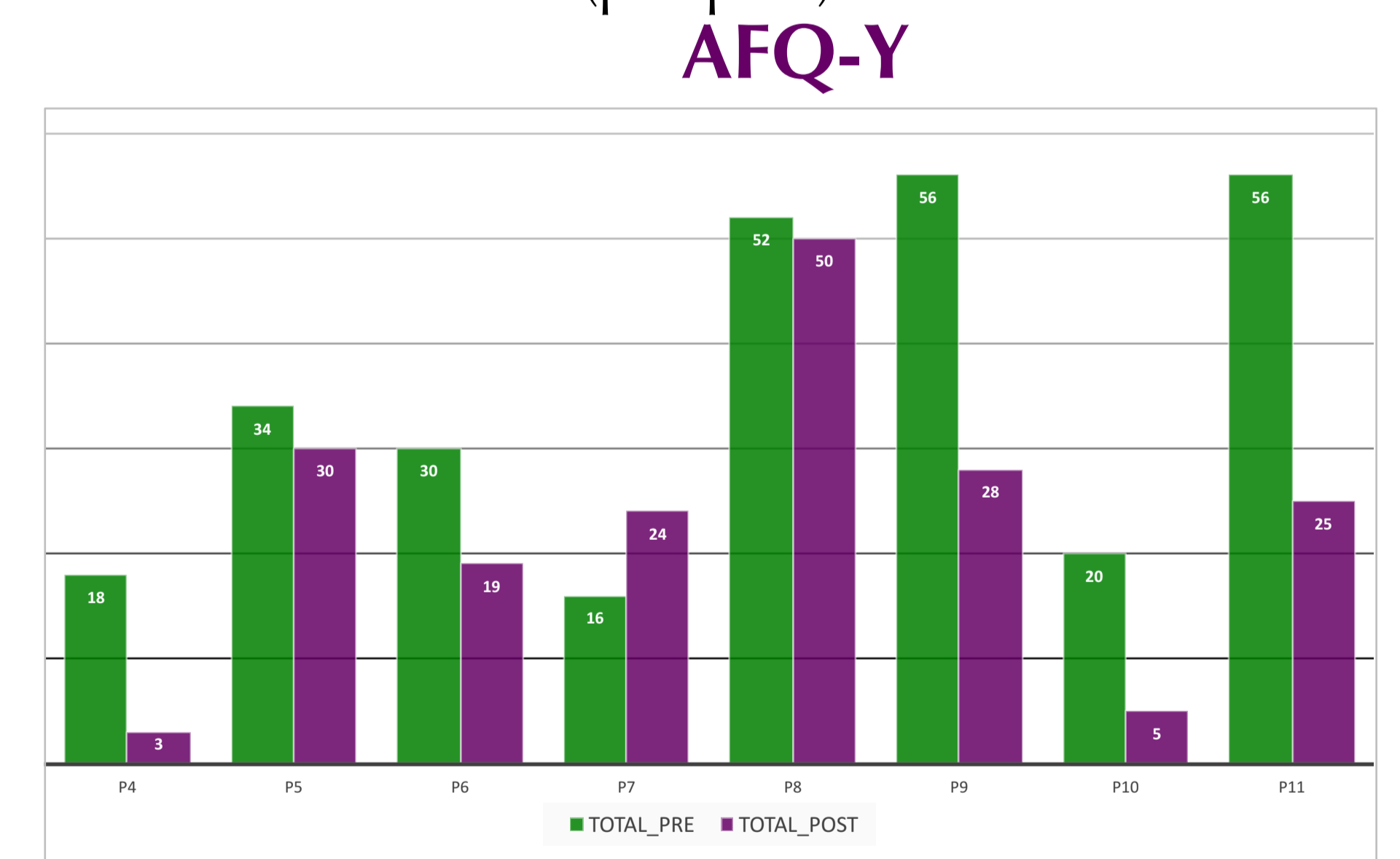
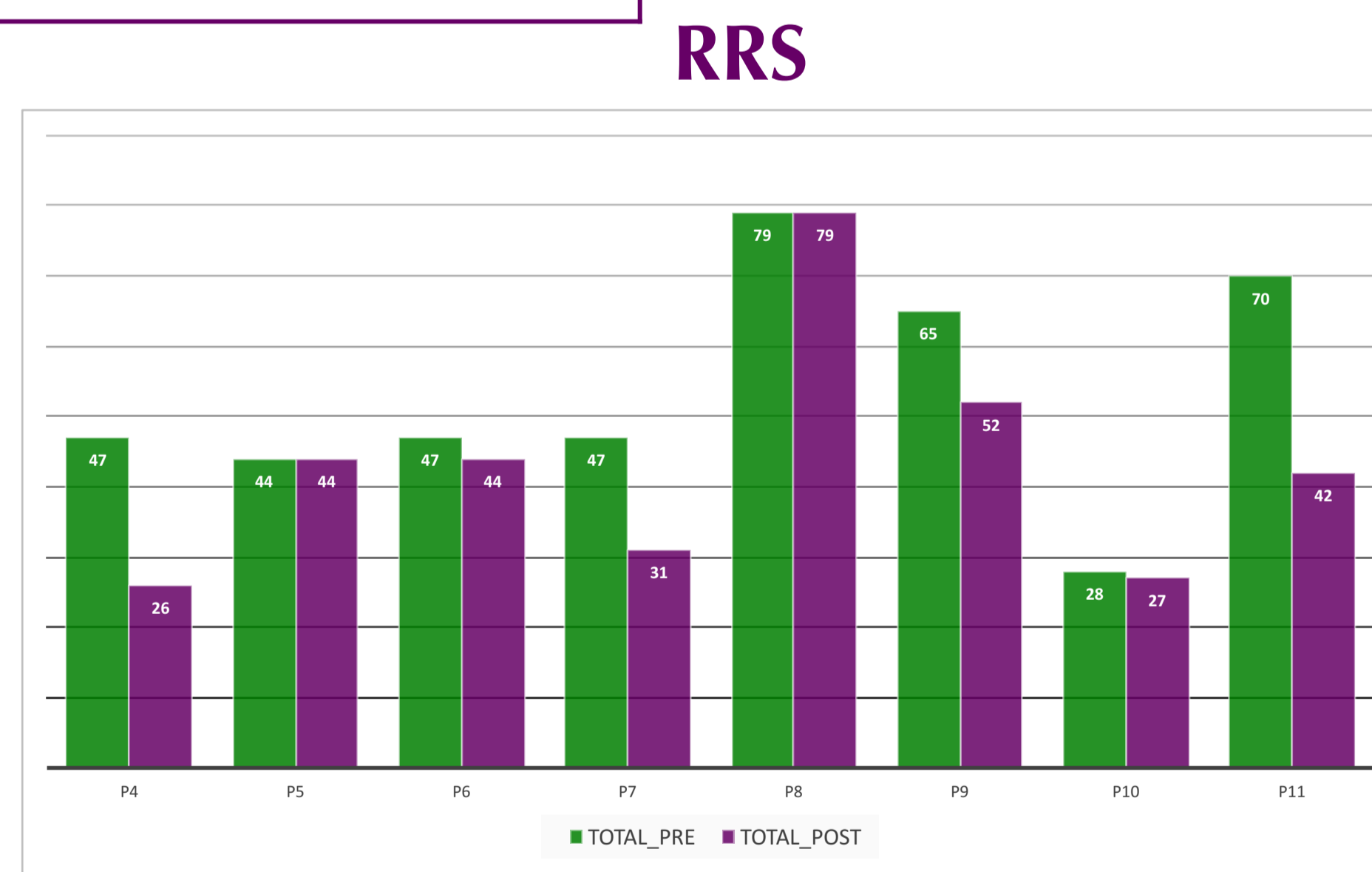
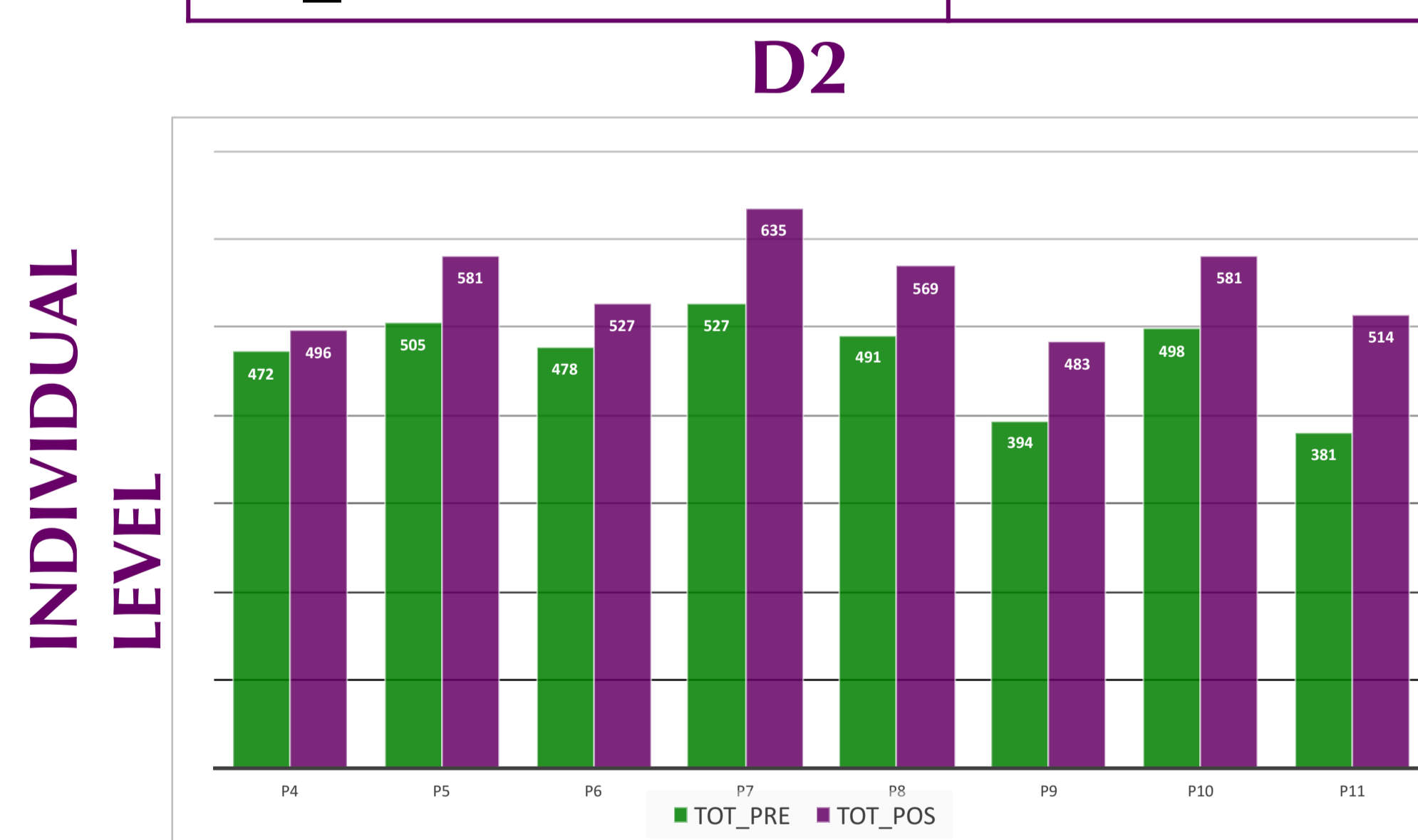
PROCEDURE

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

RESULTS

GROUP LEVEL	MEASURE	Statistically significant differences PRE-POST
	AFQ-Y	↓ 12,26 points (p = 0,03)
	RRS	↓ 10,250 points (p = 0,03)
	DASS-21	No differences
	D2_TOT	↑ 80 points (p = 0,00)

- **AFQ-Y:** All subjects (except P7) decreased their score, with a particularly drastic reduction in P9 and P11, who had clinical scores in pre-intervention.
- **RRS:** Most subjects (except P8) reduced their scores, with P9 and P11 having very high scores, as well as P4 and P7, also with high scores in the pre-treatment.
- **D2 test:** All subjects improved in all pre-post rates, except P6 in Precision.
- **Academic scores:** P7 and P9 improved their average score from the 1st to the 2nd school examinations (pre-post).



DISCUSSION

- To our knowledge, this is the 1st study that addresses the effectiveness of a protocol aimed at promoting psychological flexibility by addressing the so-called Big Ones in adolescents in the 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, two of the participants (P7 and P9, 25%) obtained better academic scores in the immediate school examinations post-intervention.
- Depression, anxiety and stress scores (DASS-21 test) did not change throughout 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 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

- Gil-Luciano, B., Calderón-Hurtado, T., Tovar, D., Sebastián, B. & Ruiz, F. J. (2019). How are triggers for repetitive negative thinking organized?: A relational frame analysis. DOI: 10.7334/psicothema2018.133
- Luciano, C. (2017). The self and responding to the own's behavior. Implications of coherence and hierarchical framing. *IJP&PT*, 17(3), 267-275.
- Ruiz, F. J., Hernández, D. R., Falcón, J. C. S., & Luciano, C. (2016). Effect of a one-session ACT protocol in disrupting repetitive negative thinking: A randomized multiple-baseline design. *IJP&PT*, 16(3), 213-233.
- Törneke, N., Luciano, C., Barnes-Holmes, Y., & Bond, F. W. (2016). Relational frame theory and three core strategies in understanding and treating human suffering. In R. D. Zettle, S. C. Hayes, D. Barnes-Holmes, & A. Biglan (Eds.). *The Wiley handbook of contextual behavioral science* (pp. 254-272). Oxford, UK: Wiley-Blackwell.