A study into dog-assisted therapy in prisons

2016-2017: summary of results

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1. General information and study design

Introduction

Animal-assisted therapy (AAT) is becoming more and more widely accepted in society. However, there is still a lack of scientific studies into its overall effectiveness and how it compares to other interventions. This study therefore set out to address two issues in regard to an AAT rehabilitation programme for inmates at Spanish prisons:

- To check whether AAT outcomes are comparable to those of other types of interventions in rehabilitation programs in prisons.

- To identify benefits of AAT for prison inmates.

Population

The study involved 212 inmates at 10 prisons around Spain, randomly divided into four groups:

- Group TP - therapy (AAT with dogs plus psychological intervention): n = 51

- Group P - AAT with dogs only: n = 56

- Group T - psychological intervention only: n = 49

- Group C - control (standard rehabilitation intervention for prison inmates): n = 56

Intervention

- A programme of 16 sessions of 1h per week over a period of 4 months.

- Groups P & T received a total of 16 hours of intervention.

- Group TP received a total of 32 hours of intervention.

Assessment

- Subjects were assessed at three time points:

  - Before the beginning of the programme (T0).

  - At the end of the programme (TF).

  - Three months after the end of the programme (TS).

- The following measurements were taken in each of the three assessments:

  - Rosenverg Self-esteem scale (Vázquez-Morejón et al., 2004)

  - Plutchik Impulsivity scale (Páez et al., 1996)

  - Hamilton Anxiety rating scale (Lobo et al., 2002):

    - Psychological.

    - Somatic.

- Behavioural assessment:

This measure includes the following parameters:

- Emotional stability.

- Adaptation to the environment.

- Interpersonal relationships.

- Participation in activities.

Characteristics of the sample

Several characteristics of the initial sample deserve to be highlighted:

- At the beginning of the study there were no statistically significant differences between the four intervention groups in terms of psychological assessment and behavioural parameters, so the initial samples in all four groups can be considered as comparable.

- The inmates in the control group did take part in activities that form part of the standard rehabilitation process in Spanish prisons.

- One limitation of the study is that the variability between individuals in the various psychological measurements was very high, which makes it harder to obtain significant results in certain areas, e.g. anxiety and impulsivity.

- Moreover, it must be remembered that the impulsivity and self-esteem levels in the initial sample were within normal values, and were not considered as pathological or as cause for concern. The fact that the initial levels were considered as normal means that major changes were not expected in these two areas.

  - There were no serious self-esteem issues in the initial sample (the average score was 30.39/40 on the Rosenberg scale, which indicates high self-esteem) and it is hard to modify a variable that is not seriously affected.

  - Nor were there serious impulsivity problems in the initial sample (the average score on the Plutchik scale was 18.66, which is below the threshold of 20 for considering a score as high). This variable was therefore not problematic in the initial population, which means that it is hard to modify with therapy.

- It is important to remember that variables like impulsivity could not be accurately reported by prison inmantes, because of their potential impact on parole decisions.

- However, high initial levels of anxiety were found in the study population. This means that in this sample anxiety was a variable open to improvement.

# 2. Outcomes after intervention

Outline of results

- No significant differences between groups (TP, P, T and C) were found before and after the intervention for self-esteem, impulsivity, anxiety and behaviour assessment (Kruskal Wallis test and Dunn test for multiple comparisons with $p < 0.05$). It can be concluded that the AAT program produced similar effects to the other interventions. It is important to highlight that all participants, including the control group, benefit from a standard program of psychological rehabilitation.

Behavioural assessment

- Significant behavioural improvements were found (Wilcoxon test; $p < 0.05$) in all 4 groups (TP, P, T & C) at the end of the study (TS) . See Fig. 1.

Figure 1. **Behavioural assessment scores**
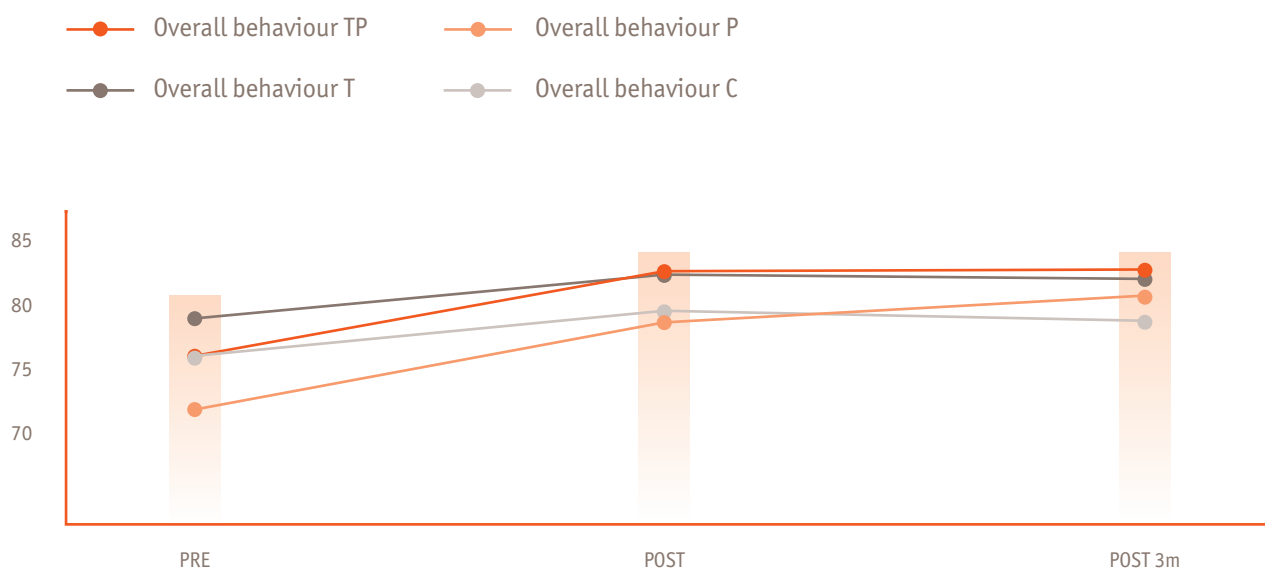
- In general, a comparison of behavioural improvements across the various groups (TP, P, T & C) just after the intervention (TF) and 3 months later (TS) shows NO significant inter-group differences (Kruskal-Wallis test & Dunn test for multiple comparisons: $p < 0.05$), so there do not seem to be any differences in behaviour modification from one group to another and all the types of intervention carried out can be considered as comparably effective. See Fig. 2.
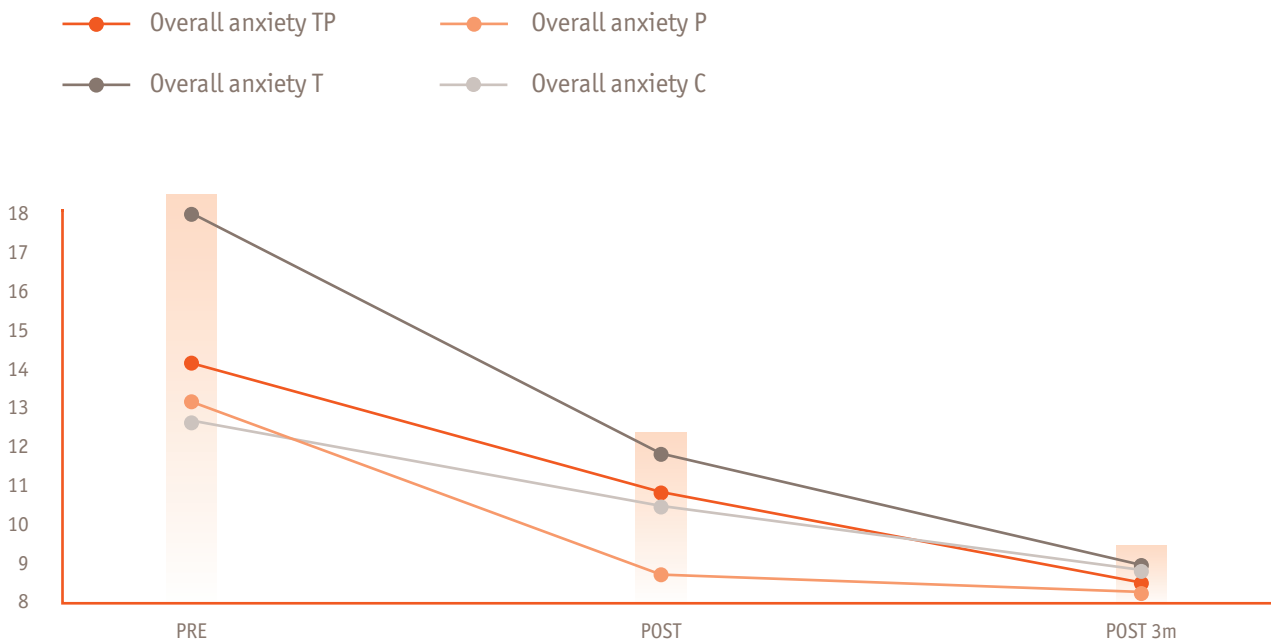
Figure 2. Comparison of overall behavioural improvement in all 4 study groups at 2 different times: just after the intervention (TF) and 3 months later (TS)

TF Pre/post behavioural diff. (total)

**TF** Pre/post (3m) behavioural diff. (total)
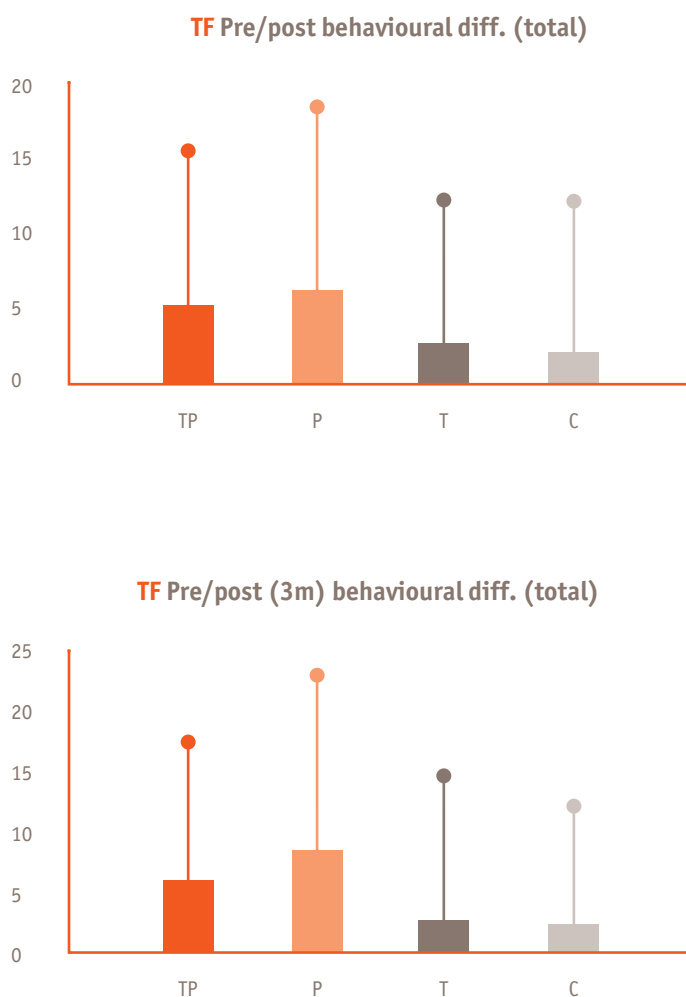
Anxiety

- In groups TP, P and T significant drops in anxiety were observed at the end of the 4-month intervention programme (TF) (24%, 36% and 33% respectively) and 3 months later (TS) all groups (TP, P, T and C) showed significant improvements in overall anxiety levels (Wilcoxon test: $p < 0.05$). All four groups showed a reduction in anxiety levels throughout the program . See Fig. 3.

Figure 3. Assessment of anxiety

Legend:
- Overall anxiety TP
- Overall anxiety P
- Overall anxiety T
- Overall anxiety C

- In general, a comparison of reductions in anxiety levels (total, psychological and somatic) across the various groups (TP, P, T and C) just after the intervention (TF) and 3 months later (TS) shows NO significant inter-group differences (Kruskal-Wallis test and Dunn test for multiple comparisons: p<0.05). All four interventions could be considered as comparably effective in improving anxiety levels. See Fig. 4.

Figure 4. Comparison of reductions in anxiety in all 4 study groups at 2 different times: just after the intervention (TF) and 3 months later (TS)

TF Pre/post anxiety level diff. (total)

TF Pre/post (3m) anxiety level diff. (total)
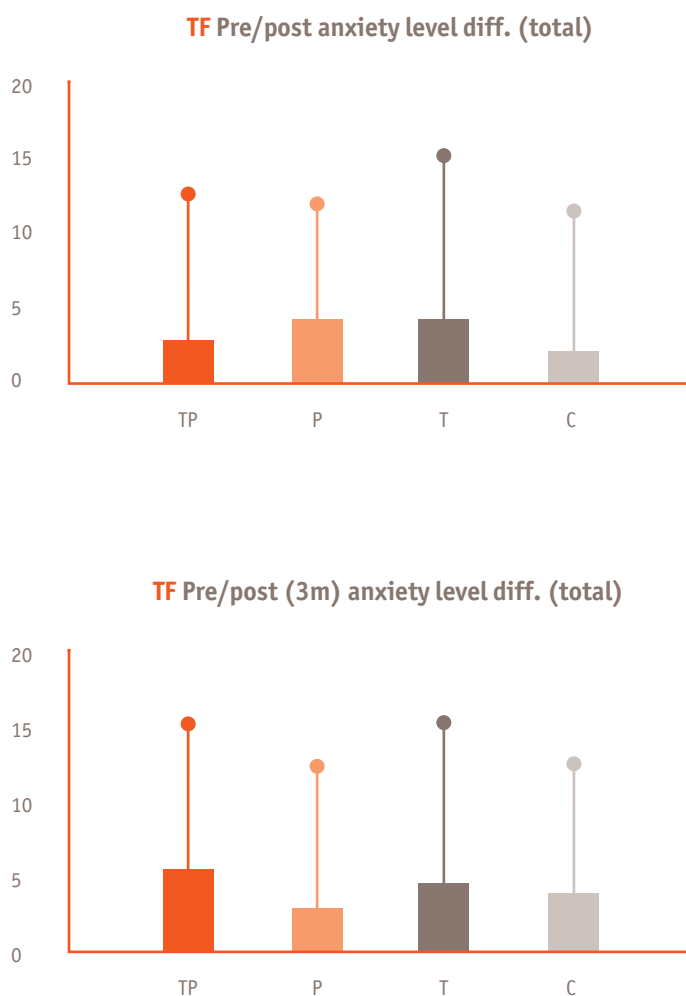
3. Concluding remarks

- The AAT program produced comparable results to the other interventions.

- Future studies should consider alternative methodologies to self-reported scales to assess parameters like impulsivity.

3. References

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