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How Important Is the Animal in Animal-Assisted Therapy?

New study finds therapy dogs are effective even without their trainers.

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Hundreds of studies have reported that [therapy](#) animals cheer up lonely nursing home residents, provide stress relief for college students during exam week, and reduce pain in hospitalized children. But in a [2012 article](#) in the journal *Anthrozoos*, the psychologist Lori Marino asked: “how important is the animal in [animal-assisted therapy](#)?” This is an interesting question. Dr. Marino points out that these interventions always involve important factors in addition to interacting with an animal. For instance, the therapy dogs at the assisted living facility where my parents resided were always accompanied by compassionate handlers who chatted with the elderly residents. Thus, it is possible that any beneficial effects of these therapy dog visitations were actually due to conversations with the sympathetic handlers rather than contact with the dogs.

Until now, researchers have not separated the impact of the animals from the effects of interacting with their attentive handlers. Thus I was delighted to read [a recent paper in the Journal of Clinical Child and Adolescent Psychology](#) by Yale University investigators that addressed the “sympathetic handler” problem. Their results are encouraging. And, equally important, the study raises the bar for animal-assisted therapy research.

The Therapy Dog Versus Soft Cloth Experiment

The lead author of the paper was Molly Crossman, a graduate student in the [Yale Canine Cognition Center](#) who has published several important papers on human-animal interactions. (See [Stress Relief in Seven Minutes, Doggie Style](#) and [Why Do People Think Animals Make Good Therapists?](#)) The researchers investigated whether interacting with a therapy dog would increase the wellbeing of [stressed-out](#) children even if a human handler did not facilitate the interactions.

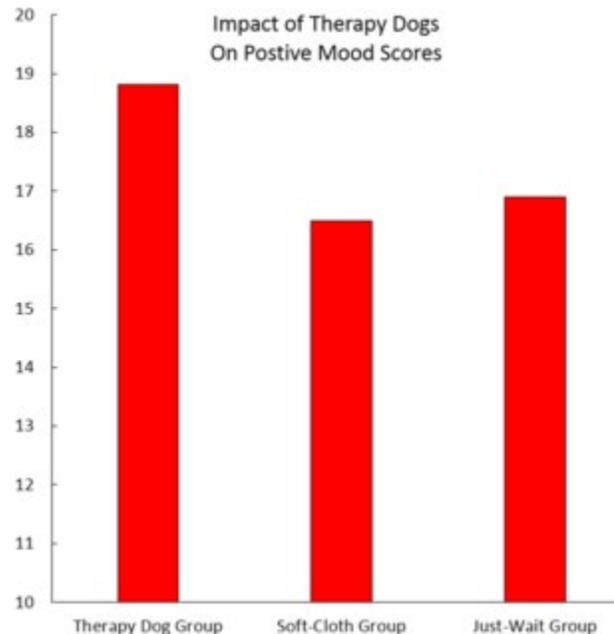
Seventy-eight children between 10 and 13 years old were assigned to one of three groups – a therapy dog group, a “tactile stimulation” group, and a no-treatment control group. First, all the children completed questionnaires to measure their mood (“positive affect” and “negative affect”), their levels of anxiety, their [attachment](#) to companion animals, and their experiences with dogs. The children also provided saliva samples to assess their levels of cortisol, a stress [hormone](#). Each kid was then put in a five-minute situation that psychologists use to induce moderate levels of stress in children. They had to stand in front of a microphone and tell a story and perform mental arithmetic in presence of two adults they did not know.

Immediately after the stress test, the children were given 15 minutes to de-stress in a small room. Here is where the groups differed. The children in the dog treatment group engaged in unstructured free-play with a certified therapy dog for 15 minutes. While an experimenter was in the room with the child and the dog, they did not interact with the kids other than monitoring their interactions with the dogs. The children in the no-treatment control group simply waited for 15 minutes in the room in the presence of an experimenter who did not interact with them. The researchers also wanted to see if playing and petting the dog was any better than simply touching a comforting object. Thus they added a “tactile-stimulation” control group. These kids were given a piece of soft cloth, essentially a security blanket, to hold onto for 15 minutes while they

waited in the room with the experimenter. Saliva samples were taken every five minutes during these sessions. Finally, at the end of the experiment, the children retook the mood and anxiety scales.

The Results

- The good news is that the animal interventions worked, especially when it came to raising the moods of the children (their levels of energy, enthusiasm, and alertness). The group who interacted with the dogs after their stress test had higher positive mood scores than children in either the just-waiting group or the soft-cloth group
- Unexpectedly, however, in reducing anxiety, holding the soft cloth was about as effective as playing with the dogs. And both the dog and the soft cloth interventions were more effective than simply waiting in the room with nothing to do.
- The results of the saliva tests, on the other hand, were different. The researchers found that neither interacting with the dogs nor holding a cloth was any more effective than simply waiting in the room in reducing stress hormone levels.
- Finally, the children who had dogs for [pets](#) and who were highly attached to pets benefited the most from interacting with a therapy dog.



Why This Study Is Important

This research is important for several reasons. First, it is the only study I know of which has demonstrated that petting and playing with a therapy dog can reduce human distress even when the interactions are not facilitated by a sympathetic handler.

The second reason is methodological. Last year, over 1,200 scholarly journal articles and book chapters were published on animal-assisted therapies. Unfortunately, as many researchers have noted, most studies of the effectiveness of these interventions are flawed or even worthless. A research team from Australia, for example, recently evaluated the quality of 13 studies published in the last 10 years on the impact of therapy dogs on children with [autism](#) ([here](#)). The authors reported that, with an average of only nine subjects, these studies did not have enough participants to produce reliable results. In addition, only one of the studies included a no-treatment control group. Indeed, a headline in the *Washington Post*, accurately summed up the state of research on animal-assisted interventions -- [Therapy Animals Are Everywhere: Proof That They Help Is Not](#).

The Yale study raised the bar for research on the effectiveness of therapy animals in several ways. First, the experiment included lots of subjects. With nearly 80 participants, the researchers could be 95% certain that they could detect real effects of the treatment conditions. Further, most animal intervention studies do not adequately control for the effects of confounding variables. These include novelty, natural improvements in wellbeing over time, and the presence of a handler. The Yale researchers, in contrast, included the “security blanket” control for tactile stimulation as well as the no-treatment control. And, of course, the kids were randomly assigned to the treatment and control groups.

Finally, in their published article, the investigators did not exaggerate their findings. It is surprisingly common for researchers to “spin” their results in journal articles by downplaying inconvenient findings or not reporting negative results. Sometimes treatment effects are hyped up which are technically “statistically significant” yet so small as to be meaningless in the real world. The Yale team, on the other hand, accurately reported and discussed all their results. These included the fact that holding a cloth was as effective as playing with a therapy dog in reducing anxiety and that neither interacting with the dog or holding the cloth reduced stress hormone levels.

New Directions in Therapy Animal Research?

As is often the case, this study raises interesting questions. For example, are some therapy dogs better than others at reducing anxiety and stress in children, and if so, why? And are some forms of interactions particularly effective, for instance, playing a game with a dog versus petting it? I particularly intrigued that holding onto a soft piece of cloth was as effective as a therapy dog in reducing anxiety in kids. Is it possible that a cuddly security blanket would also do the trick for [anxious](#) plane passengers who now need to have their pets classified as emotional support animal in order to travel by air?

Finally, I recently received an email from a high school student who wanted to know if robotic pets might have advantages over therapy animals for providing comfort to astronauts during long-distance space travel. It turns out that Molly Crossman and her colleagues also conducted an experiment that addressed this question ([here](#)). They reported that interacting with a robot that resembles a baby seal also improved the moods of children after they took the stress test. But, as with the cloth control group in the therapy dog study, the robotic seal did not have much impact on the kids’ anxiety or stress hormone levels. But I would like to see Paro and a dog square off in a head-to-head contest to see who is the best therapy animal.

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