



The Center for the Interaction of Animals and Society (CIAS)

University of Pennsylvania School of Veterinary Medicine

Can Animals Help Humans Heal? Animal-Assisted Interventions in Adolescent Mental Health

Program and Summaries

**Sunday, March 28th, 2004
Jon M. Huntsman Hall
University of Pennsylvania
Philadelphia, PA**

**This conference has been made possible by a generous grant from
The Annenberg Foundation Trust at Sunnylands.**

Conducting an AAT program for children and adolescents in special education in public schools: Reality and expectancy

Aaron H. Katcher, M.D. & Sue P. Teumer, M.A.
Our Farm, Taylor, TX

Previous research at a skill card-based experiential program conducted with a collection of small animals had positive effects on the behavior of children and adolescents with severe ADHD, Conduct Disorder, and Oppositional Defiant Disorder. The main quantitative measures used in the controlled clinical trial of the method were the Achenbach TRI and CBCL. In addition, we measured the frequency of restraints within and without the program, attendance, and skill card achievement. The control treatment was an “outward bound” type course. We observed an immediate improvement in behavior within the AAT program and, although the children were frequently restrained in the institution, there were no restraints in the AAT program. Attendance was better than in the outward bound program, and at the end of six months the behavior of the AAT program children in their regular school rooms was significantly improved compared to the outward bound students as measured by the Achenbach total problem score and externalizing score. Changes were large and highly significant. Subsequent work by Regina Schon established the positive effects were seen with a wider variety of students than the ones with externalizing disorders studied in the clinical trial.

The Our Farm program occupies about 12 acres of a working cattle farm. It includes an education building housing an extensive collection of small animals, a teaching barn for working with larger farm animals in inclement weather, and stalls for the farm animals: a miniature donkey, several goats, a flock of Cotswold sheep, a llama, and an alpaca. In addition, there is a pot-bellied pig and two full-sized pigs that were trained to work in a motion picture film. There are nature trails, an extensive raised bed garden, and two ponds.

The program serves two of the surrounding school districts and the clients are children and adolescents who are in special education or are judged to be “at risk.” Over 90% of the children are from special education classes with diagnoses including ADHD, LD, SED, autism, and other developmental disorders. Most children carry multiple diagnoses. Children arrive at the school by bus accompanied by their teachers and aides. The children are seen for one two-hour sessions per week during the school year. The teachers and aides are trained and encouraged to participate in the program under the guidance of the program’s lead teacher. The unit of learning for the student is the skill card: a collection of skills in animal care such as cleaning and provisioning the cages while keeping the animal safe; facts about the special needs of the animal for food, temperature and bedding; and some facts about its biology, place of origin, and social habits which serve to rationalize its needs for care. There is a skill card for each animal, for nature study, for the keeping of the garden, and for studying pond life. The child is expected to be able to demonstrate that he/she can perform those skills, can explain them to others, and can answer the knowledge questions. There are also some higher order skill cards such as Assistant Animal Caretaker for the inside animals, and the Farmer’s Helper for the outside animals. When a student has mastered the skill card he/she is given a license for the animal, earning the privilege

of caring for the animal “independently” and taking the animal out of the cage to play with it. For children with little reading ability, picture versions of the skill card have been created. For children with autism or severe speech or learning problems, the requirements for earning a license may be adjusted downward on an ad hoc basis to maintain motivation. Even when expectations are modified, safety of the program participants and the animals is always stressed.

The program is designed to carry over into the child’s or adolescent’s regular classroom. There is a library of books and magazines that the child can borrow or use as the basis of reports. Whenever the opportunity presents itself, the daily tasks of the program are altered to support the children’s biology or science curriculum. Special class projects are arranged about the Our Farm animals as when there are new chicks, lambs, or calves. At intervals, some of the animals are brought to the children’s schools so the program participants may have the opportunity to demonstrate their skill and knowledge to their classes. The lead teacher and student assistants also participate in school science fairs.

The children are evaluated four times either with the Achenbach in the first year or the B.A.S.C. in the second and third year. The first measure was a baseline for ***behavior in the regular classroom and filled out in the school*** after three or four weeks of accommodation, the second measure was taken after three months of accommodation to the AAT program and was filled out ***for the child’s behavior in the AAT program***. The last two measures were completed at the end of the school year, ***one for behavior in the AAT program and one for behavior in the regular classroom***. The students in self-contained classrooms were evaluated for AAT and school behavior by the same teacher. Students in integrated classrooms were evaluated by one teacher for behavior in AAT and another for their regular classroom behavior. We also keep records of the student’s IEP, skill card achievement, teacher narratives about the student’s progress, and notes generated from the class reports of the lead teacher as well as a set of questions directly comparing behavior in the regular classroom and the AAT program developed by Regina Schön. In discussing the evaluation, we will rely on the quantitative measures, since these measures have general acceptance within the educational field, and still nicely illustrate the problems in evaluation we wish to highlight. We will present both the B.A.S.C. and the Achenbach data separately but for analyses that require larger numbers we will combine data from children evaluated with either of these instruments by using those composite measures and scales which are highly intercorrelated.

Results: In the first year of the program 41 students were in the program at the end of the year and had at least two evaluations. There were large and significance differences in the Achenbach summary scores with children displaying less symptoms in the farm program than in their regular school classes ($P < .0001$ for all three scores). At the end of the second year we had accumulated another 67 students with two end-of-year evaluations. The results were the same for all composite scores ($P < .0001$). Having one or two evaluators made no significant difference to these results.

In the first and second years there were 46 students who had all four evaluations. There were significant differences ($.0001$) in all composite scores for place (farm vs. school) but not for time.

In the first two years of the program we had all four evaluations on 28 students with autism. These students ranged from high functioning students with Asperger's syndrome to students with no spoken language at all. For the three summary scores, symptom level was lower in the farm program but there was no effect of time (P was less than .01 in all three measures).

There are major problems, however, in interpretation of those conventional measures of progress:

- The differences in learning styles within experiential programs such as AAT, and conventional expectations of student behavior within regular classrooms.
- Two biasing factors which come into play when the child's teachers are used as evaluators: 1) the negative expectations generated by the child's behavior in his regular classroom, and 2) the positive bias created by the increase in social attractiveness of people associated with animals.
- The failure to define specific effects of human-animal interaction which can be observed independently of global outcomes.
- The positive bias of some teachers toward working with the animal and at the farm in comparison to their regular classrooms.

These potential sources of errors in evaluation (such as the positive halo created by the animal and farm environment of the program) may be a valuable part of the therapeutic effect of the program. However, if AAT is to be related to the significant research in evolutionary psychology, very specific measures of attention, and studies of how animals affect the "theory of mind" must be deployed.

In relationship to the significance of "theory of mind" our AAT program consistently used a kind of judicious heuristic anthropomorphism (JHA) and consistently asked students to evaluate how the animal was feeling in response to his/her behaviors, and asked the students to reflect on his own feelings based on their knowledge of animal behaviors. In addition, there was an overarching moral commitment to animal care which defined the student as a care giver and a protector of the animals. This moral duty took precedence over the students' desires, and they were asked to reason about their treatment of animals in terms of that moral injunction. Lastly, it was our impression that the capacity of animals to draw the students' attention outward made the program participants better observers of human behavior, and less likely to use negative stereotypes in defining the behavior of their peers and teachers. In a very real sense contact with animals and commitment to their welfare makes individuals both more human and more humane.