APPENDIX J

Best Evidence for Animal Assisted Interventions in Adolescent Mental Health

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Plan of Lecture

- History of why and how we chose to examine AAs in adolescents
- The calls for more rigorous research
- Elements of well-designed studies
- Best evidence for AAs with adolescents
- Expert panel: conclusions and recommendations
- Some parting thoughts on why the call for more rigorous research is not being heeded

2004 Can Animals Help Humans Heal?

- The Annenberg Foundation Trust at Sunnylands embarked on a project to find the most promising treatments in adolescent mental health.
- Our role involved:
  - Creating a ‘white paper’ on the use of AAs in adolescent mental health
  - Holding a public conference on the topic
  - Convening a panel of experts from the fields of AAT, Psychiatry, Psychology and Social Work to create a research agenda for the future.

Can Animals Help Humans Heal? Beginning the Literature Review

Out of 360 potential articles, fewer than 20% (approximately 45) focused on AAs and some aspect of adolescent mental health. We excluded studies that dealt primarily with learning disabilities, mental retardation, autism/pervasive developmental disorders, and criminal behavior, as well as dolphin programs.

- Effects reported:
  - Whose diagnoses showed greatest positive results?
  - What types of interventions worked best for particular diagnoses?
  - Effect of the animal vs. effect of the handler?

- Which subjects benefited most?
  - Age
  - Gender
  - Ethnic and cultural differences
  - Does the client have to have an interest in animals?
**Missing in Action:**

**Basic Elements of Sound Research Design**
- Utilization of a control or comparison group.
- Random assignment.
- Well-defined, homogeneous sample, and a sample size large enough for statistical analyses to be meaningful.
- Specific outcomes and target behaviors defined.
- Data collection instruments are appropriate to the defined outcomes, and are valid and reliable.
- Program under observation is mature.
- Threats to validity and the effects of personal biases are examined and minimized.*
- Appropriate statistical tests are utilized.
- Results are generalizable and replicable.

* Barker, M., & Eichenberg, J. (2003). Animal-assisted therapy. Pages do not count as studies that utilized control groups. Therefore, they include: Studies that account for expectancy & novelty effects.
- Use of adequate control groups.
- A distinction between transient emotional responses to animals and the long-term effects of their presence.
- A distinction between “recreation” & “therapy.”
- Even-handed (non-defensive) evaluation of research data.
- A cost/benefit analysis of these programs.

LaJoie, 2003:

**Twenty years of progress?**

From a population of 334 potential articles identified:
- 112 were retrieved
- 45 contained quantitative information
- 9 reported enough information to be included in a meta-analysis (standard deviation or variance, sample size, and means for treatment and comparison groups (p-values are optional))
  - 6 studies utilized a control group
  - 3 utilized a pre-post design

AAI's Applied to a Wide Range of Mental Health Issues and Diagnoses
- Autism spectrum disorders/PDDs
- Learning disorders
- Attention Deficit Hyperactivity Disorder (ADHD)
- Conduct Disorders (CD & ODD)
- Obsessive-Compulsive Disorder (OCD)
- Affective disorders (depression, anxiety)
- Post-Traumatic Stress Disorder (PTSD)
- Eating disorders
- Substance abuse
- Sexual abuse
- Suicide
- Dementia

**Therapeutic Settings in which AAI's are Commonly Used**
- Individual psychotherapy and counseling
- Inpatient and residential facilities
- Group homes
- Prisons and correctional facilities
- Outpatient group therapy
- School-based counseling
- Equine-facilitated psychotherapy (EFP)
- "Swim-with-dolphins" programs

**“Best” Evidence:**

**Consistency & Volume of Independent Reports**

While well-controlled, quantitative studies are lacking, there is an impressive number of independent reports that repeatedly cite the same benefits of incorporating animals in therapy. These point to areas that might repay further empirical investigation within the context of adolescent mental health. These reports suggest that animals can:
- Facilitate social interaction and the building of rapport
- Focus attention and have a calming effect
- Improve attendance, compliance, and retention
- Be objects of attachment in therapy (transitional objects)
- Provide social support and comfort
- Be used as symbols and metaphors, and provide opportunities for projection
- Be instruments of learning (skills, cognitions, behaviors)

**References**

**Animals as Facilitators of Social Interaction**

*increase social desirability.*

Make a person accompanied by a friendly animal appear more approachable, less threatening, happier, and more relaxed.

Stimulate conversation by their presence and unscripted behavior, and by providing a neutral, external subject on which to focus.

Uniformly positive results have been reported.

**The Calming Effect of Animals**

In an attempt to measure human response to the presence of animals, various physiological and behavioral indicators of stress (e.g., heart rate, blood pressure, self-report measures of anxiety, etc.) were measured both with and without an animal present.

Methodological differences among studies make it hard to compare their findings, and conflicting results have been reported.

Conclusion: Animals can decrease arousal for some people in some contexts.

**Best Evidence: The Companionable Zoo**

*Aaron Katcher & Gregory Wilkins, 1994-2000*

- Setting: Devereux Foundation residential youth treatment facility, Pennsylvania.
- Jumpee: 56 boys with ADHD and CD; mean age 12.56 years.
- Intervention: 5 students randomly assigned to either "Outward Bound program" (outdoor activities) or "Companionable Zoo program" (learning about and care of birds, lizards, rabbits, chinchillas, guinea pigs, hamsters, fish, and, where space permits, pet-belled pigs, goats, sheep, and miniature horses).
- Length of intervention: 5 hours/week; 6 months in each program followed by cross-over.

**Companionable Zoo vs. Outward Bound**

*Aaron Katcher & Gregory Wilkins, 1994-2000*

**Attendance rates**

- Average attendance: C2 = 89%; O8 = 64% (t=2.81, df. p < .01)
- After cross-over from O8 to C2: 67% → 87% (t=2.94, df p < .01)

**Behavior in regular school program**

- C2 children showed decreased agitation and aggressive behavior, improved behavioral control, better cooperation with instructors, greater interest in learning compared with O8 children.

**Influence of Context on Symptoms**

*Achenbach Teacher Report Form & Child Behavior Checklist*

**Limitations & Caveats**

*The Companionable Zoo (Katcher & Wilkins, 1994-2000)*

- The C2 program was a complex and multifaceted program, and the authors acknowledge that it is unclear how many each part of the program contributed to its overall effectiveness.
- This intervention was not meant to "cure" ADHD or CD, but was designed more as a means of facilitating the educational process for children with limited attention and behavioral problems.
- Significant improvements in behavior were never reported in the literature, and the authors acknowledge that the effects were highly context-specific.
- No long-term follow-up of these students has been attempted, and the results have not yet been replicated (although an extension appears to be in progress).
2004

Can Animals Help Humans Heal?

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  most promising treatments in adolescent mental health.
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    Social Work to create a research agenda for the future.

Some of the Expert Panel’s Conclusions

- The trajectory of AAlS as a science is similar to the
  way in which other mental health disciplines have
  developed, and there is tremendous promise in this
  area.
- The challenges facing the field are the same as
  those seen in the development of any new
  psychotherapy model.
- There is a science to developing new models of
  intervention, and AAlS must begin to employ this
  scientific model.

Some Panel Conclusions (cont’d)

- Because the cost of mental health care can be a
  substantial burden, if the domains of facilitation,
  engagement, retention, and compliance can be
  positively impacted by the presence of animals,
  this possibility alone make AAlS worthy of further
  study.
- Examining these non-specific effects of animals
  should be a research priority.

Ways of Approaching the Evaluation of AAlS

Some Panel Conclusions (cont’d)

- Augmentation: Adding an animal to an empirically-
  supported treatment and comparing the results to
  what would be expected from treatment as usual.
- Comparison: Compare the effects of an animal-
  centered therapy to another comparable activity.
- Prospective-Longitudinal: Because a relationship
  may need to be built with both an animal and a
  therapist over time, there may be major differences
  between the short-term effects of animals and their
  long-term effects.

Final Thoughts

If it has been 20 years since Beck & Katzer initially called for
more rigorous research, and it may now be worth considering
the barriers that are preventing the research from progressing.

Some preliminary thoughts include:
1. Many studies are conducted by students, not seasoned
   researchers, and student mentors are often not familiar with
   the test.
2. The impetus for most of the work comes from health or mental
  health practitioners, not researchers.
3. Research is often done on pilot programs, and the programs
   are not well-established or lasting.
4. Studies and programs are not replicated (likely related to 1-3
   above).
5. Significant funding would need to be available to make the
   attractive as a field of inquiry for researchers.

Roadmap for the Future

facilitated therapy. JAVMA 184(6), 414-42.

Lajoie, K.R. (2003). An Evaluation of the Effectiveness of
Using Animals in Therapy. Unpublished doctoral
dissertation, Spaulding University, Louisville, KY. (University
Microfilms No. 307673)

animals help humans heal? Animal-assisted interventions
in adolescent mental health.

Available at:
http://www2.vet.upenn.edu/research/centers/cias/pdf/
CIA_AAI_white_paper.pdf