

3-2014

# Prison-Based Animal Programs (PAPs) and Mental Health Outcome Measures

Kaitlyn Swyers  
*Portland State University*

Follow this and additional works at: <https://pdxscholar.library.pdx.edu/honorstheses>

**Let us know how access to this document benefits you.**

---

## Recommended Citation

Swyers, Kaitlyn, "Prison-Based Animal Programs (PAPs) and Mental Health Outcome Measures" (2014).  
*University Honors Theses*. Paper 29.  
<https://doi.org/10.15760/honors.30>

This Thesis is brought to you for free and open access. It has been accepted for inclusion in University Honors Theses by an authorized administrator of PDXScholar. For more information, please contact [pdxscholar@pdx.edu](mailto:pdxscholar@pdx.edu).

Prison-Based Animal Programs (PAPs) and Mental Health Outcome Measures

Kaitlyn Swyers

Portland State University

March 2014

The following text will detail the pervasiveness of mental health issues in prisons as a nationwide problem. This provides an important context and poses the urgent research questions of (1) how prisons can realistically attempt to lower the impact of mental health issues that are plaguing more incarcerated individuals than not in the United States, (2) why prisons should be concerned with measuring a program's impact on mental health, and (3) what outcome measures of mental health can be realistically and conveniently implemented to begin collecting data. Prison-based animal programs (PAPs) are presented as one such way that this can be accomplished. While a program of this nature cannot cure mental illness per se and should not be considered an all-encompassing solution, it most certainly can serve as a buffer in conjunction with any necessary mental health services. To adequately review the relevant literature, this paper will describe the origins of animal-facilitated interventions for historical context, followed by an overview of literature on animal-assisted therapy<sup>1</sup> (AAT) and animal-assisted activities<sup>2</sup> (AAA) with individuals with mental illness. The literature on PAPs, specifically, will be covered, noting gaps in the literature and implications for the field. The paper will conclude with direct implications for prison administration regarding the need for outcome measures—specifically for measuring impact on mental health—and the proposal of three distinct outcome measures of mental health that can be used to assess and compare levels of depression, anxiety, and stress.

---

<sup>1</sup> The Delta Society defines AAT as a goal-directed intervention in which an animal that meets specific criteria is an integral part of the treatment process. AAT is directed and delivered by a health/human service professional with specialized expertise and within the scope of practice of his/her profession. Key features include specified goals and objectives for each individual and measured progress (as cited in Kruger & Serpell, 2006).

<sup>2</sup> The Delta Society defines AAA as providing opportunities for motivational, educational, recreational, and /or therapeutic benefits to enhance quality of life. AAAs are delivered in a variety of environments by specially trained professionals, paraprofessionals, and/or volunteers in association with animals that meet specific criteria. Key features include absence of specific treatment goals; volunteers and treatment providers are not required to take detailed notes; visit content is spontaneous (as cited in Kruger & Serpell, 2006).

### **Mental Health in Prisons**

Mental illness in incarcerated individuals is well-documented in the literature (See Sarteschi, 2013; Brandt, 2012; O’Keefe & Schnell, 2007; Phillips, 2005; Diamond, Wang, Holzer III, Thomas, & Cruser, 2001; Torrey, Stieber, Ezekiel, Wolfe, Sharfstein, Noble, & Flynn, 1992). Canales (2012) argues that the high rate of mental illness among incarcerated individuals is a national problem that can be traced back to the middle of the twentieth century when deinstitutionalization led to half a million Americans transitioning from state mental hospitals to the streets. Due to the lack of available support and community-based programs, some mentally ill individuals would turn to crime. Others were wrongfully put in prison due to police officers mistaking the individuals as criminally dangerous or unwittingly thinking that mental health treatment would be available upon incarceration. These factors amongst many others have led to prisons ultimately becoming the new mental health system.

A 2006 report compiled by the Bureau of Justice Statistics found that by midyear 2005, more than half of prison and jail inmates had a mental health problem, as defined by having recent symptoms clinically diagnosed and/or treated by a mental health professional. Based on this definition, it is safe to assume that this is an underestimate due to the available literature on how common it is for a mental health problem to go undetected and thereby remain undocumented and untreated (e.g., Edgar & Rickford, 2009). The report breaks down the numbers of incarcerated individuals having a mental health problem as 705,600 (56%) inmates in state prisons and 78,800 (45%) inmates in federal prisons. When compared to the report in 1998, the numbers have risen dramatically as evidenced by only 16% of state prisoners and 7% of federal prisoners having a mental health problem. To further illustrate, this means that in seven years time, there was a 40% increase in the number of incarcerated individuals having a mental

health problem in state prisons. A 2001 report on mental health treatment in state prisons demonstrated that at midyear 2000, one in every eight state inmate was receiving a form of mental health therapy and one in ten receiving psychotropic medications (Bureau of Justice Statistics, 2001).

Canales (2012) stresses that funding (or the lack thereof) is a primary hindrance to being able to provide adequate treatment and care for incarcerated individuals with a mental health problem. She asserts that:

While prisons should have a sufficient number of treatment services and mental health professionals, a system to keep track of clinical records, procedures for screening and identifying the mentally ill, and protocols to ensure timely access to care, research suggests that no prison system provides all of these components in large part because of the cost. (p. 1757)

To further complicate matters, one mustn't have a formal diagnosis in order to be psychologically impacted while serving a sentence. In fact, it could be argued that the mental health of incarcerated individuals *will* be affected at one or more points during incarceration and to various extents. Varese, Pelowski, Riedel, and Heiby (1998) discuss the unpleasant environmental factors inherent in a prison setting—e.g., loss of freedom, status, social support, and control—that have been demonstrated to be risk factors for depressive symptoms. Boothby and Durham (1999) contend that psychological symptoms are bound to arise during incarceration as a natural response to the “uncontrollable, undesirable, and threatening nature of imprisonment” (p. 107). Furthermore, research conducted by Holmes and Rahe (1957) led to the discovery that incarceration is the fourth most stressful life event amongst life events that were studied (as cited in Boothby & Durham, 1999).

Due to the complexity and numerous factors involved with the prison system, there is a strong likelihood that funding will remain an issue. Canales (2012) suggests that rather than trying to tackle the issue of funding and rely on increased funding for an improved system of care, the question that needs to be addressed is what other ways prisons can attempt to decrease the impact of mental health issues that are plaguing more incarcerated individuals than not in the United States.

### **The Origins of Animal-Facilitated Interventions**

The human-animal bond (HAB) is a well-represented and accepted concept in the literature that has become an underpinning for animal-facilitated interventions to be used in institutions. The term was first developed by Konard Lorenz and Boris Levinson between 1970 and 1980 (Hines 2003; Bachi, 2013; Deaton, 2005). Letters exchanged in 1919 between the Secretary of Interior and the Superintendent for St. Elizabeth Hospital for the insane provided the first documentation of dogs being used in an institution where individuals were confined (Strimple, 2003).

The first formal therapeutic program that included animals was established in 1792 at the York Retreat in England—a facility for individuals with mental illness. In 1867, a residential treatment center in Germany for individuals institutionalized for seizure disorders founded one of the oldest and largest animal-facilitated therapy programs in the world (Furst, 2006; Schwartz, 2003; Lai, 1998). The United States developed its first organized program in 1942 at a hospital in New York in which veterans were given the opportunity to interact with animals in an effort to help their physical and emotional problems. Despite the prominence of programs including animals, very little formal research studied the interaction between people and animals before the 1960s (Furst, 2006).

The first animal-facilitated program in a prison setting was implemented in 1985 at the Lorton Reformatory in Washington, D.C. in which incarcerated individuals had cats, hamsters, birds, or fish as pets. Due to a transition in correctional public policy from rehabilitative to punitive, a shift occurred in which animals in prisons became a means for community service whereby the inmate, the animal, and the community would all benefit as opposed to focusing solely on individual rehabilitation (Schwartz, 2003). As of 2006, the most common type of PAP are those formed around community service in which incarcerated individuals train and care for animals before they are put up for adoption (Furst 2006; see Table 4 for a typology of PAPs). This is indicative of a continued trend that first began in the 1980s. In the only national survey that has been conducted to date, Furst (2006) discovered that 36 out of the 46 participatory states reported utilizing PAPs at 159 sites.

### **Overview of Literature on Animal-Assisted Therapy (AAT) and Animal-Assisted Activities (AAA) with Individuals with Mental Illness**

A number of studies have examined the effects of AAT and AAA on individuals with mental illness. The majority of the literature is focused almost entirely on psychiatric populations. To name a few, Barker and Dawson (1998) examined whether a session of AAT would reduce the anxiety levels of hospitalized psychiatric patients and whether any reductions in anxiety were associated with particular patient diagnoses. Results from a single session of AAT were compared with a single recreation therapeutic session. Participants completed a self-report measure of anxiety before and after participating in the two different sessions. The findings of the study concluded that there were statistically significant reductions in anxiety scores following the AAT session for patients with psychotic disorders, mood disorders, and

other disorders. Only patients with a diagnosed mood disorder experienced reductions in anxiety following participation in the recreation therapeutic session.

Barak, Savorai, Mavashev, and Beni (2001) sought to examine whether an AAT intervention would help elderly patients with schizophrenia in a psychogeriatric ward in the domains of mobility, interpersonal contact, communication, and reinforced activities of daily living. The study was conducted over a period of one year and using The Scale for Social Adaptive Functioning Evaluation (SAFE) as an outcome measure, demonstrated significant improvement in all domains compared with the baseline scores. The most distinguished outcome was the effect on social functioning which was noted just six months from the start of the intervention.

Prothmann, Bienert, and Ettrich (2006) used a pretest-posttest design in which they investigated the effects of AAT on the state of mind of children and adolescent inpatients in psychiatric treatment. The Basler Befindlichkeits-Skala (BBS) was used to measure general “state of mind” which also includes four sub-scales measuring vitality, intra-emotional balance, social extroversion, and alertness. The participants in the treatment group were exposed to five therapeutic sessions with a dog; the results of which were compared to a control group who had no exposure to the therapy session with the dog. The findings revealed significant increases in all dimensions of the BBS. The treatment group exhibited increased alertness, attention, openness and desire for social contact, and perception of healthy and vital factors.

A meta-analysis conducted by Souter and Miller (2007) regarding the effectiveness of AAT and AAA in treating depression found that while five empirical studies do support this



notion based on statistically significant results, the overall literature on AAT/AAA depicts a limited amount of research that meets minimal standards of research design.

### **Overview of Literature on Prison-Based Animal Programs (PAPs)**

Prisons using animals for community service/vocational training and/or as a rehabilitative/therapeutic tool is by no means a recent phenomenon as detailed previously. Despite the growing application of PAPs, there is relatively little empirical research to support its use. Although the studies that exist do demonstrate promising findings, they are limited by their research design and data that was not validated with statistical analyses (Fournier, 2007). A number of anecdotal reports suggest that the programs can have positive effects on inmate rehabilitation and transformation through lower recidivism rates, increased self-esteem, trust and self-confidence, decreased loneliness, and gaining marketable skills and education. (Bachi, 2013; see Fournier, Geller, & Fortney, 2007; Deaton, 2005; Harkrader, Burke, & Owen, 2004; Strimple, 2003; Moneymaker & Strimple, 1991). Bachi (2013) conducted an extensive literature review on existing PAPs in order to provide a knowledge base and reference point for researchers to begin studying, specifically, equine-facilitated prison-based programs. The literature review was intended to illustrate what has been studied in regards to PAPs, how it was measured, and what should be further investigated in the future. The author coded findings from 19 PAP studies based on a grouping of studied variables. The codes include effects on recidivism, disciplinary misconduct, emotional and psychological effects, and sociobehavioral effects. The findings of this literature review are summarized below.

#### **Recidivism**

Five studies were found to be concerned with recidivism rates among the PAP participants. Two of the studies reported no recidivism and three claimed reduced recidivism

following participation in the program. The first study (see Furst, 2007a, 2007b) collected data from the prison administrators and executive director of the affiliated nonprofit organization which revealed that none of the participants had recidivated in the 4- to 5-year period since starting the program. The second study (see Merriam-Arduini, 2000) documented results over a period of three years, but the sample size and methods were inaccessible for the review. The third study, (see Chianese, 2010) which claimed lowered recidivism rates, collected data from probation department records to determine that the participants reoffended at half the rate of those who did not participate. The fourth study, (see Moneymaker & Strimple, 1991) also claiming decreased recidivism rates, collected data for two years and found that 11% of PAP participants recidivated but 68% of the remaining sample did not go back to prison. Researchers did not specify their methods of data collection and statistical analysis was minimal. Also, the results were not compared to the institutional or state recidivism rate. In the fifth study, (see Cushing & Williams, 1995) results found that 25% of the PAP participants recidivated compared to an average state recidivism rate of 38.12%. This study gathered its results through both qualitative interviews and quantitative methods. The recidivism data was gathered from the master list of inmates and parolees who were under the supervision of New Mexico's Department of Corrections.

### Disciplinary Misconduct

Five studies have looked into disciplinary misconduct among PAP participants. Only one study reported a statistically significant improvement, whereas the others displayed mixed findings. The first study (see Fournier et al., 2007) employed a quasi-experimental study using pretest-posttest, repeated-measures design with self-report and data-mining of institutional files methodologies. The results found statistically significant improvements in the frequency of

institutional infractions for participants in the PAP as compared to the control group where participants did not engage with the program. The findings from the remaining four studies (see Furst, 2007a, 2007b; Cushing & Williams, 1995; Moneymaker & Strimple, 1991; Katcher, Beck, & Levine, 1989) ultimately disclose that there is not a well-established, clear association between PAPs and reduction in rates of disciplinary misconduct. It is suggested that research be conducted with larger sample sizes using a pretest-posttest design that is compared to a control group.

### *Emotional and Psychological Effects*

Fourteen studies to date have examined the emotional and psychological effects that PAPs have on participants; specifically variables relating to self-esteem, clinical symptomatology and treatment issues, and aspects of emotion regulation. Only two of the studies report mixed findings. Self-esteem is one of the most observed variables regarding the impact of PAPs on individuals as evidenced by showing up in six qualitative studies (see Currie, 2008; Turner, 2007; Nef, 2004; Merriam-Arduini, 2000; Cushing & Williams, 1995; Moneymaker & Strimple, 1991) and one quantitative study (see Walsh & Mertin, 1994). Standardized self-report measures, using a pretest-posttest design, were utilized to determine statistically significant improvements in a participant's self-esteem. Two quantitative studies (see Suthers-McCabe, Van Voorhees, & Fournier, 2004; Richardson-Taylor & Blanchette, 2001) conclude mixed findings on the effects of PAPs on self-esteem. Additional psychological improvements represented in the literature (see Currie, 2008; Merriam-Arduini, 2000; Cushing & Williams, 1995; Moneymaker & Strimple, 1991) include self-control, sense of autonomy and responsibility, nurturing role, self-confidence, pride of accomplishment, and patience. A participant's levels of depression were examined in PAP studies (see Walsh & Mertin, 1994) in which statistically significant

improvements based on standardized self-report measures were found. Additionally, a separate study (see Richardson-Taylor & Blanchette, 2001) found that while the results were not statistically significant, participants in the PAP group had lower scores of depression than the control group. A year-long comparison of psychiatric incarcerated patients revealed that patients with pets only needed half the amount of medication as before and had zero suicide attempts as compared to eight documented attempts in the same ward without pets, with comparable patients and equal levels of security (see Lee, 1987). Three quantitative studies (see Burger, Stetina, Turner, McElheney, & Handlos, 2011; Turner, Stetina, Burger, Glenk, Kothgassner, & Handlos, 2011; Stetina, Kuchta, Gindl, Maman, Handlos, Werdenich, & Kryspin-Exner, 2009) have looked into aspects of emotion regulation using two- to three-group, pretest-posttest designs with quantitative measures of emotion regulation, emotional self-control, acceptance of emotions, etc. PAP participants demonstrated significant improvements when compared to the control groups in the domains of emotion regulation, emotional self-control, and acceptance of emotions.

### *Sociobehavioral Effects*

Twelve studies have examined the sociobehavioral effects of PAPs on participants. The studies primarily looked into the ways that PAPs can improve social skills and assist with reintegration into the community by focusing on interpersonal and intrapersonal social effects. Statistically significant improvements have been found in the areas of social skills and social sensitivity, social competences with problem solving, and communication abilities (see Turner et al., 2011; Stetina et al., 2009; Fournier et al., 2007). Statistically significant decreases were found in feelings of isolation and loneliness when compared to a control group (see Moneymaker & Strimple, 1991). A few studies (see Currie, 2008; Britton & Button, 2005; Nef, 2004; Suthers-McCabe et al., 2004) have illustrated the interpersonal social effects that PAPs may have on the

prison environment. Qualitative findings show that PAPs can improve social interactions between participants in the programs and correctional staff whereas a quantitative study (see Richardson-Taylor & Blanchette, 2001) found that there were no statistically significant differences in the prison environment in the domains of hostility and disinterest. Applying a variety of methods in addition to qualitative inquiry would help shed light on a more complete understanding of PAPs effects on the prison environment (Bachi, 2013).

### **Implications for the Field of Prison-based animal programs (PAPs)**

In order for PAPs to be more comprehensive in the literature and to potentially add validity to the field, it is critical that research demonstrate the effectiveness of animal-facilitated interventions in a prison setting as an evidence-based practice (EBP). Bachi (2013) emphasizes the importance of statistical analysis of PAP studies in which sample sizes are large enough to determine the effect size of statistically significant findings. Some of the existing studies employed a design that either did not include a control group or was only measured as a posttest and thus the findings cannot be guaranteed to have resulted from the animal-facilitated intervention. Following the replication of studies using larger sample sizes and more valid research designs, it would be ideal for a meta-analysis to be conducted in order to draw meaningful conclusions and generalizations to the field of PAPs.

It is necessary at this point to mention a serious limitation to conducting research in a prison setting using what is considered to be a true experimental design. Fournier et al. (2007) discuss the difficulty involved in randomly assigning program participants—a necessary component to a valid research design—due to the reluctance of prison administrators and the ethical considerations involved. As a possible solution to this impediment, Murray (1998) speaks of a group-randomized trial in which whole groups are randomly assigned to treatment or control

conditions (as cited in Bachi, 2013; Fournier et al., 2007). A research design of this nature would entail random assignment among various prisons using similar PAPs. A pretest-posttest comparison could be assimilated by researchers accurately timing the implementation and evaluation of programs between the various prison settings (Fournier et al., 2007).

Before a group-randomized trial could be utilized, Department of Corrections (DOC) within a particular prison would first need to agree to the research being conducted. This is a potential barrier due to the disinclination of many prison administrators to the “external examination of their operations” (Bachi, 2013, p. 69). Moreover, prisons do not necessarily view research and EBP as a basis for program implementation and evaluation. It is therefore imperative that researchers convey the importance of EBP in establishing the necessity and effectiveness of a program which in turn can lead to funding and the justification of continuing a program (Bachi, 2013).

A final and rather serious implication apparent in the field of PAPs is the complexity involved in drawing conclusions from studies due to the number of programs that exist across the country, “using different species of animals, with human participants who have been incarcerated for very different reasons, in areas of a country that are very different from each other” (Bachi, 2013, p. 69). Furthermore, an implication that applies not only to the field of PAPs but the field of animal-facilitated interventions in general is the lack of a universal and consistent definition. This is further complicated by the fact that animal-facilitated intervention is interdisciplinary. LaJoie (2003) in her review of the literature, found 20 different definitions of AAT and 12 different terms for the same phenomenon (as cited in Kruger & Serpell, 2006).

### **Implications for Prison Administration**

Lambert and Hawkins (2004) assert that while historically the measurement of therapeutic interventions was delegated to outcome researchers, this responsibility has largely fallen to agencies to make deliberate efforts to demonstrate the effectiveness of their specific intervention/program. Despite the fact that recidivism rates are commonly used within prisons as a primary means to collect data and even though some studies, as previously discussed, have suggested reduced recidivism as an outcome of PAPs, (see Chianese, 2010; Cushing & Williams, 1995; Moneymaker & Strimple, 1991) the literature presents questions as to the appropriateness and usefulness of recidivism rates as an indication of program effectiveness. Matthews and Pitts (1998) argue that recidivism is often defined in conflicting ways and there are too many extraneous variables involved in the participation in a program, leaving prison, and potentially reoffending. They ultimately stress that:

Recidivism is an unreliable measure of program effectiveness and, although the public and policy makers may have an interest in programs in terms of their impact on reoffending, recidivism in its various guises rarely presents an accurate picture and is often too far removed from the specific intervention itself to have direct relevance. (p. 399)

It has been conveyed throughout this paper that prison administration should not only be concerned with outcome measures of PAPs, but with measuring PAPs impact on *mental health*, specifically. This paper concludes with the proposition of three distinct outcome measures of mental health that prison staff can administer to assess and compare levels of depression, anxiety, and stress. This will provide the opportunity to collect data on how and to what extent PAPs are affecting incarcerated individuals' mental health in the three aforementioned domains.

These particular indicators of mental health were chosen because as illustrated previously, incarcerated individuals with or without a mental health diagnosis will experience depression, anxiety, and stress to various extents. Considering the ethics involved in singling out those with a formal diagnosis for program participation and evaluation, this suggestion would avoid that obstacle by administering the measures to all participants without distinguishing among participants who may or may not have a diagnosis—that of which would be irrelevant for the purposes of the measures.

### **Beck Depression Inventory (BDI, BDI-II)**

The Beck Depression Inventory (BDI) was created by Dr. Aaron T. Beck in 1961, revised in 1971, and copyrighted in 1978. The BDI has been extensively studied and is one of the most commonly used instruments for assessing the severity of depressive symptoms. It was initially developed to detect and monitor changes in depressive symptoms among people in mental health care settings. The purpose of the BDI is not that of a diagnostic tool but rather a comparative measure to evaluate the effectiveness of a therapy or intervention targeting depression. It is a 21-item multiple-choice, self-report inventory that can be administered in five to ten minutes and requires a fifth to sixth grade reading level. The individual rates how much (s)he has been bothered by symptoms over the past week on a four-point scale. The BDI has content, concurrent, and construct validity. In other words, the instrument measures what it intends to measure, concurs with existing standards, and measures the appropriate constructs or variables. It has also been shown to be a reliable measure as evidenced by results corresponding with clinician ratings in more than 90% of cases (Beck, Steer, & Garbin, 1988). The most recent version of this inventory—the BDI-II—was published in 1996 with revisions that allowed the



measure to correspond more closely with criteria set by the 4<sup>th</sup> edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; Beck, Steer, Ball, & Ranieri, 1996).

### **Beck Anxiety Inventory (BAI)**

The Beck Anxiety Inventory (BAI) was also developed by Aaron T. Beck along with colleagues Norman Epstein, Gary Brown, and Robert A. Steer in 1988 as an instrument that would assess the severity of anxiety. This measure can be administered to determine a baseline anxiety level followed by tracking the effectiveness of a treatment intervention, and finally as a post-treatment/intervention outcome measure. It is a 21-item multiple-choice, self-report inventory that can be administered in five to ten minutes and requires a fifth to sixth grade reading level. The individual rates how much (s)he has been bothered by symptoms over the past week on a four-point scale. The BAI has test-retest reliability, concurrent validity whereby it concurs with existing standards, and discriminant validity in which it has been shown to discriminate between the symptoms of anxiety and depression (Beck, Epstein, Brown, & Steer, 1988).

### **Perceived Stress Scale (PSS)**

The Perceived Stress Scale (PSS) was first published in 1983 by Sheldon Cohen, Tom Kamarck, and Robin Marmelstein and has since become one of the most often used psychological instruments for measuring nonspecific perceived stress. It was designed to assess the degree to which situations in one's life in the past month are appraised as stressful. It was developed for use with community samples with the minimum of a junior high school education. Similar to the BDI and BAI, this scale serves as a comparative measure as opposed to a diagnostic instrument. One of its applications is to assess the effectiveness of a stress-reducing intervention. It is a 14-item self-report questionnaire rated on a five-point scale that can be

administered in about five minutes. The PSS has been shown to be a reliable measure with demonstrated construct validity whereby it measures the constructs or variables it intends to measure (Cohen, Kamarck, & Marmelstein, 1983).

This paper has situated the importance of lowering the impact of mental health issues and implementing mental health outcome measures within the context of more than half of incarcerated individuals in the United States having a mental health affliction. PAPs have been presented—in conjunction with necessary mental health services—as one approach to address this nationwide problem. A review of the literature on AAT and AAA with individuals with mental illness depicted a focus on psychiatric populations with an overall limited amount of research that meets minimal standards of research design. Similarly, the literature on PAPs, specifically, illustrated a limited number of studies that are restricted by research design and invalidated data. In order for the field to move forward with PAPs potentially being represented in the literature as an EBP, an increased number of valid studies need to be conducted, resulting in an eventual meta-analysis. It is critical that prison administration understand the significance of research and EBP as a basis for program-related decisions. Furthermore, it has been stressed that prison administration must adopt the responsibility of attempting to demonstrate the effectiveness of an intervention/program. Three outcome measures of mental health—the BDI, BAI, and PSS—have been presented as a realistic and convenient option for prison staff to begin assessing and comparing the extent to which PAPs are affecting incarcerated individuals' mental health in the domains of depression, anxiety, and stress—that of which everyone, with or without a mental health diagnosis, will experience to some degree.

## Works Cited

- Bachi, K. (2013). Equine-facilitated prison-based programs within the context of prison-based animal programs: State of the science review. *Journal of Offender Rehabilitation, 52*, 46-74. doi:10.1080/10509674.2012.734371
- Barak, Y., Savorai, O., Mavashev, S., & Beni, A. (2001). Animal-assisted therapy for elderly schizophrenic patients: A one-year controlled trial. *American Journal of Geriatric Psychiatry, 9*, 439-442. Doi: 10.1176/appi.ajgp.9.4.439.
- Barker, S.B., & Dawson, K.S. (1998). The effects of animal-assisted therapy on anxiety ratings of hospitalized psychiatric patients. *Psychiatric Services, 49*(6), 797-801.
- Beck, A. J., & Maruschak, L. M. (2001). Bureau of justice statistics special report: Mental health treatment in state prisons, 2000. *U.S. Department of Justice*, 1-8.
- Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology, 56*(6), 893-897.
- Beck, A. T., Steer, R. A., & Garbin, M. G. (1988). Psychometric properties of the beck depression inventory: Twenty-five years of evaluation. *Clinical Psychology Review, 8*, 77-100.
- Boothby, J. L., & Durham, T. W. (1999). Screening for depression in prisoners using the beck depression inventory. *Criminal Justice and Behavior, 26*, 107-124. doi:10.1177/0093854899026001006
- Brandt, A. L. (2012). Treatment of persons with mental illness in the criminal justice system: A literature review. *Journal of Offender Rehabilitation, 51*(8), 541-558. doi:10.1080/10509674.2012.693902
- Britton, D. M., & Button, A. (2005). Prison pups: Assessing the effects of dog training programs in correctional facilities. *Journal of Family Social Work, 9*(4), 79-95. doi: 10.1300/1039v09n0406
- Burger, E., Stetina, B. U., Turner, K., McElheney, J., & Handlos, U. (2011). Dog-assisted therapy in prison: Emotional competences and emotional status of drug-addicted criminal offenders. *Journal of Veterinary Behavior: Clinical Applications and Research, 6*(1), 79-80. doi: 10.1016/j.jveb.2010.09.011
- Canales, C. (2012). Prisons: The new mental health system. *Connecticut Law Review, 44*(5), 1723-1762.
- Chianese, N. M. (2010). Girls, jails, and puppy dog tails: An evaluation of the New Leash on Life program (Thesis). California State University.

- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*(4), 385-396.
- Currie, N. S. (2008). A case study of incarcerated males participating in a canine training program (Unpublished dissertation). Department of Special Education, Counseling, and Student Affairs College of Education, Kansas State University, Manhattan, KS.
- Cushing, J. L., & Williams, J. D. (1995). The wild mustang program: A case study in facilitated inmate therapy. *Journal of Offender Rehabilitation, 22*(3/4), 95–112. doi: 10.1300/J076v22n03\_08
- Deaton, C. (2005). Humanizing prisons with animals: A closer look at “cell dogs” and horse programs in correctional institutions. *Journal of Correctional Education, 56*(1), 46–62.
- Diamond, P. M., Wang, E. W., Holzer III, C. E., Thomas, C., & Cruser, D. A. (2001). The prevalence of mental illness in prison. *29*(1), 21-40.
- Edgar, K., & Rickford, D. (2009). Neglecting the mental health of prisoners. *International Journal of Prisoner Health, 5*(3), 166-170. doi:10.1080/17449200903115839
- Fournier, A. K., Geller, E. S., & Fortney, E. V. (2007). Human-animal interaction in a prison setting: Impact on criminal behavior, treatment progress, and social skills. *Behavior and Social Issues, 16*(1), 89–105.
- Furst, G. (2006). Prison-based animal programs: A national survey. *The Prison Journal, 86*, 407–430. doi: 10.1177/0032885506293242
- Furst, G. (2007a). Prison-based animal programs: Self-reported effects of participation and implications for desistance. *Prison Service Journal, 172*, 38–44.
- Furst, G. (2007b). Without words to get in the way: Symbolic interaction in prison based animal programs. *Qualitative Sociology Review, 3*(1), 96–109.
- Granger, B. P., & Kogan, L. R. (2006). Characteristics of animal-assisted therapy/activity in specialized settings. In A. H. Fine (Ed.), *Animal-Assisted Therapy* (2 ed.). San Diego, CA: Academic Press.
- Harkrader, T., Burke, T. W., & Owen, S. S. (2004). Pound puppies: The rehabilitative uses of dogs in correctional facilities. *Corrections Today, 66*(2), 74–79.
- Hines, L. M. (2003). Historical perspectives on the human-animal bond. *American Behavioral Scientist, 47*(1), 7-15. doi:10.1177/0002764203255206
- James, D. J., & Glaze, L. E. (2006). Bureau of justice statistics special report: Mental health problems of prison and jail inmates . *U.S. Department of Justice, 1*-12.

- Katcher, A. H., Beck, A. M., & Levine, D. (1989). Evaluation of a pet program in prison: The pal project at lorton. *Anthrozoos*, 2(3), 175–180.
- Kruger, K. A., & Serpell, J. A. (2006). Animal-assisted interventions in mental health: Definitions and theoretical foundations. In A. H. Fine (Ed.), *Animal-Assisted Therapy* (2 ed.). San Diego, CA: Academic Press.
- Lai, J. (1998). Pet facilitated therapy in correctional institutions. Paper prepared for Correctional services of Canada by office of the deputy commissioner for women. Available at <http://www.csc-scc.gc.ca>
- Lambert, M. J., & Hawkins, E. J. (2004). Use of psychological tests for assessing treatment outcomes. In M. E. Maruish (Ed.), *The Use of Psychological Testing for Treatment Planning and Outcomes Assessment* (3 ed., Vol. 1). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Lee, D. (1987). Companion animals in institutions. In P. Arkow (Ed.), *The loving bond: Companion animals in the helping professions* (pp. 229–236). Saratoga, CA: R & E Publishers.
- Matthews, R., & Pitts, J. (1998). Rehabilitation, recidivism, and realism: Evaluating violence reduction programs in prison. *The Prison Journal*, 78, 390-405. doi:10.1177/0032885598078004003
- Merriam-Arduini, S. (2000). Evaluation of an experimental program designed to have a positive effect on adjudicated violent, incarcerated male juveniles age 12–25 in the state of Oregon (Unpublished doctoral dissertation). Pepperdine University, Malibu, CA.
- Moneymaker, J. M., & Strimple, E. O. (1991). Animals and inmates. *Journal of Offender Rehabilitation*, 16(3/4), 133–152. doi: 10.1300/J076v16n03\_09
- Nef, N. (2004, October 6–9). The cat programme, an animal-assisted therapy at saxierriet prison for men: Its effects and results in a correctional establishment. Paper presented at the 10th International Conference on Human-Animal Interactions, People and Animals: A Timeless Relationship, Glasgow, Scotland.
- O’Keefe, M. L., & Schnell, M. J. (2007). Offenders with mental illness in the correctional system. *Journal of Offender Rehabilitation*, 45, 81–104. doi:10.1300/J076v45n01\_08
- Phillips, D. W. (2005). Mentally ill people and the criminal justice system. *Criminal Justice Review*, 30, 215–219. doi:10.1177/0734016805282751
- Prothmann, A., Bienert, M., & Ettrich, C. (2006). Dogs in child psychotherapy: Effects on state of mind. *Anthrozoos*, 19, 265–277. doi: 10.2752/089279306785415583.

- Rhodes, L. A. (2005). Pathological effects of the supermaximum prison. *American Journal of Public Health, 95*, 1692–1695. doi:10.2105/AJPH.2005.070045
- Richardson-Taylor, K., & Blanchette, K. (2001). Results of an evaluation of the pawisitive directions canine program at nova institution for women. Correctional Service of Canada, Research Branch.
- Sarteschi, C. M. (2013). Mentally ill offenders involved with the U.S. criminal justice system: A synthesis. 1-11. doi:10.1177/2158244013497029
- Schwartz, B. K. (2003). The use of animal-facilitated therapy in the rehabilitation of incarcerated felons. In B. K. Schwartz (Ed.), *Correctional Psychology: Practice, Programming, and Administration*. Kingston, NJ: Civic Research Institute, Inc.
- Souter, M. A., & Miller, M. D. (2007). Do animal-assisted activities effectively treat depression? A meta-analysis. *Anthrozoos, 20*(2), 167-180.
- Stetina, B. U., Kuchta, B., Gindl, B., Maman, T. L., Handlos, U., Werdenich, W., & Kryspin-Exner, I. (2009). Changes in emotional competences of drug offenders during dog-assisted group training (MTI). *Journal of Veterinary Behavior: Clinical Applications and Research, 4*(2), 99–100. doi:10.1016/j.jveb.2008.10.030
- Strimple, E. O. (2003). A history of prison inmate-animal interaction programs. *American Behavioral Scientist, 47*, 70-78. doi:10.1177/0002764203255212
- Suthers-McCabe, H. M., Van Voorhees, E. E., & Fournier, A. K. (2004). The human-animal bond in an American prison: Inmate trainer outcomes. Paper presented at the 10th International Conference on Human-Animal Interactions, People and Animals: A Timeless Relationship, The International Society for Anthrozoology, Glasgow, Scotland.
- Torrey, E. F., Stieber, J., Ezekiel, J., Wolfe, S. M., Sharfstein, J., Noble, J. H., & Flynn, L. M. (1992). *Criminalizing the seriously mentally ill: The abuse of jails as mental hospitals*. Darby, PA: Diane Publishing.
- Turner, K., Stetina, B. U., Burger, E., Glenk, L. M., Kothgassner, O. D., & Handlos, U. (2011). Dog-assisted intervention (MTI) with mentally disordered prisoners: Enhancing empathy—a pilot study. *Journal of Veterinary Behavior: Clinical Applications and Research, 6*(1), 97. doi: 10.1016/j.jveb.2010.08.010
- Turner, W. G. (2007). The experiences of offenders in a prison canine program. *Federal Probation, 71*(1), 38–43.
- Varese, T., Pelowski, S., Riedel, H., & Heiby, E. M. (1998). Assessment of cognitive-behavioral skills and depression among female prison inmates. *European Journal of Psychological Assessment, 14*(2), 141–145.

Walsh, P., & Mertin, P. (1994). The training of pets as therapy dogs in a women's prison: A pilot study. *Anthrozoos*, 7(2), 124–128.