RECIDIVISM AND THE WILD HORSE INMATE PROGRAM:
A CASE STUDY ON THE INMATES AT THE FLORENCE, ARIZONA
STATE CORRECTIONAL CENTER

by

Katherine Bernal

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As members of the Master's Committee, we certify that we have read the thesis prepared by Katie Bernal, titled "Recidivism and the Wild Horse Inmate Program" and recommend that it be accepted as fulfilling the dissertation requirement for the Master's Degree.

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Final approval and acceptance of this thesis is contingent upon the candidate's submission of the final copies of the thesis to the Graduate College.

I hereby certify that I have read this thesis prepared under my direction and recommend that it be accepted as fulfilling the Master's requirement.

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Abstract:

In 2012, the Florence Correction Center began an equine-facilitated Prison Animal Program (PAP) called the Wild Horse Inmate Program (WHIP). This PAP sought to address both the Bureau of Land Management's (BLM's) problem of wild horse overpopulation and the prison system's problem of high rates of recidivism. To do this, the program utilized inmates to gentle and train wild horses for adoption. Few studies have been conducted to determine the relationship between equine-facilitated PAPs such as this one and inmate recidivism. This study sought to determine whether there is a relationship between participation in WHIP and reduced rates of recidivism. By creating a comparison group matched subject-to-subject on race, age at time of release, education level, and severity of felony convictions, WHIP participants were compared to like inmates who did not participate in WHIP. Results indicate that there is a strong correlation between participation in WHIP and reduced rates of recidivism. Although the sample size was small, results are strong enough to suggest that the programs are worth continued funding and expansion. Further research is needed to determine the optimal amount of time spent in WHIP and whether programs utilizing other species of animals can be just as effective.

Introduction

In recent years the population of inmates in US federal and state prisons and county jails has exceeded 2,220,000 (Glaze & Kaeble, 2014). In an effort to better understand this large population of inmates, a 2005 study conducted by the Bureau of Justice statistics tracked over 400,000 inmates after they were released from prison. The study found that over two-thirds of these inmates returned to prison, or “recidivated,” within three years of their release (“National Institute of Justice”, n.d.). The public generally are motivated by the concept of
punishing prisoners; however, the rising cost of incarcerating over two million inmates, coupled with this high rate of recidivism, has led some individuals to consider a more rehabilitative approach to incarceration (Cushing, Williams, & Kronick, 1995; Humbly & Barclay, 2018).

One such rehabilitative program that has been growing in popularity over the last several years is equine-facilitated therapy. Equine-facilitated therapy is one variation of a Prison Animal Program (PAP) in which inmates are responsible for the care, and often the training, of wild horses or horses in need of rehabilitation. While the first known use of dog-facilitated interventions in confinement facilities dates back to 1919, equine-facilitated PAPs are a more recent form of intervention. Equines were not introduced to PAPs until the late 1970’s (Strimple, 2003). Since this time, there have been reports of equine-facilitated PAPs being instituted in correctional facilities in at least 13 states (Bachi, 2013). Advocates of PAPs declare they are win-win programs stating:

“Adult or juvenile offenders learn new skills while being engaged physically, mentally, and most often emotionally. The animals can facilitate a change within the individual which cannot easily be matched by traditional methods. Others, such as the institution, its staff, and the community benefit as well. Animals that might otherwise be destroyed or of little value are also being helped.” (Deaton, 2005, p.59)

Despite the recent surge in equine-facilitated PAPs, there is meager and inconclusive empirical data to support the effectiveness of these programs as therapies and to justify their continued expansion (Bachi, 2013; Furst, 2006; Deaton, 2005). Researchers unanimously agree that there is a great deficit of empirical research related to equine-facilitated PAPs
(Furst, 2006; Bachi, 2013; Deaton, 2005; Cushing et al., 1995). Consider the following quotes taken from studies of PAPs:

“Despite the proliferation of PAPs, there has been little attention paid by researchers in the field. There is a critical need for empirical investigation of these programs as well as long-term follow-up with inmates who participate in them” (Furst, 2006, p.424-425).

“A gap exists between practice and knowledge of PAPs in general and equine-facilitated prison-based interventions in particular” (Bachi, 2013, p.48).

While equine-facilitated PAPs have innate value in their ability to teach vocational skills, provide a service to the community, and benefit the wild horses, data is inconclusive regarding their therapeutic benefits. This study aims to begin closing the knowledge gap by investigating the relationship between recidivism and participation in one equine-facilitate PAP at the Florence Correctional Center in Florence, Arizona. Florence’s PAP, known as the Wild Horse Inmate Program (WHIP), began in 2012 as a joint effort between Arizona Correctional Industries and the Bureau of Land Management (BLM) (Wild Horse Program, 2019). The effort was intended to benefit both wild horses and inmates; inmates would have meaningful work which would help them develop a sense of self-confidence and the wild horses would be gentled and made more adoptable (Wild Horse Program, 2019). The goal of this research to determine whether there is a correlation between rate of recidivism and participation in WHIP at the Florence Correctional Center. The study operates on the underlying assumption that if this equine-facilitated PAP helps inmates build self-efficacy, then inmates who participate in it will recidivate at a lower rate than those who do not participate. While there are many benefits to PAPs, this research seeks only to address the
question of whether recidivism is amongst them. It does not attempt to address the multitude of other benefits that equine-facilitated PAPs might provide to the community or the inmates.

Description of WHIP

Within the razor-wire fences of the Florence Correctional Center’s prison yard lie over two dozen stalls, several round pens, and a large, grassy training field full of obstacles used for training purposes. This is where WHIP takes place. The facility can hold up to 70 horses and typically employs about 30 inmate-trainers at a time. Working in this facility to train the horses is a highly sought-after job amongst the inmates (R. Helm, personal communication, April 2, 2019).

Randy Helm, an experienced horse trainer and prior undercover narcotics officer, established the program in 2012 and continues to oversee it today. Helm guides the inmate trainers as they gentle the horses, providing training direction and equine expertise. In his training, Helm emphasizes the importance of team work and cooperation. He uses the horses to help inmates discuss tough life issues, drawing parallels between the horses and the inmates in what he calls “Lessons from Horses”. Helm discusses the impact of the “herd” you live with and way past experiences such as abuse can shape one’s behavior. Through it all, he practices positive reinforcement and a calm demeanor with the inmates and challenges them to show the horses the same calm and affirming attitudes. The environment on the yard is positive and relaxed (R. Helm, personal communication, April 2, 2019). Inmates who participate in the training program are various age and races. They are recruited based on their custody class (participating inmates are all custody levels 1, 2, or 3) and their prior prison behavior. No inmates who have violations on record from the prior 3 months are considered for the program.
Inmates who show evidence of involvement in prison yard politics are also excluded from the program. Participating inmates have committed a variety of violent and non-violent crimes, but no inmates with a history of animal abuse are eligible (R. Helm, personal communication, April 2, 2019).

Once accepted into the program, inmates are provided with a 28-page curriculum created by Helm. The curriculum outlines the basics of horse care, feeding, training, and safety. The reading is optional but recommended. When inmates first join the program, Helm teaches the basics of gentling horses in the round pen. New inmates are paired with experienced inmate-trainers until they are comfortable around the horses and have mastered the basics of horse care and training. In each 8-hour day of work, about 5 hours are spent gentling and training the horses. The remaining time is spent gathering inmates from the prison yard and performing barn chores including cleaning stalls and feeding the horses. Inmates are paired with two or three horses in training at any given time (R. Helm, personal communication, April 2, 2019).

Ample time is given to train each horse, and inmates are directed to master each step in the training before proceeding to the next step. Horses are generally in training for four months, though some stay longer. Upon the completion of training, horses are put up for adoption and inmates are paired with new horses to gentle (R. Helm, personal communication, April 2, 2019).

**Theoretical Framework**

The idea that inmates might benefit from learning to care for and train a horse is rooted in Albert Bandura’s Theory of Self-Efficacy. According to the Theory of Self-Efficacy, people are contributors to their life circumstances, not just products of them (Bandura, 1994). Central to
self-efficacy is the belief that one has the power to effect changes by one’s actions. In Bandura’s words, “[Self-Efficacy] is the foundation of human motivation, well-being, and accomplishments. Unless people believe they can produce desired effects by their actions they have little incentive to act or to persevere in the face of difficulties” (1994, p.2). Bandura contends that all humans will face challenges in their lives, but those most likely to overcome them are those who develop a deep sense of self-efficacy (1994).

Preliminary research suggests that using horses to build self-efficacy may be effective in some populations (Cumella & Simpson, 2014), however existing research is limited and somewhat contradictory (Hauge, Kvalem, Berget, Enders-Slegers, & Braastad, 2013; Geddes, 2010). No studies could be found specifically discussing the effects of training horses on inmate self-efficacy. This may be due to the very limited number of equine-facilitate PAP’s. Prior studies have suggested that individual suffering from mental health conditions might grow in self-efficacy by interacting with horses (Cumella & Simpson, 2014), thus it is reasonable to hypothesize that training horses might be an excellent tool for building self-efficacy amongst inmates, many of whom suffer from mental illness.

According to Bandura’s theory, self-efficacy is built through four key sources of influence (1994), all of which are present in WHIP. The first of these sources of influence is mastery experiences. The more an individual succeeds, the more they come to believe that they can and will succeed in the future. During this process, failure is inevitable. It is important that failure is small but present, as it teaches people the value of sustained effort (Bandura, 1994). Training horses through WHIP provides inmates with the opportunity to spend as much time as they need working with a horse to gentle and train it (R. Helm, personal communication, April 2,
The inmate is paired with the horse until it is trained, allowing ample time for success. Randy Helm, an experienced horse trainer oversees the program and addresses problems to help inmates avoid insurmountable failures (R. Helm, personal communication, April 2, 2019). This preserves the inmate’s potentially delicate sense of self-efficacy as they gradually develop the ability to overcome obstacles.

The second way individuals build self-efficacy is through vicarious experiences provided by social models. When one watches another whom they perceive to be similar to themselves succeed at a task through sustained effort, the observer begins to believe that they, too might be capable of mastering a comparable activity. The reverse is also true; observing failures of perceived equals tends to lower efficacy (Bandura, 1994). The best social models for building self-efficacy are the individuals who model skills and coping mechanisms for addressing challenges. At WHIP, new inmate-trainers are paired with seasoned inmate-trainers during their first few weeks of the program (R. Helm, personal communication, April 2, 2019). This provides the inmates with social models who are similar to them and successful in their work. The expert trainer, an Arizona Department of Corrections employee, oversees the new inmates, but it is the responsibility of the seasoned inmates to tutor the new inmate-trainers.

Social persuasion is a third tool for building efficacy. According to Bandura’s theory, people who are verbally persuaded that they are competent of completing a task are more likely to be persistent and expend greater effort than individuals who doubt their abilities (1994). Trainer Randy Helm’s method of positive reinforcement and praising the small correct actions inmate-trainers make helps make inmates feel more competent and improves their self-efficacy (R. Helm, personal communication, April 2, 2019).
The final way to improve self-efficacy is to reduce people’s stress reactions and alter their negative emotional and physical states (Bandura, 1994). Individuals with low self-efficacy interpret stress reactions and tension as signs of vulnerability and poor performance. On the other hand, those with high self-efficacy are more likely to be energized by the challenge ahead of them (Bandura, 1994). During training sessions, Helm stresses the importance of relaxation. He tells inmates that both the horse and the trainer should be more relaxed at the conclusion of the training session than they were at its beginning (R. Helm, personal communication, April 2, 2019). This low-stress work environment helps mitigate feelings of stress and tension which might lead to a decrease in feelings of self-efficacy.

This research is conducted on the hypothesis that if WHIP builds self-efficacy, then recidivism rates for inmates who participate in the program will be lower than recidivism rates for non-participants. If this hypothesis is true then it provides the impetus for continued expansion of WHIP across the nation and begs the question of how equine-facilitated therapy might be used in other capacities where low self-efficacy hinders physical, mental, or social well-being.

**Review of the Literature**

**History of PAPs**

The first recorded instance of using an animal in a confinement institution dates to 1919, when a dog was taken to the Government Hospital for the Insane in Washington, DC as a type of experimental playmate for the residents (Strimple, 2003). Years later, in 1975, psychiatric social worker David Lee initiated a therapy program at the Lima State Hospital for
the Criminally Insane. Although technically a division of Health Department, this institution was the most secure facility in the state (Strimple, 2003). Here, Lee introduced pets into one ward of the hospital but not the other. Over the course of his one-year study, it was noted that in these two otherwise identical wards, “the ward with pets required half the amount of medication, and reduced violence, and there were no suicide attempts” (Strimple, 2003, p.72).

In the years that followed, numerous dog-training therapy programs were developed and instituted in prisons. Dog trainer Kathy Quinn (now Sister Pauline) personally helped to start 17 dog-training programs in correctional facilities. These programs had many benefits; the participants experienced increased self-esteem, developed a marketable skill, and earned college credits (Deaton, 2005).

When horses were first introduced to the state penitentiary in Canyon City, Colorado they were not intended to be used as a means of therapy (Strimple, 2003). The prison bought three wild mustangs from the Bureau of Land Management in 1970, but did not know how to train them. To solve their dilemma, prison staff recruited horse trainer Dr. Ron Zaidlicz to join them and develop a horse training program for inmates (Strimple, 2003). Through the horse training program started by Dr. Zaidlicz, inmates learned vocational skills including how to care for and train horses. The inmates learned care and trust (Strimple, 2003). Since this first introduction of horses to the prison systems, at least 13 states have started equine-facilitated PAPs (Bachi, 2013). These programs have encountered opposition from individuals who believe the prison systems should be strictly punitive, but they have continued to grow nonetheless (Strimple, 2003).
Survey of Existing Prison Animal Programs

A national survey of PAPs was conducted in 2006 by Furst. Furst found that, of the 46 states that responded to his survey, 36 had PAPs spread across a total of 59 sites. Furst’s findings indicate that dogs were the most common animal used in PAPs (79.2%) with horses taking second place (16.7%) (2006). Most of the PAPs surveyed were designed after a community-service model where inmates rehabilitated animals (usually dogs) before adopting them out to the public (33.8%). The second most common model was service animal socialization (21.1%). Here, inmates socialized and began training puppies before sending them off to advanced training. The third most common model was the “multimodel” which were most commonly a combination of vocational training and service animal socialization (19.7%) (Furst, 2006). The WHIP program at Florence Correctional Center would have fallen into this category, had it existed in 2006. Of the programs which specified gender, 56.7% involved male participants, 22.4% involved female participants, and 20.9% involved both male and female participants (Furst, 2006). Of the 59 sites surveyed, five were established before the 1980’s, six were established in the 1980’s, fourteen were established in the 1990’s, and 34 between 2000 and 2006 (when the study was published) (Furst, 2006). Most PAPs reported partnering with a nonprofit organization (60.6%). Programs reported having between 2 and nearly 300 participants who participated for an average of 10.8 months. Surveys indicate that for sixteen programs (22.5%) there is no crime that makes inmates ineligible to participate, while in 42 program models (59.2%) inmates may be made ineligible based on the nature of their convictions. The majority of programs (70.0%) do not include a certificate-yielding component (Furst, 2006).
A Related Case Study: The Wild Mustang Program (1995)

In 1995 Cushing, Williams, and Kronick conducted a case study to evaluate the Wild Mustang Program, an inmate-operated horse adoption program. The program ran in a New Mexico correctional center from 1988-1992 (Cushings et al., 1995). Their findings indicated that “Inmate and staff perceptions about the success of the program exceed the statistical evidence.” (1995, p. 95). Regarding recidivism, this study found that there were lower rates of recidivism for participants when compared to the overall recidivism rate for the New Mexico Corrections Department (Cushings et al., 1995). The researchers caution that they did not have a control group or attempt to account for any spurious variables (1995).

Based on the qualitative data from this study, staff and inmates correctly perceived that those inmates who participated in the program showed a decreased number of disciplinary reports and a decrease in the severity of the disciplinary reports they received (Cushings et al., 1995). Inmates who participated in the Wild Mustang Program in conjunction with substance abuse counseling showed a substantial reduction in disciplinary reports, whereas those who participated in the Wild Mustang Program only showed an increase in their overall disciplinary reports with no reduction in severity (Cushings et al., 1995). No before and after data for substance abuse counseling were gathered, so the change could not be declared a result of the substance abuse counseling alone. Curiously, violent offenders and property offenders responded differently to the program, with violent offenders reducing both major and minor reports and property offenders decreasing only major reports, but increasing minor report (Cushings et al., 1995). The researchers conclude “It seems advisable to continue the wild mustang effort with more attention to the evaluation research needed to show definitively
whether or not the [Wild Mustang Program] is a ‘something’ that works, either alone or in conjunction with other intervention programs.” (p. 110).

Recidivism and PAPs

A handful of studies have been conducted to evaluate the relationship between participation in PAPs and recidivism. Most of the studies focused on dog-facilitated PAPs, but their results are worth considering since very few studies on equine-facilitated PAPs have been conducted. One study of 37 participants who helped to socialize and care for dogs at the prison, a zero recidivism rate was found (Bachi, 2013). Unfortunately, this was based on the reports of prison administrators and the executive director of the affiliated nonprofit organization rather than on empirical data. Another study of incarcerated juveniles called Project Pooch found a zero recidivism rate amongst participants who were males ages 12-25. Interestingly, this PAP study was documented over a 3-year period, unlike most PAP studies (Merriam-Arduini, as cited in Bachi, 2013). New Leash on Life, a program from Orange County Juvenile Hall, takes in foster puppies and pairs them with female juvenile delinquents. In a study on their program it was determined that girls who participated recidivated at half the rate of girls who did not participate (Chianese, as cited in Bachi, 2013). A fourth study at the Lorton Prison in Virginia revealed an 11% recidivism rate amongst participants after an unspecified amount of time. Participants in this program were trained in the assistant laboratory animal technician course. This study evaluated 98 participants, 88 of whom were considered valid due to their consistent performance (Bachi, 2013).

Finally, one study was found which looked at equine-facilitated therapies in particular. Researchers Cushing, Williams, and Kronick published a study (1995)
RECIDIVISM AND THE WILD HORSE INMATE PROGRAM

documenting their investigation of the Wild Mustang Program. In their study, they reported a reduced recidivism rate of 25% among Wild Mustang Program participants as compared to the state’s average recidivism rate of 38.12%. Unfortunately, data was not available to track if an inmate had been incarcerated in another state. Furthermore, no efforts were made to account for spurious variables in this study; there was no control group. Researchers determined that their results were inconclusive regarding recidivism.

While these studies certainly make PAPs look promising, it is worth noting that many of the findings are based on very limited sample sizes, incomplete data, dog-facilitated rather than equine-facilitated PAPs, and the subjective reports of non-bias parties. A thorough examination of the literature brings to light to pressing need for more empirical examinations of this topic.

Recidivism as a Means of Measurement

A review of the literature reveals that recidivism is a ubiquitous yet controversial tool for measuring the effectiveness of prison programs. Critics argue that measuring recidivism alone does not take into account the particular crime that lead to the re-incarceration and whether or not the crime was an “improvement” over the previous crime which led to the original incarceration (Gehring, 2000). As critic Gehring explains, “Few would suggest that a murderer who recidivates as a forger has not made progress, or that an armed robber who moves on to a career of mail fraud has not taken steps to eliminate coercive violence from his behavior. Recidivism measures are usually insensitive to such progress.” (2000, p.198).

Critics also rightly point out that recidivism has been defined, in different scenarios,
as re-arrest, re-conviction, or re-incarceration (Janjic, 1998). There is no one universal
definition, making comparison of recidivism studies challenging. Furthermore, recidivism is
challenging to measure on a national level because there is no publicly accessible national
inmate database (Pike, 2008). Consequently, if an inmate is released from prison in Arizona
but recidivates in New Mexico, the inmate will not typically be identified as a recidivist.

Despite the flaws of recidivism as a means of measurement, a review of the literature
reveals that it is still one of the most prominent tools used to evaluate programmatic success. In
this study, recidivism is defined as an inmate’s re-incarceration. It is measured one, two, and
three years after the inmate’s release. While measuring three years after release is most
common in the literature, this study was expanded to include inmates who had been released for
only one or two years in order to increase the sample size.

**Purpose and Research Objectives**

With the rising population of inmates across the United States, pressure is mounting for
a solution that rehabilitates inmates and leads to a lower recidivism rate. PAPs have emerged
as one potential solution to this problem. They have rapidly grown in popularity over the last
several decades, but with little research existing to validate and inform their growth. A
limited number of studies have been conducted to evaluate these programs, and many of those
that exist are fraught with small sample sizes and limited by a lack of empirical data
(Cushing, J.L., Williams, J.D., & Kronick R.F., 2008; Bachi, K., 2013). The problem is
particularly acute amongst equine-facilitated PAPs. This study has emerged as an attempt to
provide empirical data for one equine-facilitated PAP in the hopes that the information will
provide valuable data to inform further studies and inform the development of future PAPs.
Research Objectives and Hypotheses:

The objectives of this research study were as follows:

1. To describe the treatment and comparison groups by age, education, race, and severity of crime.

2. To test the following null hypothesis ($H_0$): There is no relationship between participation in WHIP and rate of recidivism at the Florence Correctional Center. (The alternative hypothesis ($H_1$) is: Inmates who participate in WHIP at the Florence Correctional Center recidivate at a lower rate than inmates who do not participate.)

Methodology

This is an ex post-facto correlational research study; its purpose is to “identify variables and look for relationships among them” (Ary, Jacobs, & Sorensen, 2010). It does not attempt to manipulate the antecedent variables or establish causal relationships, only to find correlations between variables. The independent variable of this study is participation in WHIP, and the dependent variable is rate of recidivism. The study is a static group comparison because it uses two intact groups, only one of which was exposed to WHIP (Ary, Jacobs, & Sorensen, 2010). Because WHIP participants were selected based on certain qualifications, this data is not generalizable to other populations. Although a more robust research method would be ideal, the static group comparison was chosen due to the limited availability of inmate records and the small sample size available. Florence’s WHIP began less than 7 years ago, so this research serves as a snapshot of the program as it exists today and is composed in the hope that it will
Population and Subject Selection

This study reviewed data from all inmates who participated in WHIP and were released on or before March 11, 2018, exactly one year prior to the date inmate data was obtained from the Department of Corrections. Thirty-six inmates (n=36) met this criterion, and the entire sample of 36 was examined. The participants were not randomly selected for this study, but were selected based on their participation in WHIP during a given time frame. WHIP participants were selected from the general prison population based on several qualifying factors. Inmates who were selected showed a clean prison record for 3 months prior to application, had a GED or were willing to pursue one, abstained from prison yard politics, and had a clearance level of 1, 2, or 3 (R. Helm, personal communication, April 2, 2019). The majority (83%) of inmates selected to participate in WHIP were selected from Florence’s North Unit.

A Comparison group was created using inmates who were released from Florence’s North Unit between 2012 and 2017. These inmates worked during their time at the Florence Correctional Center, but they did not participate in the Wild Horse Inmate Program. From a frame of over 3,000 inmates, a sample of 36 was created using 1:1 subject-to-subject matching techniques, according to recommendations by Ary, Jacobs, Sorensen, and Walker (2013). The Comparison group was matched to the Treatment group on criteria including race, education level, most severe felony conviction, and age at time of release. Education level was measured dichotomously based on GED completion since data provided from the prison indicated only the status of GED completion, and nothing regarding further education. Although a slightly closer match could have been obtained by including the prison unit inmates came from as a
matching criterion, this was not done in this study due to a limited availability of inmate data. Florence North Unit was selected as the source for all Comparison group inmates, since 83% of inmates in the Treatment group came from this unit.

Data Collection and Instrumentation

Much of the inmate data reported in this research was provided by the Arizona Department of Corrections. Additional details and inmate records were accessed through the public record using the Arizona Department of Corrections’ online Inmate Datasearch tool. It is assumed that the list of inmates provided by prison staff is complete and accurate. All names on the list of WHIP participants provided by the Department of Corrections were cross-checked with the online Datasearch tool to ensure validity of data.

Data for this study was compiled into an Excel file for review and analysis. Variables included in the file were inmate age at time of release, race, length of time inmate spent in WHIP, worst felony committed before release, and status of GED completion.

Findings

Data were summarized in Tables 1 and 2 using descriptive statistics including measures of central tendency and measures of variability. The Comparison group referenced in Tables 1 and 2 was composed of 36 inmates from the Florence North Unit. This unit was selected as the optimal unit from which to draw a comparison group because 83% of the inmates participating in WHIP came from this unit. The Comparison inmates were selected from a frame of over 3,000 inmates released from Florence North Unit using matching. Matching was used on a subject-to-subject basis to form matched pairs, according to recommendations by Ary, Jacobs, Sorensen,
and Walker (2013). Each WHIP participant was matched to an inmate released from Florence North Unit during the same time period (between 2012 and 2017). Matching criteria included race, education level, and age at time of release. Education level was measured dichotomously based on GED completion since data provided from the prison indicated only the status of GED completion, and nothing about regarding further education. Because the frame from which comparison inmates were selected was large, race and education level were matched exactly (see Table 1), and age was matched very closely (see Table 2). WHIP participants were, on average, approximately one year older than the inmates in the comparison group at the time of their release from prison.

Table 1: Characteristics of Inmates in WHIP and Comparison Group

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>WHIP (n=36)</th>
<th>Comparison (n=36)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>28</td>
<td>77.8</td>
</tr>
<tr>
<td>Black</td>
<td>3</td>
<td>8.3</td>
</tr>
<tr>
<td>Native American</td>
<td>3</td>
<td>8.3</td>
</tr>
<tr>
<td>Mexican American</td>
<td>2</td>
<td>5.6</td>
</tr>
<tr>
<td>Education Level</td>
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<td></td>
</tr>
<tr>
<td>≥GED</td>
<td>26</td>
<td>72.2</td>
</tr>
<tr>
<td>&lt;GED</td>
<td>10</td>
<td>27.8</td>
</tr>
</tbody>
</table>

Table 2: Age of Inmates at Time of Release from Prison

<table>
<thead>
<tr>
<th></th>
<th>WHIP (n=36)</th>
<th>Comparison (n=36)</th>
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<tr>
<td></td>
<td>Mean</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>Age</td>
<td>43.8</td>
<td>11.02</td>
</tr>
</tbody>
</table>
Inmates were further evaluated on the basis of their most severe felony convictions prior to release from prison. As Table 3 shows, the average worst felony conviction for WHIP participants was 3.42, while the average worst felony conviction for the comparison group was 3.86. Felonies are ranked in order of severity, with 1 being the most severe and 6 being the least severe; thus, inmates in WHIP committed, on average, slightly more severe crimes than inmates in the Comparison group.

Table 3: Severity of Felonies Committed by Inmates in WHIP and Comparison

<table>
<thead>
<tr>
<th>Felony*</th>
<th>WHIP</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>19.4</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>27.8</td>
</tr>
<tr>
<td>4</td>
<td>17</td>
<td>47.2</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>2.8</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>2.8</td>
</tr>
<tr>
<td>Mean</td>
<td>3.42</td>
<td>3.86</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>.94</td>
<td>1.22</td>
</tr>
</tbody>
</table>

*Class 1 felonies are the most severe; class 6 felonies are the least severe

In Arizona, class 1 felonies include such severe crimes as first and second-degree murder. They are punishable by death or life in prison. Class 2 felonies are punishable by up to 12.5 years in prison and include crimes such as first-degree burglary (with a firearm), trafficking stolen property, and possession of dangerous drugs for sale. Burglary in the second degree and theft of a means of transportation constitute Class 3 felonies and are punishable by up to 8.75 years in prison. Class 4 felonies include possession of dangerous drugs, theft of property over $3000, and growing marijuana. Theft of property over $2000, personal possession of over two pounds of marijuana, and possession of less than 2 pounds of marijuana for sale constitute class 5 felonies. Finally, Class 6 felonies include personal possession of marijuana, possession of drug paraphernalia, and theft of property over $1000 ("Felony Criminal", 2019).
After inmates were matched for race, education level, and most severe felony, recidivism rates of both groups were compared. All 36 inmates were released for at least 1 year. Of the 36 inmates who were released for at least 1 year, 27 were released for at least 2 years, and 16 were released for at least 3 years. Table 4 shows that, of the 36 inmates who had been released for a minimum of 1 year at the time of this study, 5 WHIP inmates (14%) recidivated during their first year of release while 6 inmates from the Comparison group (17%) recidivated. Of the 27 inmates who had been released for a minimum of 2 years at the time of this study, 3 WHIP inmates (11%) recidivated during their second year of release whereas 7 inmates from the comparison group recidivated (26%). Finally, of the 16 inmates who had been released for three full years, 2 of the WHIP inmates recidivated (12.5%) during their third year of release whereas 6 of the inmates from the Comparison group recidivated (37.5%).

Table 4: Recidivism Rates of Inmates within First, Second, and Third Years after Release

<table>
<thead>
<tr>
<th>Recidivism</th>
<th>WHIP</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>f</td>
</tr>
<tr>
<td>Within one year of release</td>
<td>36</td>
<td>5</td>
</tr>
<tr>
<td>Within two years of release</td>
<td>27</td>
<td>3</td>
</tr>
<tr>
<td>Within three years of release</td>
<td>16</td>
<td>2</td>
</tr>
</tbody>
</table>

Recidivism rates were evaluated in comparison to the amount of time spent in WHIP, as seen in Table 5. Each time increment up to one year spans 4 months, since a horse in WHIP takes about 4 months to train (R. Helm, personal communication, April 2, 2019). The 36 WHIP inmates in this study participated in WHIP for an average of 11.8 months. Of the 36 WHIP inmates studied, 22 participated in WHIP for one year or less, while 14 participated for more than 1 year (see Table 5). None of the 14 inmates who participated in WHIP for more than one
year recidivated during the first year after their release. Interestingly, none of the seven inmates who participated in WHIP for four months or fewer recidivated, either. Of the 20 inmates who participated in WHIP for 1 year or less, five recidivated during their first year of release.

Table 5: Rate of Recidivism as a Measure of Months in WHIP

<table>
<thead>
<tr>
<th>Time in WHIP</th>
<th>n</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4 months</td>
<td>7</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>5-8 months</td>
<td>6</td>
<td>2</td>
<td>33.3</td>
</tr>
<tr>
<td>9-12 months</td>
<td>9</td>
<td>3</td>
<td>33.3</td>
</tr>
<tr>
<td>13+months</td>
<td>14</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Conclusions and Recommendations

The results of this study suggest that there is a correlation between participation in WHIP and reduced recidivism rates. Although inmates who were released for only 1 year recidivated at similar rates in both the WHIP group and the Comparison group, differences became more pronounced as time progressed. Inmates from the Comparison group recidivated over two times more frequently than WHIP inmates during their second year after release. During the third year after release, inmates from the Comparison group recidivated three times more frequently than WHIP inmates. Preliminary results also suggest that inmates may benefit from WHIP most when they stay with the program for more than 1 year.

The results of this study should be reviewed by Arizona Department of Corrections and BLM employees. Since the program appears to be highly effective, it should continue to receive support. Support should come from the program benefactors, including the BLM and the Department of Corrections. In 2017, the BLM spent approximately $48,000,000 caring for wild horses removed from the range, and the lifetime cost of holding one horse in the BLM’s holding facility is nearly $50,000 (“Report to Congress”, 2018). Since every horse that is adopted is one
less horse the BLM has to care for, the BLM should help pay the bill for WHIP which makes wild horses more adoptable. As a second major benefactor, the Arizona Department of Corrections should also help cover the bill for the Wild Horse Inmate Program. In 2010, the Arizona Department of Corrections spent an average of over $60 per day to house one inmate, for an annual cost of nearly $22,000 per year, per inmate (“Recidivism”, n.d.). If WHIP indeed helps reduce recidivism, this could mean huge cost savings for the Arizona Department of Corrections. Ultimately, both the Arizona Department of Corrections and the Bureau of Land Management are programs supported by taxpayer dollars. If the long-term effects of these programs result in cost savings, then the taxpayer ultimately will both pay the bill and reap the reward.

Since participation in WHIP and reduced rates of recidivism appear to be highly correlated, consideration should be given to how more inmates across Arizona could be involved in the program. Funding from the BLM and the Arizona Department of Corrections should be provided to expand facilities in Florence and to pay for additional staffing to expand the program. Arizona should send representatives from each of their major prison facilities to Florence to observe WHIP and consider whether their facility could implement a similar program. Randy Helm should be given the opportunity to meet with the representatives from other Arizona prisons to share his experience with WHIP, address questions about beginning a program like WHIP, and offer advice about how to effectively oversee the program.

In addition to expanding the number of inmates who can participate in WHIP at any one time, WHIP should consider recruiting only inmates who are able to remain in the program for a minimum of one year, since these inmates had a far lower rate of recidivism than inmates who
participated for between 5 and 12 months. While no inmates who participated in WHIP for 4 months or less recidivated in their first year of release, this may be due to the result of the best-behaved inmates being released to parole before they were able to complete their time with WHIP. The relationship between time spent in WHIP and recidivism should be investigated further in future studies to determine whether parole is truly the reason for the zero recidivism rate amongst inmates who participate in WHIP for four months or less. It may also be worth evaluating what happens between the 5th and 12th month of participation that leads to the higher rates of recidivism, as compared to the 0-4th month and the 13+ month of participation.

Although this study is limited by the small sample sizes available at the time of study, the preliminary results indicate that the program is well worth further evaluation. Studies should be conducted to confirm that these results hold true even with larger sample sizes. If further studies produce similar results, then the WHIP program should be evaluated in detail and described in writing to enable prisons around the country to replicate the WHIP model. Equine-facilitated PAPs such as WHIP are resource-intensive and are not feasible in all climates, so research should be conducted to determine whether similar effects can be generated using smaller animals such as dogs. Qualitative research should be conducted to evaluate inmates as they interact with the horses and determine if they appear to be developing self-efficacy.

While the WHIP program has only been training inmates for approximately 6 years, this early research suggests that it may provide significant benefits to inmates. Support should be given to WHIP to enable it to continue operation while further studies are conducted. If researchers can better understand the relationship between WHIP and recidivism, then similar programs can be developed to reach inmates across the country. The spread of WHIP could
prove to be a win-win for inmates, prisons, taxpayers, and horses alike.
References


Efficacy of equine therapy: Mounting evidence


Helm, R. (2019, April 2). Personal interview.


Report to Congress: Management Options for a Sustainable Wild Horse and Burro Program
