

EVALUATION OF A MINDFULNESS AND SELF-
COMPASSION BASED PSYCHOTHERAPY
INCORPORATING HORSES FOR VETERANS
WHO HAVE EXPERIENCED TRAUMA



INTRODUCTION

- William (Bill) Marchand, MD, LFAPA
 - Board certified psychiatrist
 - Director of Research and Equine-assisted Services, Whole Health Service, VA Salt Lake City Health Care System
 - Professor of Psychiatry (Clinical), University of Utah School of Medicine and Adjunct Professor of Animal, Dairy and Veterinary Sciences, Utah State University.
 - Certified by PATH, Intl. as an Equine Specialist in Mental Health and Learning and certified by Eagala to provide Equine-assisted Psychotherapy
 - Mindfulness teacher and practitioner
 - Veteran of the Army and Air Force
 - Horse person
 - Mindful Horsemanship



CO-AUTHORS

- Lisa J. Finnell
 - Riding instructor, horse trainer and owner of Rebel Soul Wranglers Horse Ranch and Training School.
- Amy Hartquist
 - ESMHL and CTRI at National Ability Center

AGENDA

- *Horses Helping Veterans* Program at the VA Salt Lake City Health Care System
- Why Psychotherapy Incorporating Horses (PIH) for Veterans?
- Why mindfulness and self-compassion?
- The *Whispers with Horses* program
- The study
- Next steps

ASK QUESTIONS AT ANY TIME





COLLABORATION

- I am always interested in developing new research collaborations!
- My contact info will on the final slide.



VA SALT LAKE CITY HEALTH CARE SYSTEM



HORSES HELPING VETERANS

Equine Assisted Services for Veterans
Provided by the VA Salt Lake City Health Care System
Whole Health and Mental Health Services

In collaboration with community partners: Utah State University Equine & Human Science, Ride Utah! Program, the National Ability Center, and Rebel Soul Wranglers Horse Ranch and Training School.

- ✓ Equine assisted psychotherapy is offered for outpatients and those Veterans enrolled in the residential substance abuse program and Warrior Renew.
- ✓ There may also be opportunities to participate in horsemanship skills training, Recreational Riding, And Research.

**For more information or to learn about how to participate,
Please Call 801-582-1565 ext.3025**

HORSES HELPING VETERANS

- EAS program created as a collaboration between:
 - VA Salt Lake City Whole Health Service
 - VA Salt Lake City Mental Health Service
 - Utah State University Equine and Human Sciences Program
 - Utah State University Extension, Ride Utah!
 - National Ability Center
 - A Helping Hoof
 - Rebel Soul Wranglers Horse Ranch and Training School

HORSES HELPING VETERANS

- Mission:
 - Provide PIH/EAL, horsemanship skills training and recreational riding to Veterans in the VA Salt Lake City Healthcare System catchment area
 - Focus on suicide prevention, PTSD and substance use disorders
 - Conduct and publish research regarding the benefits of EAS for Veterans

HORSES HELPING VETERANS

- Staffing
 - Part-time VA staff representing the disciplines of social work, recreation therapy, psychology and psychiatry
 - Four Equine trained – one is also a PATH Intl. ESMHL
- Primary locations
 - Utah State University equine facility in Wellsville, Utah
 - National Ability Center, near Park City, Utah
 - Rebel Soul Wranglers Horse Ranch and Training School in Sandy, Utah

HORSES HELPING VETERANS

- Current/past offerings:
 - Individual and group PIH for Veteran outpatients
 - Group PIH/EAL sessions for Veteran residential substance abuse patients
 - PIH/EAL sessions for Veterans who have experienced military sexual trauma
 - Group Horsemanship Skills Training for Veterans at Utah State University
 - Group Trail Rides for Veterans through Utah State University Extension, Ride Utah!
 - Staff resiliency EAL one-half day retreats with A Helping Hoof

WHY PSYCHOTHERAPY INCORPORATING HORSES FOR VETERANS?

- In my work as a VA psychiatrist...I realized...
 - Veterans were often getting better – but not achieving full remission of depression, anxiety and posttraumatic stress disorder symptoms
 - Psychiatric medications were only partially effective and often caused significant side effects
 - Many Veterans were not leading joyful and satisfying lives



WHY PSYCHOTHERAPY INCORPORATING HORSES FOR VETERANS?

- In my work as a VA psychiatrist...I realized...
 - Veterans were participating in the evidence-based mindfulness interventions, such as MBCT and MBSR, but experienced challenges implementing it in their lives
 - The power of self-compassion interventions, such as MSC, for Veterans struggling with moral injury and guilt



DEVELOPMENT OF THE INTERVENTION

- Based on
 - My years of personal experience as a VA psychiatrist and mindfulness teacher
 - Our previous research and the scientific literature
 - Input from colleagues

DEVELOPMENT OF THE INTERVENTION

- Criteria for the intervention:
 - Evidence based to the extent possible
 - Addresses gaps in current mental health treatment for Veterans with trauma histories
 - Structured to facilitate:
 - Replication studies across multiple sites
 - Manualization and dissemination to the field if shown to be effective by rigorous studies

GAPS IN CONVENTIONAL MENTAL HEALTH TREATMENT FOR VETERANS WITH TRAUMA HISTORIES

- Partial or no response to conventional treatments
- Treatment resistance (lack of seeking and engagement)
- Lack of specific focus on MST, moral injury, guilt and healthy attachment

Marchand, W.R. Potential Mechanisms of Action and Outcomes of Equine-Assisted Services for Veterans with a History of Trauma: A Narrative Review of the Literature. *Int. J. Environ. Res. Public Health* 2023,20, 6377. <https://doi.org/10.3390/ijerph20146377>



ADDRESSING TREATMENT ENGAGEMENT

- Our studies suggest that participants find EAS to be enjoyable:
- Veteran study:
 - Marchand, W. R.; Smith, J.; Hoopes, K. H.; Osborne, M.; Andersen, S. J.; Bell, K.; Nazarenko, E.; Macneill, R.; Joubert, K., A pilot observational study of horsemanship skills training for Veterans with posttraumatic stress disorder. *Complement Ther Med* 2022, 102910.
- Non-veteran study:
 - Marchand, W. R.; Sullivan-Sakaeda, L., A pilot observational study of a psychotherapy incorporating equines resiliency intervention for staff at a large medical center. *Complement Ther Clin Pract* 2022, 49, 101660.

WHY MINDFULNESS?

Non-judgmental awareness of the present moment versus autopilot....



WHY MINDFULNESS?

- Non-judgmental awareness of the present moment...as opposed to mind wandering
- Helps avoid maladaptive behaviors driven by emotional reactivity
- Facilitates recognition of ruminative negative thought patterns
- Allows recognition that much of our suffering is caused by our own mind and can be prevented

WHY MINDFULNESS?

- Limitations of mindfulness offered in traditional eight-week evidence-based programs
 - Some Veterans do not want to try it
 - Attrition is a significant issue
 - Many Veterans find it difficult to practice regularly

Marchand WR, Yabko B, Herrmann T, Curtis H, Lackner R (2019). Treatment Engagement and Outcomes of Mindfulness-Based Cognitive Therapy for Veterans with Psychiatric Disorders. *J Altern Complement Med*, 25(9), 902-909.

WHY MINDFULNESS?

- However, there is evidence of benefits of mindfulness for Veterans:
- Our studies:

Marchand, W. R.; Klinger, W.; Block, K.; VerMerris, S.; Herrmann, T. S.; Johnson, C.; Paradiso, N.; Scott, M.; Yabko, B., Mindfulness Training plus Nature Exposure for Veterans with Psychiatric and Substance Use Disorders: A Model Intervention. *Int J Environ Res Public Health* 2019, 16, (23).

Marchand, W. R.; Klinger, W.; Block, K.; VerMerris, S.; Nazarenko, E.; Curtis, H.; Newton, J.; Herrmann, T. S.; Yabko, B.; Lane, J., Mindfulness-based Therapeutic Sailing for Veterans With Psychiatric and Substance Use Disorders. *Mil Med* 2021.

Marchand WR, Yabko B, Herrmann T, Curtis H, Lackner R (2019). Treatment Engagement and Outcomes of Mindfulness-Based Cognitive Therapy for Veterans with Psychiatric Disorders. *J Altern Complement Med*, 25(9), 902-909.

WHY MINDFULNESS?

- However, there is evidence of benefits of mindfulness for Veterans:
- The literature:

Marchand, W. R.; Sandoval, K.; Lackner, R.; Parker, S. C.; Herrmann, T.; Yabko, B.; Velasquez, T.; Lewis, L.; Butler, J., Mindfulness-based interventions for military veterans: A systematic review and analysis of the literature. *Complement Ther Clin Pract* 2021, 42, 101274.

WHY SELF-COMPASSION?

- Self-compassion is simply treating ourselves with kindness and compassion – just as we would a good friend or loved one
- Self-compassion helps us recognize that we are imperfect humans who make mistakes and that we can practice self-forgiveness
- This is especially important for Veterans who have made serious mistakes in life as a result of psychiatric illness and/or addiction
- Lastly, self-compassion is very important for healing from moral injury, defined as “the strong cognitive and emotional response that can occur following events that violate a person's moral or ethical code,” which often occurs as a result of military service



WHISPERS WITH HORSES

- Program was developed to:
 - Make mindfulness and self-compassion training accessible to Veterans by delivering it in a fun and casual setting
 - Provide the opportunity to practice mindfulness and self-compassion in a real-world setting, in an arena with an equine
 - Enhance healing and recovery through the synergistic effects of mindfulness and self-compassion combined with the benefits of horse-human interactions
 - Serve as a complementary intervention to be used in conjunction with traditional psychotherapy and psychopharmacology
 - Ultimately disseminated to the field as a manualized intervention, if shown to be effective by rigorous studies

WHISPERS WITH HORSES

- Six-session intervention
- Provided in group (90-minute sessions) or individual (60-minute sessions) format
- Facilitated by one mental health professional and one equine specialist
- For group therapy – no more than two participants per equine
- Participants work with the same equine each time (if possible)
- Strong focus on development of horse-human communication and relationship

WHISPERS WITH HORSES

- Session structure
 - All six sessions follow the same general structure
 - Opening “check-in with the self” mindfulness/self-compassion meditation
 - Discussion of concepts
 - Mindfulness and self-compassion
 - Horse behavior and communication
 - Arena time with equine
 - Closing discussion and mindfulness/self-compassion meditation

WHISPERS WITH HORSES

- Session I
 - Opening “check-in with the self” meditation
 - Introductions and orientation to the course
 - Intention setting
 - Psychological safety ground rules (for groups)
 - Equine safety briefing
 - Participants paired with equines (meeting with horses at liberty if possible)
 - Grooming instruction and practice
 - Wrap-up discussion
 - Closing self-compassion meditation

WHISPERS WITH HORSES

- Session 2
 - Opening “check-in with the self” meditation
 - “How would I treat a friend?” exercise
 - Equine-human relationships discussion
 - Grooming practice
 - Introduction to leading and practice
 - Wrap-up discussion
 - Closing self-compassion meditation

WHISPERS WITH HORSES

- Session 3
 - Opening “check-in with the self” meditation
 - Self-compassion discussion
 - Grooming practice
 - Leading practice
 - Wrap-up discussion
 - Closing self-compassion meditation

WHISPERS WITH HORSES

- Session 4
 - Opening “check-in with the self” meditation
 - Psychological resistance discussion
 - Loving kindness meditation
 - Grooming practice
 - Leading practice
 - Wrap-up discussion
 - Closing self-compassion meditation

WHISPERS WITH HORSES

- Session 5
 - Opening “check-in with the self” meditation
 - Approaches to difficult emotions discussion
 - Being present with a difficult emotion meditation
 - Grooming practice
 - Leading practice
 - Wrap-up discussion
 - Closing self-compassion meditation

WHISPERS WITH HORSES

- Session 6
 - Opening “check-in with the self” meditation
 - Approaches to guilt, shame, and self-forgiveness discussion
 - Grooming practice
 - Leading practice
 - Wrap-up discussion
 - Closing self-compassion meditation

WHISPERS WITH HORSES

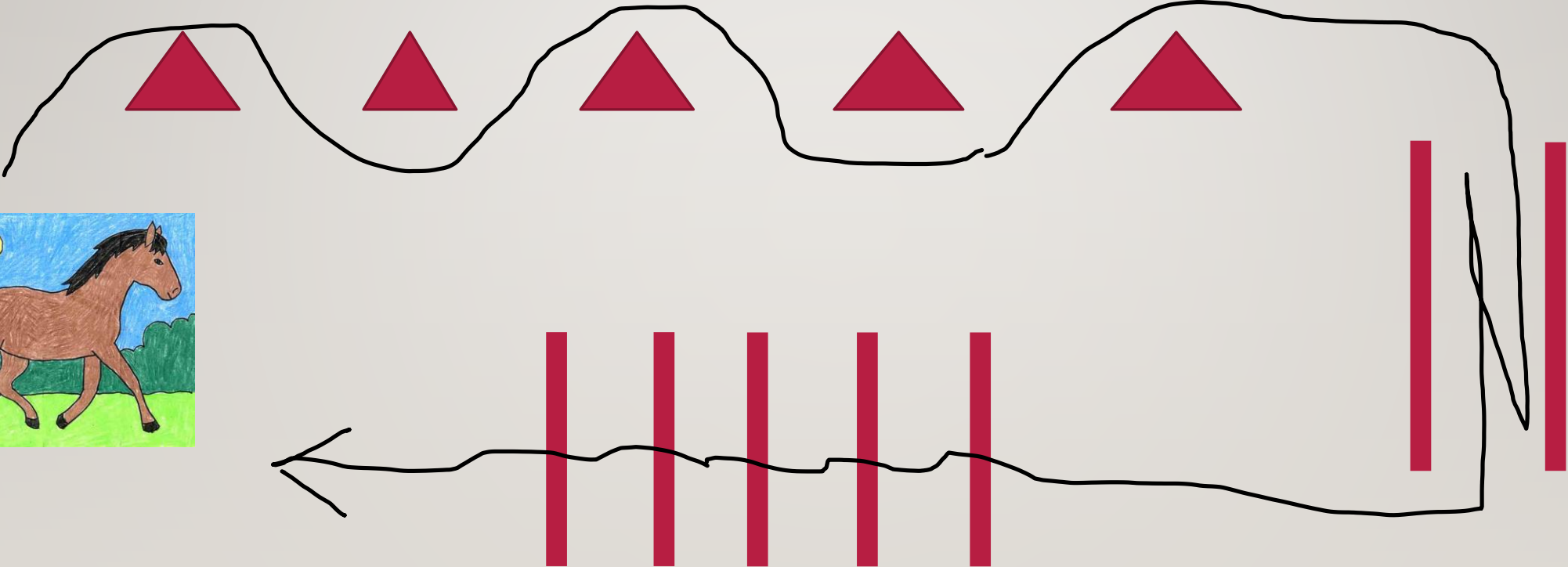
- Arena work with equines
 - Focused on development of a horse-human relationship
 - Participants work on staying in the present moment (mindfulness) to:
 - Ensure safe horse-human interactions
 - Read and respond appropriately to equine body language
 - Maintain awareness of what the human is communicating to the equine through emotions, voice and body language



WHISPERS WITH HORSES

- Arena work with equines
 - Session 1 – grooming
 - Session 2 – grooming and easy leading
 - Sessions 3 through 6 – grooming and leading through obstacle course

WHISPERS WITH HORSES



THE STUDY

- Data collected from August 2021 – March 2022
- Locations were the National Ability Center (indoor and outdoor arena) and Rebel Soul Wranglers Horse Ranch and Training School (outdoor arena) both in the Salt Lake City, Utah area.
- One to four horses per session

THE STUDY

- Psychological instruments administered:
 - PTSD Checklist for DSM 5 (PCL-V)
 - Patient Health Questionnaire 9 (PHQ-9)
 - Positive and Negative Affect Scale (PANAS)
 - Acceptance and Action Questionnaire II (AAQ-II)
 - Physical Activity Enjoyment Scale (PACES).

THE STUDY

- Data analyses:
 - Paired-samples t-tests were used to assess pre-treatment to post-treatment changes in clinical measures with two time points
 - Repeated measures ANOVA were used to assess pre- to post-session measures with three time points
 - Independent samples t-test were used to determine whether any categorical demographic variables were associated with pre-intervention clinical outcome measures, as well as number of sessions completed
 - Correlational analyses were conducted using Pearson bivariate correlation and ANCOVAs

THE STUDY

- This study was approved by two required committees: the University of Utah Institutional Review Board (IRB) and the VA Salt Lake City Health Care System Research and Development Committee.

RESULTS

- Participants:
 - 33 unique Veterans
 - 17 males and 16 females (52% male)
 - Mean age of 46 years-old
 - Most (73%) had PTSD, all had trauma histories
 - Many had MST, addictive and other psychiatric disorders
 - 20 were in group and 13 in individual therapy

RESULTS

- Safety:
 - There were no injuries or close calls for participants, staff, or equines
 - There were no pre- to post-session increases of negative or decreases of positive affect suggestive of emotional distress

RESULTS

- Utilization and treatment engagement:
 - Twenty (60.6%) enrolled in group and 13 (39.4%) in individual therapy.
 - An average of 3.8 (SD = 1.8) sessions were attended
 - Over-half of participants (n = 19; 57.6%) completing 4 or more sessions
 - Eight participants (24.2%) completing all 6 sessions
 - Four (12.1%) participants completed only 1 session

RESULTS

- **Utilization and treatment engagement:**
 - Correlational analyses indicated that diagnostic and demographic variables did not predict treatment engagement
 - The type of session (group vs. individual) was also not related to number of sessions completed.

RESULTS

- Utilization and treatment engagement:
 - The mean PACES score for all timepoints together was 110.44 (SD= 15.55), with a range of 69–126 indicating Veterans generally considered the intervention to be enjoyable.

RESULTS

- Psychological instruments:
 - Pre- to post-session outcomes (sessions one, three and six):
 - There was a significant ($p = 0.015$) reduction in AAQ-II scores from pre- to post- for session one only.
 - PANAS positive affect scale scores increased significantly on sessions one ($p = 0.009$) and three ($p = 0.010$)
 - Scores on the negative affect scale of the PANAS decreased for sessions one ($p = 0.001$) and three ($p = 0.009$)

RESULTS

Table 4
Pre- to post-session outcomes.

Instrument	Session 1		Session 3		Session 6	
	Mean (SD)	Statistics	Mean (SD)	Statistics	Mean (SD)	Statistics
AAQII	Pre: 35.47 (5.85) Post: 33.42 (7.02)	$t(18) = 2.705$ $p = .015 *$ $d = .62$	Pre: 32.95 (7.91) Post: 31.48 (8.58)	$t(20) = 1.82$ $p = .084$	Pre: 29.22 (9.50) Post: 28.00 (8.63)	$t(8) = 1.54$ $p = .163$
PANAS positive affect	Pre: 24.95 (8.34) Post: 29.09 (10.41)	$t(21) = 2.88$ $p = .009 *$ $d = .61$	Pre: 27.53 (10.74) Post: 32.11 (12.30)	$t(18) = 2.87$ $p = .010 *$ $d = .65$	Pre: 29.55 (7.09) Post: 31.77 (6.81)	$t(8) = -1.56$ $p = .149$
PANAS negative affect	Pre: 28.52 (10.35) Post: 24.21 (9.83)	$t(22) = -3.89$ $p = .001 *$ $d = .81$	Pre: 26.57 (10.32) Post: 23.00 (11.89)	$t(18) = -2.94$ $p = .009 *$ $d = .67$	Pre: 26.66 (9.64) Post: 26.33 (10.94)	$t(8) = -.305$ $p = .768$

AAQII = Acceptance and Action Questionnaire II; PANAS = Positive and Negative Affect Scale; SD = standard deviation; * = statistically significant

RESULTS

- Psychological instruments:
 - Pre- to post-intervention outcomes:
 - There was a significant reduction in PHQ ($p = 0.003$) and AAQ-II ($p = 0.005$) scores
 - There were no statistically significant changes in PCL-M or PANAS scores

RESULTS

Table 5
Pre – to post-intervention outcomes.

	Pre-intervention	Post-intervention	Statistics
Instrument			
PHQ-9	<i>M</i> = 16.60 <i>SD</i> = 5.30	<i>M</i> = 13.50 <i>SD</i> = 6.60	<i>t</i> (9) = 4.04 <i>p</i> = .003 * <i>d</i> = 1.28
AAQII	<i>M</i> = 36.56 <i>SD</i> = 4.50	<i>M</i> = 30.89 <i>SD</i> = 5.71	<i>t</i> (8) = 3.78 <i>p</i> = .005 * <i>d</i> = 1.25
PCL-M	<i>M</i> = 57.40 <i>SD</i> = 1.46	<i>M</i> = 51.40 <i>SD</i> = 22.22	<i>t</i> (4) = 1.50 <i>p</i> = .209
PANAS positive affect	<i>M</i> = 26.71 <i>SD</i> = 8.69	<i>M</i> = 32.14 <i>SD</i> = 6.52	<i>t</i> (6) = 1.53 <i>p</i> = .177
PANAS negative affect	<i>M</i> = 28.11 <i>SD</i> = 10.94	<i>M</i> = 26.33 <i>SD</i> = 10.94	<i>t</i> (8) = -.692 <i>p</i> = .509

PHQ-9 = Patient Health Questionnaire; AAQII = Acceptance and Action Questionnaire II; PCL-M = PTSD Checklist for DSM IV, military PANAS = Positive and Negative Affect Scale; SD = standard deviation; * = statistically significant.

RESULTS

- **Covariate and correlational analyses;**
 - There was no interaction effect of gender, individual versus group therapy, or diagnoses of PTSD, MDD, chronic pain, or MST on either depression or psychological flexibility outcomes
 - The percentage of an individual's service connection did not predict the number of sessions completed

LIMITATIONS

- The sample size was small
- It was an uncontrolled study, therefore, cause and effect relationships were not demonstrated
- Selection bias is a concern due to the lack of randomization

DISCUSSION AND CONCLUSIONS

- The overarching aim of this investigation was achieved, which was to pilot test a novel PIH intervention
- Mindfulness and self-compassion training can be successfully incorporated into a PIH intervention
- It is feasible and safe to use this intervention for Veterans
- The intervention can be utilized as either group or individual therapy
- The intervention may result in decreased depression and enhanced psychological flexibility

ADDITIONAL LESSONS LEARNED

- Verbal feedback from Veterans was very positive
- Some went through the program twice (but not included in the study)
- Various reasons given for dropping out, including cold weather and injuries unrelated to the interventions
- Scheduling is very challenging for the group intervention and (anecdotally) it is associated with more attrition

NEXT STEPS

- Continue to refine the basic intervention
- Refine and evaluate more advanced level 2 and 3 interventions
- Incorporate mounted activity in level 3

NEXT STEPS

- fNIRS/HRV study of intervention components – funded by HHRF!!!
- Collect other physiological data, horse and human HRV, cortisol and possibly oxytocin
- Collect additional utilization data from a larger sample
- Randomized controlled trial

PUBLICATION

- Marchand, W. R.; Lackner, R.; Hartquist, A.; Finnell, L.; Nazarenko, E., Evaluation of a mindfulness and self-compassion-based psychotherapy incorporating horses for Veterans who have experienced trauma. *Complement Ther Med* 2023, 72, 102914.

VA SALT LAKE CITY EAS PUBLICATIONS

- Marchand, W. R.; Smith, J.; Hoopes, K. H.; Osborne, M.; Andersen, S. J.; Bell, K.; Nazarenko, E.; Macneill, R.; Joubert, K., A pilot observational study of horsemanship skills training for Veterans with posttraumatic stress disorder. *Complement Ther Med* 2022, 102910.
- Marchand, W. R.; Sullivan-Sakaeda, L., A pilot observational study of a psychotherapy incorporating equines resiliency intervention for staff at a large medical center. *Complement Ther Clin Pract* 2022, 49, 101660.
- Marchand, W. R.; Lackner, R.; Hartquist, A.; Finnell, L.; Nazarenko, E., Evaluation of a mindfulness and self-compassion-based psychotherapy incorporating horses for Veterans who have experienced trauma. *Complement Ther Med* 2023, 72, 102914.
- Marchand, W. R.; Andersen, S. J.; Smith, J. E.; Hoopes, K. H.; Carlson, J. K., Equine-Assisted Activities and Therapies for Veterans With Posttraumatic Stress Disorder: Current State, Challenges and Future Directions. *Chronic Stress (Thousand Oaks)* 2021, 5, 2470547021991556.
- Marchand, W. R.; Joubert, K.; Smith, J.; Nazarenko, E.; Klinger, W.; Sheppard, S.; Hoopes, K. H., A Pilot Observational Study of Implementing an Equine-Assisted Services Program Within a VA Medical Center Residential Substance Use Disorder Treatment Program. *Mil Med* 2022.

VA SALT LAKE CITY EAS PUBLICATIONS

- Hoopes, K. H.; Osborne, M.; Marchand, W. R.; Joubert, K.; Nazarenko, E.; Black, H.; Klinger, W.; Sheppard, S., A pilot observational study of recreational trail riding for Veterans with addictive disorders. *Complement Ther Med* 2022, 65, 102813.
- Marchand, W.R., Sullivan-Sakaeda, L., Lackner, R., Taplin, D., Nazarenko, E., A replication study of a psychotherapy incorporating horses resiliency intervention for healthcare workers. *Complement Ther Med* 2023, 76, 102965
- Marchand, WR, Smith, J, Nazarenko, E, Joubert, K, Black, H, Osborne, M, Andersen, S, Bell, K Baldwin, S, Klinger, W, Connelly, H, Sheppard, S, Hoopes, K. A pilot replication study of implementing an equine-assisted services program within a VA residential substance use disorder treatment program. *Mil Med* (in press).
- Marchand, W.R. Potential Mechanisms of Action and Outcomes of Equine-Assisted Services for Veterans with a History of Trauma: A Narrative Review of the Literature. *Int. J. Environ. Res. Public Health* 2023,20, 6377.
<https://doi.org/10.3390/ijerph20146377>

QUESTIONS AND DISCUSSION





THE END

CONTACT INFORMATION

- William (Bill) Marchand
 - william.marchand@va.gov
 - 801- 582 -1565 x 1847

