

The Effect of Equine Assisted Learning on Improved Stress, Health and Coping among Quarantine Control Workers in South Korea

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Agenda

1. Mental health issues of Korean FMD/AI control workers
2. Usefulness of Equine Assisted Learning
3. Study aims
4. Research design & Measures
5. Key findings
6. Summary & Conclusions

Mental Health Issues

- Foot-and-Mouth Disease (FMD) and Avian Influenza (AI) frequently occur in South Korea, and quarantine workers are forced to partake in massive killings of livestock.
- **Same group as other disaster relief workers and equivalent stress levels**
 - Job contains high stress, evoke negative emotion, mental health issues, burn out, turnover
 - Frequent exposure to stressful, fearful and guilty events, including massive killing of livestock
 - Experience ambivalence and moral conflict from having to kill against their will
 - Anxiety, irritation, disinterest, helplessness, negative disposition, substance use, fatigue, etc.
 - If left untreated, lead to severe depression, anxiety, PTSD, suicide and other psychological issues
- **Limited availability and accessibility of resources to receive professional help**
 - Lack of resources (programs, employee assistance) to get professional help
 - Poor help seeking behaviors on occupational stress
 - Living with negative recollection experiences & emotional/psychological discomfort

Usefulness of EAL

- **Help individuals cope with emotional and behavioral issues through a learning-based program**
- **Participants engage in structured, facilitator-led sessions with constant feedback on their experiences**
 - Increased self-awareness, empathy, confidence through interactive communication with horses
 - Enhanced interpersonal skills and a sense of accomplishment through problem solving
- **Effective for**
 - Reducing trauma symptoms (Duncan et al., 2014; Gehrke et al., 2018), depression in at-risk youths (Federick et al., 2015)
 - Increasing self-control, lower impulsivity (Oh & Sohn, 2017), confidence, empathy, social skills (Fischer, 2014)
- **Globally popular and widely applied in clinical settings**
 - Counseling and learning programs in correctional facilities (Bachi, 2013; Deaton, 2005)
 - Mental health facilities (Bizub, Joy, & Davidson, 2003), social services (Burgon, 2003)
 - Women's and youth addiction treatment centers (Pollack, 2009)
 - High risk youth and veterans experiencing emotional and behavioral trauma (Schultz, 2005)

Study Aims

- Gain deeper understanding of mental health issues presented by FMD/AI control workers
- Explore usefulness of Equine Assisted Learning (EAL) program on
 - Improving perceived stress level
 - Enhancing stress coping (problem-solving, support seeking, and avoidance)
 - Improving overall quality of life (various domains of health)
 - Vitality, general mental health, emotional/social functioning, etc.

Research Design

- **Design** : Non-randomized pre/post design w/ a single treatment group
- **Program** : A total of 8 weeks (2/week) of 16 session, 6 ground activities, 10 riding activities
 - Rapport building with horses
 - Ground - observing, grooming, leading, desensitizing, harnessing
 - Riding - acquire independent riding skills (walking up to rising trots)
- **Participants** : 45 voluntary subjects with no prior mounting/unmounting experience
- **Measures**
 - Korean version of the Perceived Stress Scale (KPSS)
 - Korean version of the Coping Strategy Indicator (K-CSI)
 - Quality of life SF-36 Survey
- **Analysis** : Paired t-test, ANCOVA using PASW 18.0 (sign. set to $p < .05$)

Measures

- **Korean version of the Perceived Stress Scale (KPSS)**
 - 10 items, rated on a 5-point Likert scale, range (0 never, 4 very often), total by sum of all items
 - Interpretation normal (total score 12 or below), mild (13-15), moderate (16-18), high (19+)
 - Good internal reliability, sufficient Cronbach' a (.81 at pre-test, .85 at post-test)
- **Korean version of the Coping Strategy Indicator (K-CSI)**
 - Problem-solving, seeking social support, avoidance domains (**Higher scores, greater use of the strategy**)
 - 33 items, rated on a 5-point Likert scale (1 not at all, 2 a little, 3 a lot)
 - Good internal reliability, sufficient Cronbach' a (.78~.90)
- **Quality of life SF-36 Survey**
 - Limitations on physical activities due to health problems, social activities due to physical or emotional problems, usual role activities due to physical health problems, bodily pain, general mental health, limitations in usual role activities due to emotional problems, vitality, and general health
 - Higher scores indicate better perception of functional health and well-being
 - Fair to good internal reliability, sufficient Cronbach' a (.56~.85)

Key Findings

- **Participant characteristics (N=45)**

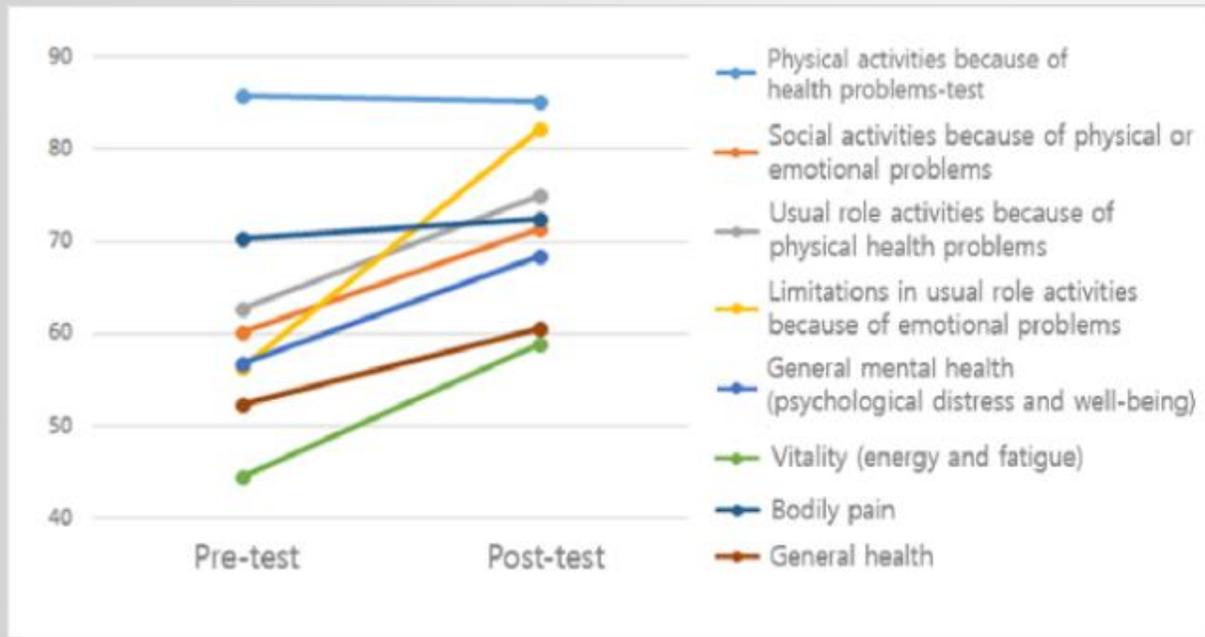
- Avg. 41.2 yrs (SD=10.5), male (84.4%), university of higher level of education (82.2%)
- Avg. length of current employment abt 10 yrs (SD=124.2), less than 5 yrs (53.3%), 20+ yrs (22.2%)
- With one or more livestock killing experiences (75.6%)
- Experience being “difficult” (97.1%), “very difficult” (38.2%), only 8.8% (n=3) reported receiving any Tx

- **Changes in quality of life**

- Greatest improvements in **limitations in usual role activities due to emotional problems** ($t=-5.23, p<.01$)
- Followed by **vitality (energy & fatigue)** ($t=-6.71, p<.01, 32.1\%$ improvement), **general mental health (psychological distress and well-being)** ($t=-5.57, p<.01, 20.4\%$ improvement), **social activities due to physical or emotional problems** ($t=-4.07, p<.01, 18.4\%$ improvement), **usual role activities due to physical health problems** ($t=-3.17, p<.01, 19.4\%$), **and general health** ($t=-3.21, p<.01, 15.6\%$)
- By effect size (Cohen’s d), vitality (.83), limitations in usual role activities due to emotional problems (.78), social activities due to physical or emotional problems (.61), general health (.45), and usual role activities due to physical health problems (.47)

Key Findings

- Changes in quality of life before and after EAL program participation (N=45)

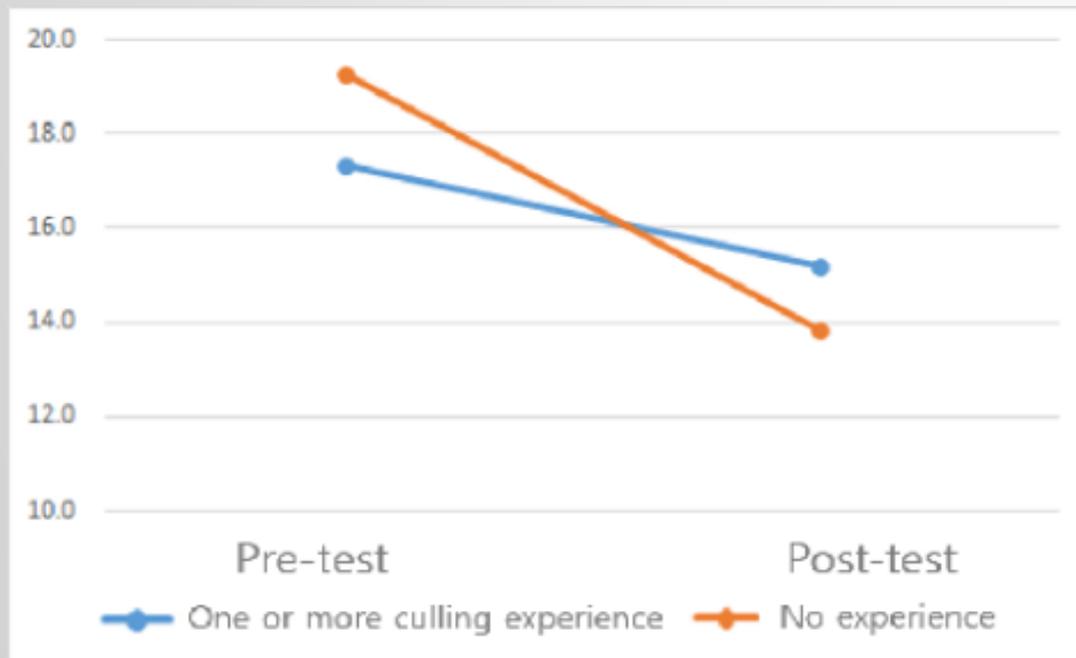


- ANCOVA results showed a sig. difference in the post-test mean on physical activities due to health problems and vitality, controlling for whether participants had 1+ massive culling experiences
- Subjects with 1+ massive culling experience exhibited a lower level of physical activities due to health problems (Adjusted mean=71.5, SE=3.4), compared to those without such experience (Adjusted mean=86.0, SE=6.0)
- Subjects with 1+ massive culling experience exhibited a lower level of vitality (Adjusted mean=56.3, SE=2.2), than those without such experience (Adjusted mean=67.0, SE=3.9)

Key Findings

- Changes in perceived stress level

- Sig. change after program participation ($t=4.77, p<.001$)
- 17.8% decrease in participants needing clinical assessment for depression/anxiety issue
- More people returned to normal stress range (from $n=4$ to $n=11$, scores 13 or lower)
- Of 22 participants who exhibited high levels of stress, 13 showed improvement after the program



- ANCOVA results showed a sig. difference in the post-test mean, controlling for whether participants had 1+ massive culling experiences
- Subjects with 1+ massive culling experience exhibited a higher stress level (Adjusted mean=15.2, SE=.60) , compared to those without such experience (Adjusted mean=13.8, SE=1.1)

Key Findings

- **Changes in stress coping**

- Problem-solving skills slightly improved (from M=4.10, SD=.61 to M=4.20, SD=.63, $t=-3.28$, $p<.01$)
- Avoidance tendency decreased (from M=4.15, SD=.62 to M=3.80, SD=.57, $t=2.72$, $p<.01$)
- Social support seeking improved (from M=4.06, SD=.61 to M=4.39, SD=.65, $t=-2.002$, $p<.10$)
- By effect size (Cohen's d), moderate effect sizes for both support seeking (.57) and avoidance (.56)

Subcategories	Pre	Post	t	p	Cohen's d
	M(SD)	M(SD)			
Social support seeking	4.06(.61)	4.39(.65)	-2.002	.052	.57
Problem solving	4.10(.61)	4.20(.63)	-3.28	.002	.16
Avoidant	4.15(.62)	3.80(.57)	2.72	.023	.56

Summary

- This study explored the usefulness of Equine Assisted Learning (EAL) in improving the psychological and emotional functioning of these workers. A total of 45 FMD/AI control workers participated in 16 sessions of an EAL program, facilitated by therapeutic riding professionals and trained horses
- After EAL participation, significant changes were observed in the level of stress, coping style, and overall quality of life related to health, most notably increased vitality, enhanced emotional and social functioning, greater problem-solving and less social avoidance
- Considering program components that involve subjects to partake in problem-solving tasks, building competency and resilience w/o falling apart or running away may have helped them to seek healthy solutions for overcoming challenging or stressful situations. People learn to deal with difficult situations by overcoming frustrations and maintaining a more stable emotional state

Summary

- Differences were in the level of quality of life, stress level, and vitality depending on whether participants had 1+ massive culling experiences in the past is also an important finding
- This indicates that massive killing of livestock has a lingering adverse effect on mental health and is important in understanding quality of life
- Considering the nature of work and repeated exposure to stressful situations, we suggest that EAL program be combined with individual or group counseling sessions along with riding sessions
- If used correctly by trained professionals, equine intervention is useful in reducing stress and enhancing emotional and psychological functioning of disaster relief workers as well as improving life and interpersonal skills in participants

References

- 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*(1), 46-74.
- Bizub, A. L., Joy, A., & Davidson, L. (2003). " It's like being in another world": demonstrating the benefits of therapeutic horseback riding for individuals with psychiatric disability. *Psychiatric rehabilitation journal, 26*(4), 377.
- Burgon, H. (2003). Case studies of adults receiving horse-riding therapy. *Anthrozoös, 16*(3), 263-276.
- Deaton, C. (2005). Humanizing prisons with animals: A closer look at" cell dogs" and horse programs in correctional institutions. *Journal of correctional education, 46-62*.
- Duncan, C. N., Critchley, S., & Marland, J. (2014). Can Praxis: A model of Equine Assisted Learning (EAL) for PTSD. *Canadian Military Journal, 14*(2), 64-69.
- Fischer, L. (2014). The experiences of adolescents in residential care participating in equine assisted learning (Doctoral dissertation, Stellenbosch: Stellenbosch University).
- Frederick, K. E., Hatz, J. I., & Lanning, B. (2015). Not just horsing around: The impact of equine-assisted learning on levels of hope and depression in at-risk adolescents. *Community Mental Health Journal, 51*(7), 809-817.
- Gehrke, E. K., Noquez, A. E., Ranke, P. L., & Myers, M. P. (2018). Measuring the psychophysiological changes in combat Veterans participating in an equine therapy program. *J Mil Vet Fam Heal, 4*(1), 60-69.
- Oh & Sohn. (2017). The Effects of Equine-assisted Activities and Therapy on Improving Maladjustment Behavior of Students in Juvenile Reformatory School. *소년보호연구, 30*(4), 161-200.
- Women's and youth addiction treatment centers (Pollack, 2009)

Thank you