



7-1-2023

The Relationship Between Mental Health & Physical Health In Agriculture

Brenda Fonseca
University of the Pacific

Follow this and additional works at: <https://scholarlycommons.pacific.edu/ot-capstones>



Part of the [Occupational Therapy Commons](#)

Recommended Citation

Fonseca, Brenda, "The Relationship Between Mental Health & Physical Health In Agriculture" (2023).
Occupational Therapy Student Capstones. 22.
<https://scholarlycommons.pacific.edu/ot-capstones/22>

This Capstone is brought to you for free and open access by the Occupational Therapy Program at Scholarly Commons. It has been accepted for inclusion in Occupational Therapy Student Capstones by an authorized administrator of Scholarly Commons. For more information, please contact mgibney@pacific.edu.

The Relationship Between Mental Health & Physical Health In Agriculture

Presented By: Brenda Fonseca, CEAS

Partnership with: Cal AgrAbility

Site Mentor: **Esmeralda Mandujano** (Community Health Program Manager)

Faculty Mentor: **Dr. Bains**





(CalAgrability, n.d.)



WRASAP

Western Regional Agricultural
Stress Assistance Program

(WRASAP, n.d.)

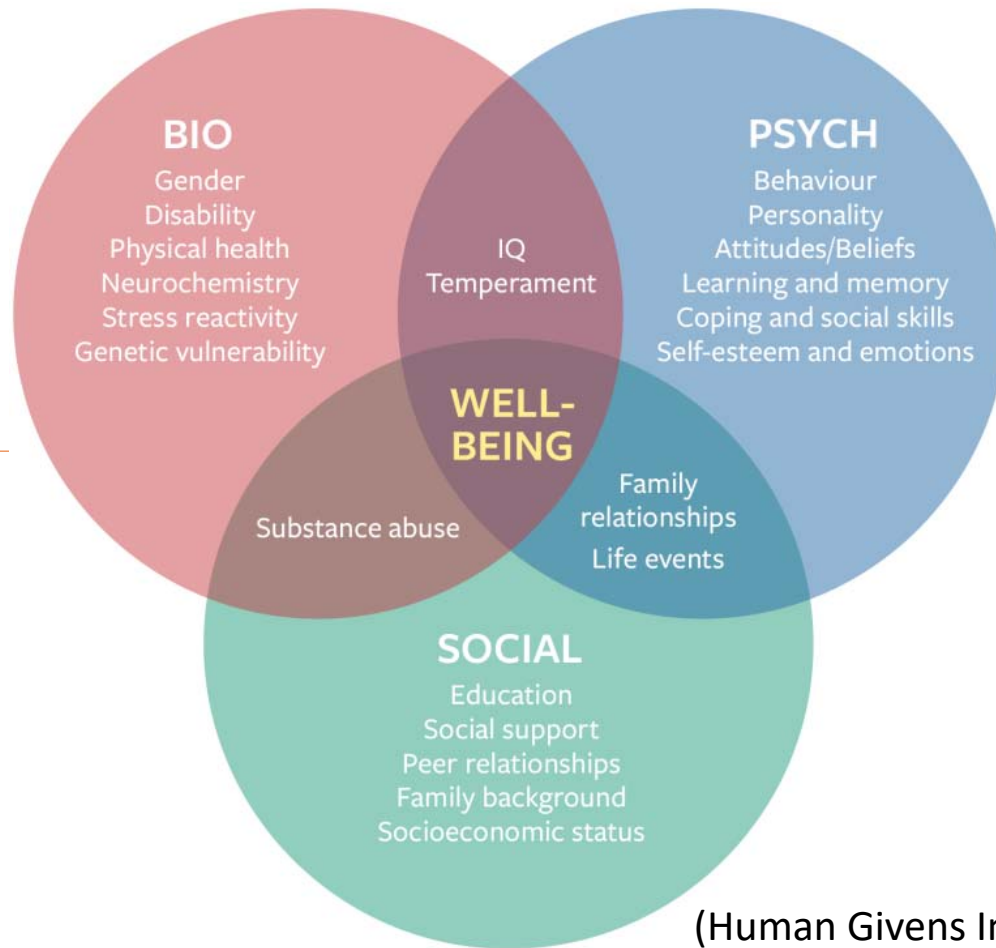
Background

- Farm worker vs agricultural worker (CDFA, 2022 & USDA, 2022)
- Agriculture is ranked most hazardous industry (CDC, 2021)
- 322,300 Agricultural workers living & working in California
 - 1/3 -1/2 of all agricultural workers in United States (EDD, 2022)

Problem: Agricultural workers are marginalized

- National Labor Relations Laws (NLRA)

Guiding Theory



Literature Review



**Literature Gap: Injury prevention programs only
address physical components**

UNIVERSITY OF THE
PACIFIC

School of
Health Sciences

Needs Assessment

Cal AgrAbility

- Increased funding & staffing
- High physical needs
- Limited health literacy
- Occupational therapy's (OT) fit into Cal AgrAbility
- HIGHER NEED FOR MENTAL HEALTH

National AgrAbilities

- Increased funding & staffing
- High physical needs
- Farm site assessments & activity analysis
- OT consultation & education
- HIGHER NEED FOR PHYSICAL HEALTH

Program Purpose

- Incorporate mental & physical health components into an injury prevention program in order to meet the specific needs of the agricultural population
 - Creating educational material from OTs perspective
 - Creation of specific ergonomic program

Outcomes

How Mario Protects His Shoulder While Being A Farmworker

Mario is a seasonal farm worker who regularly does shoulder exercises and stretching at home to prevent a rotator cuff injury and to help with soreness and pain.



"I have found it helpful to have a balance between stretching and strengthening my shoulder muscles after work, especially when working in agriculture. And I typically do them while sitting down on my couch during a commercial break."

So, what is a rotator cuff?

The rotator cuff is located in your shoulder. It is a collection of 4 muscles and tendons that help keep your shoulder in its socket. The rotator cuff is very important because it stabilizes your shoulder while you move your arm in any direction.



Rotator cuff injuries are more common in individuals who work in agriculture because it consists of a lot of overhead repetition, reaching, and heavy lifting. Individuals over the age of 40 are also at risk for rotator cuff injuries due to wear and tear related to aging.

"From farmer to farmer, here is how I protect my shoulder."

"I always like to stretch after work and on days where I am more sore or in pain, I only do stretching- no strengthening exercises."

"Here are the stretches I usually do:"

1. **Cross-Body Stretch**
 - o Cross one arm across your chest, with the other one you back it with your forearm and pull until you feel a stretch in the back of your shoulder.
 - o Hold the stretch for 3-5 seconds, 5-10



How to Protect Your Rotator Cuff

Keep A Power Pose

Balance and stability are affected by the extra weight of carrying heavy buckets. A power pose creates stability and decreases the risk of a fall or back injury. Here is how to hold a power pose:

- Keep your legs at least shoulder width apart (or lunge) creating a strong base.
- Keep your back straight, shoulders squared, and elbows tucked into your sides.
- Bend at your hips and knees and not the back.



Image: Brenda Fonseca

Harness Wear Horizontal Harness



Image: Cal AgrAbility

- The strap should lay comfortably above the hips and securely close to the body.
- To avoid falls, the bucket should not take up more than 1/2 your thigh.

X Harness

- "X" part of the belt should be at your mid back, at or below your shoulder blades, to distribute weight evenly through the back.
- Wearing the harness too high up puts pressure on the neck muscles.



Image: Hoss & Selected Seeds

Bucket Etiquette

- Keep your bucket in front of your belly button.
- If at your hips or lower, it will get in your way when walking, putting you at risk for falling.
- If too high, it may put pressure on your chest, making you "top heavy".



Image: Carve

- If having the bucket in front of your belly button is uncomfortable, keep it where it's most comfortable but widen your base (keep your legs at least shoulder width apart) to make your weight more balanced



Image: Brenda Fonseca

Stretches for Cherry Picking Safety

Sideways Arm Stretch
Purpose: ROM
• Straighten elbows, arms at shoulder level in front.
• Spread arms out to side, opening chest.

Shoulder Shrug (elevation and depression)
Purpose: ROM, Relaxation (Version A), Strength (Version B)
Version A
• Raise both shoulders up towards ears.
• Hold 3 seconds.
• Slowly lower shoulders and relax.
Version B
• Raise both shoulders up towards ears.
• Hold 3 seconds.
• Lower shoulder blades back and down as if putting the head on both pockets.
• Hold 3 seconds.
• Repeat to other side.

Head Tilt (lateral flexion)
Purpose: ROM, ADLs - looking under cabinet or around an object
• Look straight ahead.
• Tilt head gently sideways toward shoulder. (do not raise shoulder toward ear)
• Hold 3 seconds.
• Repeat to other side.

PRECAUTIONS
None

PRECAUTIONS
Diabetes, neck pain

California AgrAbility | 100 UC DAVIS YEARS | BIOLOGICAL AND AGRICULTURAL ENGINEERING

Strengthening Exercises for Cherry Picking Safety

Shoulder Blade Push (traction)
Purpose: ROM, Strength, Posture
• Sit at edge of chair or stand with arms relaxed at sides.
• Pull shoulder blades back and toward each other.
• Hands should remain relaxed at sides.
• Hold 6 seconds.
• Relax.

Rotator (shoulder strengthen, external rotation)
• Put resistance band just above wrist, keeping elbows bent and tucked to the side.
• Pull one arm out, rotating at the shoulder.
• Hold 6 seconds.
• Relax slowly.
• Repeat with other arm.

PRECAUTIONS
Diabetes, neck pain

Heel-Toe-Lift (ankle dorsiflexion/plantarflexion)
Purpose: ROM, Strength, ADLs - Walking, climbing stairs, Version A (lifting).
• Sit with feet flat on floor.
• Lift heels, keeping heels on floor.
• Return to flat.
• Lift toes, keeping heels on floor.
• Return to flat.
Version B (standing).
• Stand up straight holding on to chair.
• Rise up and stand on toes.
• Hold 3 seconds.
• Lower slowly to flat feet.
• Challenge: Stand on one leg and raise heel. Repeat on other leg.

PRECAUTIONS
Osteoporosis, Balance, Back pain

California AgrAbility | 100 UC DAVIS YEARS | BIOLOGICAL AND AGRICULTURAL ENGINEERING

CARING FOR MENTAL & PHYSICAL HEALTH IN AGRICULTURE

Physical and mental health are closely related. When one is affected the other is also likely to be affected.

Research shows that a physical injury or limitation causes stress which can cause mental health symptoms. The image below shows how farmworkers are more likely to have these conditions compared to the general population:

Disorder	General Population	Agriculture Population
Depression	16	26
Suicide	27.4 deaths per 100 people	42.2 deaths per 100 people

Symptoms of mental health are not always obvious & may be mistaken for typical work stress in agriculture. Common symptoms to be aware of include:

- Decreased appetite
- Difficulty sleeping
- Extreme fatigue
- Extreme weight changes
- Low self esteem
- Headaches
- Vision changes
- Increased heart rate & breathing rate

It's important to recognize and address symptoms of mental conditions as soon as possible. Unresolved mental health may make recovery from a physical injury harder or longer. Incorporating a few of these strategies regularly into your routine help support both physical and mental health:

EXERCISE
Regular physical activity outside of agricultural work is important for both physical and mental health.
• Take part in activities that bring you joy (gardening, dancing, etc.)
• Strength and balance exercises make it easier to perform daily activities and are helpful for injury prevention.
• Exercising with a buddy can boost motivation.

PRACTICE GRATITUDE
Practicing gratitude can decrease depression, anxiety, and difficulties with chronic pain.
• At the start or end of each day list 2 things you're grateful for, this will help direct your focus towards things that bring comfort.

Cal AgrAbility Spotlight

Ability Solutions for Agricultural Communities

Occupational Therapy in Agriculture

What is Occupational Therapy?
Occupational therapy (OT) is an allied healthcare profession that helps people of all ages with an injury, illness, or disability return to meaningful activities such as:

- **Activities of daily living (ADLs)** - Dressing, bathing, eating, toileting, and other forms of self care.
- **Instrumental activities of daily living (IADLs)** - Cooking, driving, medication management, and household tasks.
- **Leisure activities** - playing an instrument or participating in sports
- **Reintegration back into the community** - work, transportation, and medical appointments.

Occupational therapists work with patients to improve and maximize the skills needed for everyday life by evaluating home and work environments, developing unique treatment plans, and making recommendations for assistive devices. Their training in ergonomics, occupational therapists pursue an entry-level masters or doctorate degree in occupational therapy.

Occupational Therapy vs. Physical Therapy
Occupational therapy and physical therapy (PT) share many similarities and often collaborate to help patients reach their goals. While both aim to improve motion and strength, their approach is different.

The primary goal of physical therapy is to restore movement by improving range of motion and strength through a biomechanical model such as:

- Strengthening exercises
- Stretching
- Active range of motion exercises

How to Protect the Rotator Cuff
With your phone, open that camera. This QR code will take you to a website where you can watch the video about Mario. Mario is an agricultural worker that operates stretching and basic strengthening exercises to protect his shoulder (rotator cuff) from injuries.

Outcomes

May: Mental Health Awareness Month

Western Regional Ag. Stress Assistance Progr... @WRASAP · May 31 ...
Click the picture below to learn more about the effects stress has on your muscles!

#MentalHealthAwarenessWeek #agriculture

During stress, your brain sends a signal to your nerves telling them to tighten up and go into protection mode.

Sometimes increased muscle tension can help guard your body from pain or injury. But chronic stress can cause unnecessary muscle tension leading to:

<p>Headaches</p> 	<p>Muscle Aches</p> 
<p>Difficulty Sleeping</p> 	<p>Musculoskeletal Injuries</p> 

Possible Solutions:

- Stretch before & after work
- Stay hydrated
- Take a warm shower/bath to relax your

ALT

June: Men's Health Month

Western Regional Ag. Stress Assistance Progr... @WRASAP · Jun 7 ...
Agriculture workers educating occupational therapy student on how they pick cherries during harvest season. Brenda shared equipment wear tips to prevent injuries & informed them on how physical health directly impacts mental health #culturalhumility #farmstress #AgAbility



Western Regional Ag. Stress Assistance Progr... @WRASAP · Jun 14 ...
Taking care of yourself can be done in many different ways, like eating healthier, exercising more, getting more sleep, taking care of your hygiene, or enjoying a hobby. Here is how seasonal agricultural workers take care of one another during cherry season. #MensHealthWeek



July: National Minority Mental Health Awareness Month

Western Regional Ag. Stress Assistance Progr... @WRASAP · Jul 20 ...
Did you know...
Agricultural workers make up a large portion of the older adult work force & most of them work past retirement age because they consider agriculture part of their identity? #agstress

DID YOU KNOW...

"Agricultural workers make up a large portion of the older adult work force & most of them work past retirement age because agriculture becomes part of their identity"

ALT



@WRASAP

UNIVERSITY OF THE
PACIFIC

School of
Health Sciences

Impact

- Agricultural workers recognize mental health & physical health are intertwined
- Agricultural workers requesting return for pear season
- OTs educating agricultural workers is just as important as agricultural workers educating OT

Discussion

Next steps:

- OT student to go through implementation phase
- Continuation of farm site visits & education specific to crop
 - OT student
 - OT consultant
- Occupational advancement
 - Address other issues
 - Agriculture in school curriculum

Acknowledgements

Parents

Dr. Bains

Esmeralda Mandujano

Dr. Fadi Fathallah

Angelina Padilla

Sara Wat

Maria Dod

Amber Beane



WRASAP
Western Regional Agricultural
Stress Assistance Program

California
AgrAbility

Discussion

Questions, comments, concerns?

References

- Castillo, F., Mora, A. M., Kayser, G. L., Vanos, J., Hyland, C., Yang, A. R., & Eskenazi, B. (2021). Annual review of public health. Environmental Health Threats to Latino Migrant Farmworkers, 42, 257-276. <https://doi.org/10.1146/annurev-publhealth-012420-105014>
- Caffaro, F., Cremasco, M., Bagagiolo, G., Vigoroso, L., & Cavallo, E. (2018). Effectiveness of occupational safety and health training for migrant farmworkers: A scoping review. Public Health, 160, 10-17. <https://doi.org/10.1016/j.puhe.2018.03.018>
- CDFA. (2022). California's agricultural production statistics. California Department of Food & Agriculture. <https://www.cdfa.ca.gov/Statistics/>
- CDC. (2021). Agricultural safety. The National Institute for Occupational Safety and Health (NIOSH). <https://www.cdc.gov/niosh/topics/aginjury/default.html>
- EDD. (2022). Agricultural employment in California. Employment Development Department State of California. <https://www.labormarketinfo.edd.ca.gov/data/ca-agriculture.html>
- Fathallah, F. A., Tang, S. C. H., & Waters, T. R. (2016). Development and evaluation of ergonomic interventions for bucket handling on the farms. Human Factors, 58(5), 758-776. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5101543/>
- Grzywacz, J. G. (2009). Mental health among farmworkers in the eastern United States. Latino Farmworkers in the Eastern United States, 153-172. https://link.springer.com/chapter/10.1007/978-0-387-88347-2_7
- Hildebrand, M. W., Brinkley, J., Timmons, S., & Mendez, F. (2018). What occupational and physical therapists know about farmers' health. Journal of Agromedicine, 24(1). <https://doi.org/10.1080/1059924X.2018.1538917>

References

Hiott, A. E, Grzywacz, J. G., Davis, S. W., Quandt, S. A. & Arcury, T. A. (2008). Migrant farmworkers stress: Mental health implications. *The Journal of Rural Health*, 24(1). <https://doi.org/10.1111/j.1748-0361.2008.00134.x>

Human Givens Institute. (2020). Biopsychosocial model. <https://www.hgi.org.uk/>

Lopez, A. (n.d.). The state of farmworkers in California. Center for Farmworker Families. <https://farmworkerfamily.org/information#:~:text=Between%201%2F3%20and%201,or%20roughly%20500%2C000%20%2D%20800%2C000%20farmworkers>

mallfield, S. & Anderson, A.J. (2008), Addressing agricultural issues in health care education: An occupational therapy curriculum program description. *The Journal of Rural Health*, 24, 369-374. <https://doi.org/10.1111/j.1748-0361.2008.00183.x>

Thierry, A. D., & Snipes, S. A. (2015). Why do farmworkers delay treatment after debilitating injuries? Thematic analysis explains if, when, and why, farmworkers were treated for injuries. *American Journal of Industrial Medicine*. <https://doi.org/10.1002/ajim.22380>

Wilhite, C. S., & Jaco, L. (2014). Continuing education in physical rehabilitation and health issues of agricultural workers. *Journal of Agromedicine*, 19(3). <https://doi.org/10.1080/1059924X.2014.916641>

USDA. (2022). California. 2021 State Agriculture Overview. https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=CALIFO RNIA