



**Working Your Body:
A Whole Health Perspective on Movement and Pain**

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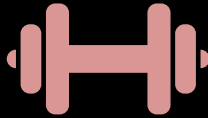
Disclosures

- I have no financial conflicts of interest to disclose.
- The views presented here are based on my clinical experience and on the research I read. They do not represent the official position of the U.S. Department of Veterans Affairs.

Evolution of Concepts: My Bias



Physical therapist,
movement system
specialist (MSI)



Certified Strength
and Conditioning
Specialist



Interdisciplinary
chronic pain
rehabilitation



Psychologically-
informed physical
therapy practice

Outline

Recommendations for exercise

Societal beliefs and values for exercise and pain

Health perceptions for working the body

“Movement nutrition” and cultural transformation

Learning Objectives



Review evidence-based recommendations for exercise.



Compare concepts of movement and exercise within the context of societal health beliefs.



Recite evidence connecting expectations to treatment outcomes and treatment satisfaction.

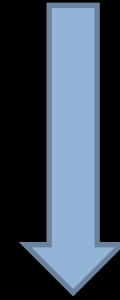


Discuss potential benefits of challenging traditional concepts of movement and exercise for cultural transformation.

VHA Circle of Health

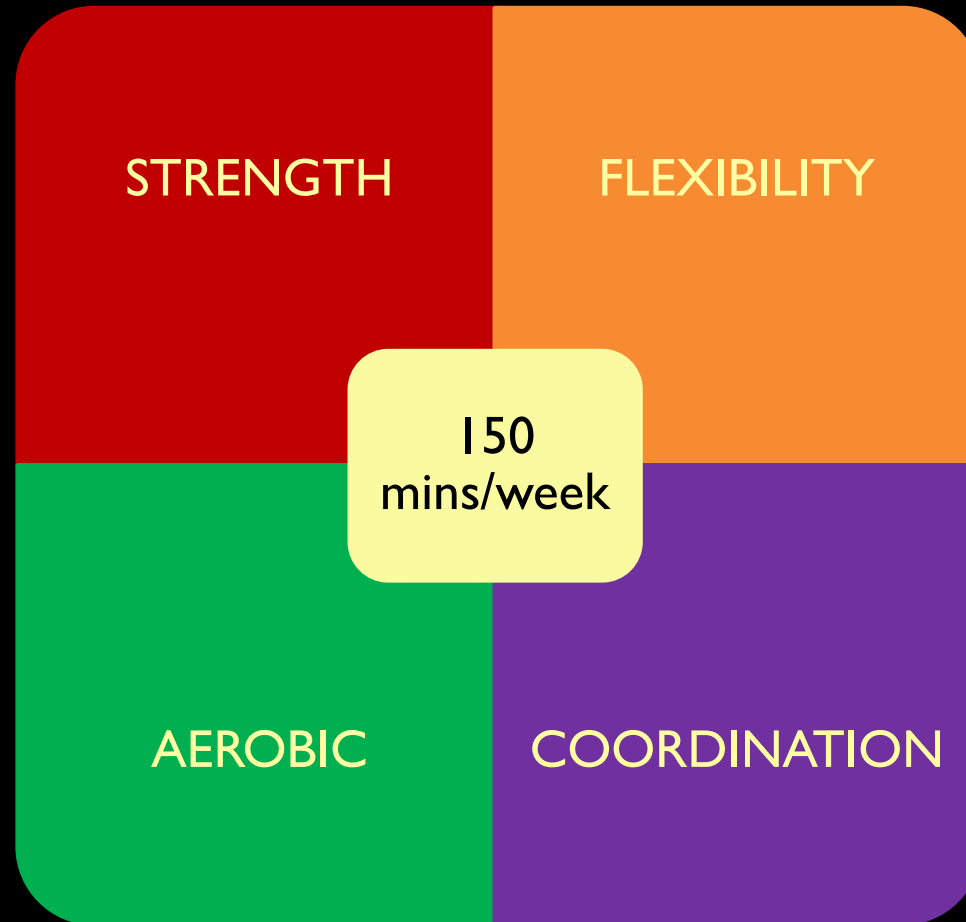


What's the matter with me?



What matters to me?

Recommendations for Exercise



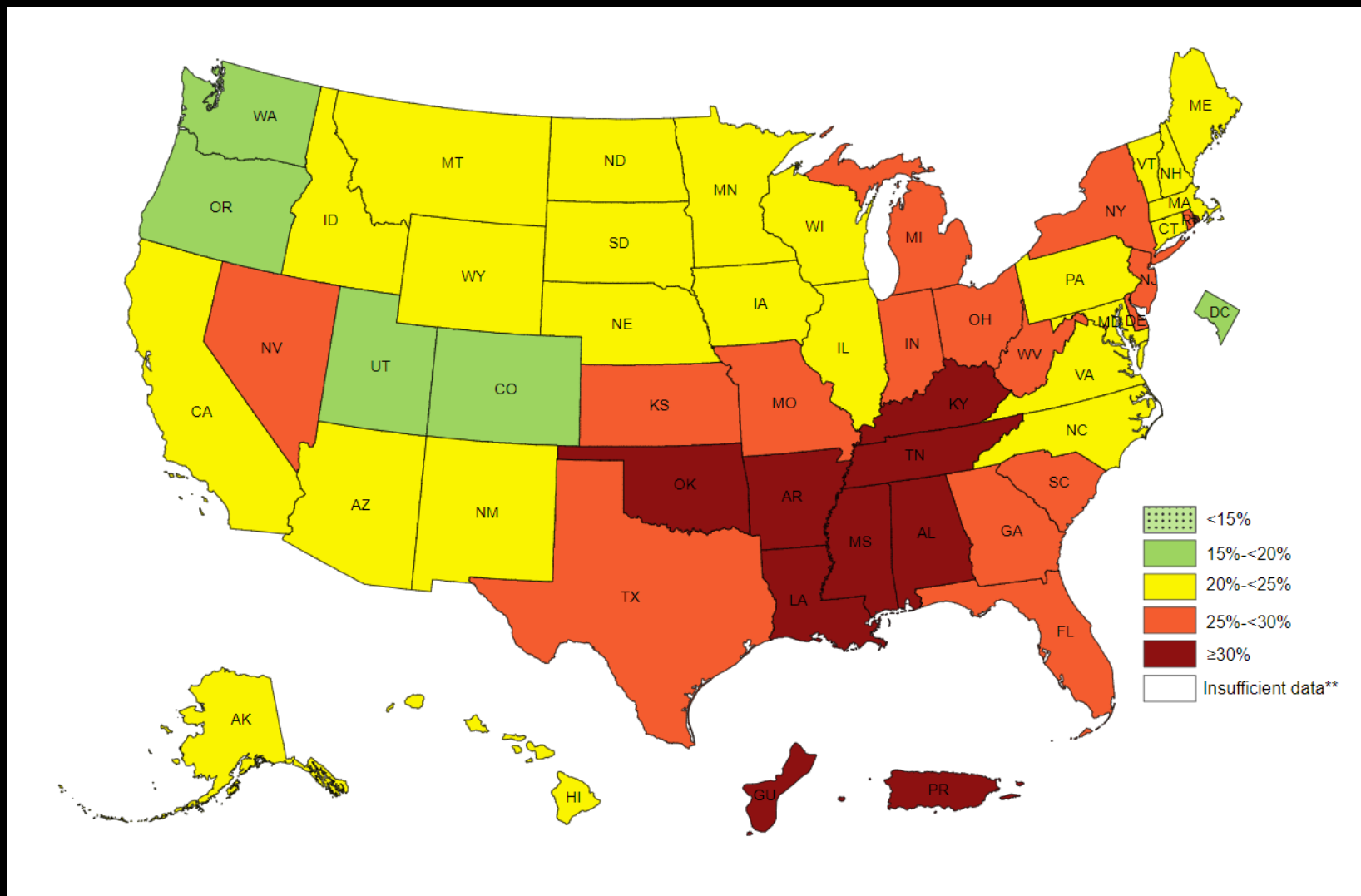
“Exercise” is Not the Norm...

The Department of Health and Human Services estimates that:

- 38% of adults engage in no leisure time activity of any kind
- Only 23% of adults perform vigorous physical activity

Image source: cdc.gov

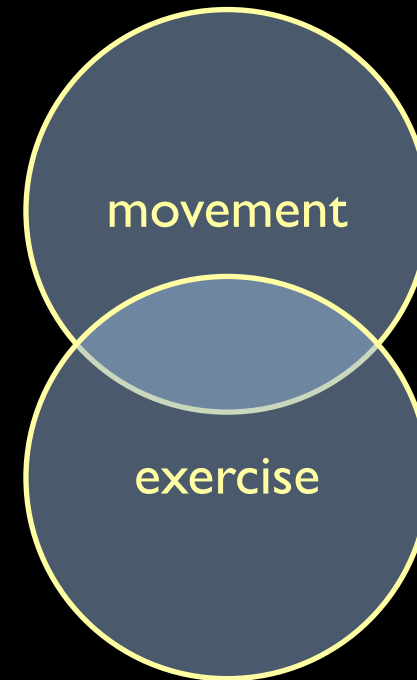
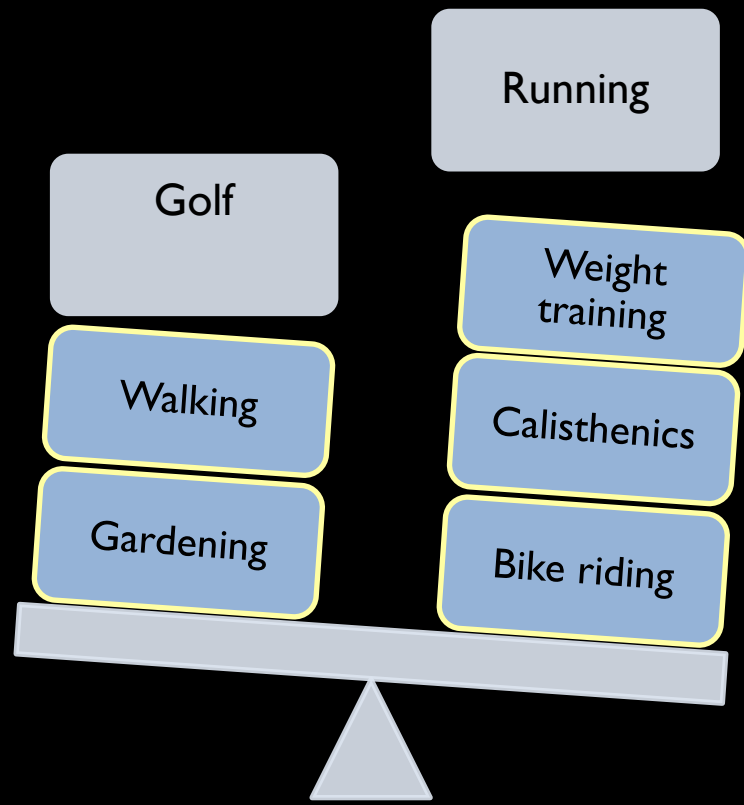
*combined data from 2015 through 2018



“During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?”

No = inactive classification

How Society Defines Exercise



Beliefs

Societal Beliefs and Values (U.S.A.)

- Fitness is fashionable
 - Social media, clothing trends
 - Health and beauty magazines
 - Status symbol (“celebrity trainers”)
- Fancy equipment is needed to be fit
- **“Exercisers are healthier than non-exercisers “**



Beliefs influence Biology

Meaning
Response

Placebo &
nocebo effects

Internal locus
of control

Personal values
and associated
behavior



Negative predicted expectations have been linked to poorer outcomes and greater pain sensitivity.

Bialosky, J.E., Bishop, M.D. and Cleland, J.A., 2010. Individual expectation: an overlooked, but pertinent, factor in the treatment of individuals experiencing musculoskeletal pain. *Physical therapy*, 90(9), pp.1345-1355.

Anxiety Associated with Exercise



Defining
health via
social
constructs



All-or-nothing
thinking



Self-appraisal
within narrow
framework



Meaning of
pain, pain
avoidance



“Amotivation”

CV Health and Optimism

Self- Identified Optimistic Outlook

- 65% reduction of cardiovascular risk
- 86% lower risk of all cause mortality

Rozanski, A., Bavishi, C., Kubzansky, L.D. and Cohen, R., 2019. Association of optimism with cardiovascular events and all-cause mortality: a systematic review and meta-analysis. *JAMA Network Open*, 2(9), pp.e1912200-e1912200.

JAMA
Network

Open™

Original Investigation | Cardiology

Association of Optimism With Cardiovascular Events and All-Cause Mortality
A Systematic Review and Meta-analysis

Alan Rozanski, MD; Chirag Bavishi, MD, MPH; Laura D. Kubzansky, PhD; Randy Cohen, MD

Abstract

IMPORTANCE Optimism and pessimism can be easily measured and are potentially modifiable mindsets that may be associated with cardiovascular risk and all-cause mortality.

OBJECTIVE To conduct a meta-analysis and systematic review of the association between optimism and risk for future cardiovascular events and all-cause mortality.

DATA SOURCES AND STUDY SELECTION PubMed, Scopus, and PsycINFO electronic databases were systematically searched from inception through July 2, 2019, to identify all cohort studies investigating the association between optimism and pessimism and cardiovascular events and/or all-cause mortality by using the following Medical Subject Heading terms: *optimism, optimistic explanatory style, pessimism, outcomes, endpoint, mortality, death, cardiovascular events, stroke, coronary artery disease, coronary heart disease, ischemic heart disease, and cardiovascular disease*.

Key Points

Question Is a mindset of optimism associated with a lower risk of cardiovascular events and all-cause mortality?

Findings In this meta-analysis of 15 studies including 229 391 individuals, optimism was associated with a lower risk of cardiovascular events and pessimism was associated with a higher risk of cardiovascular events; the pooled association was similar to that of other well-established cardiac risk factors.



Beliefs about pain?

IDENTITY (What is it?)

- “Pain is a sign of damage”
- “Slipped disc”
- “Degeneration”
- “Knee osteoarthritis is bone on bone”
- “Fissures and tears in the hip tendons”



Caneiro, J.P., Bunzli, S. and O'Sullivan, P., 2020. Beliefs about the body and pain: the critical role in musculoskeletal pain management. *Brazilian Journal of Physical Therapy*.

CAUSAL (What causes it?)

- “Bad posture; misuse; overuse injury without being aware that was causing damage at the time”
- “Weak core”
- “Bending and lifting”
- “Osteoarthritis is due to excessive loading through the knee”
- “Underlying structural abnormality”
- “A history of high-intensity sports”



Caneiro, J.P., Bunzli, S. and O'Sullivan, P., 2020. Beliefs about the body and pain: the critical role in musculoskeletal pain management. *Brazilian Journal of Physical Therapy*.

TIMELINE (How long will it last?)

- “Back pain gets worse with ageing”
- “Osteoarthritis as a downward trajectory”
- “Unless the damaged can be fixed, the pain is here to stay”

Caneiro, J.P., Bunzli, S. and O'Sullivan, P., 2020. Beliefs about the body and pain: the critical role in musculoskeletal pain management. *Brazilian Journal of Physical Therapy*.

TREATMENT (How can it be controlled?)

- “Physiotherapy can’t help bone on bone”
- “Fixing or replacing the damaged structure”
- “There is no cure for back pain”
- “A mechanical problem requires a mechanical fix”
- “The labral tear needs to be knitted back together”



Caneiro, J.P., Bunzli, S. and O'Sullivan, P., 2020. Beliefs about the body and pain: the critical role in musculoskeletal pain management. *Brazilian Journal of Physical Therapy*.

[VIEWPOINT]

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The Elephant in the Room: Too Much Medicine in Musculoskeletal Practice

J Orthop Sports Phys Ther 2020;50(1):1-4. doi:10.2519/jospt.2020.0601

Advances in assessment and management of musculoskeletal conditions (eg, fracture management) have improved care for many people. We contend that there have been other, less beneficial developments in the provision of care for people with musculoskeletal pain conditions—one is the worrying tendency to provide too much medicine.

There are overlaps and confusion regarding the usage and definitions of terms.⁹ In this Viewpoint, we will use the term “too much medicine” as an umbrella term that includes overdiagnosis, misdiagnosis, false positives, diagnostic overmedicalization, and overdetection. Too

medicalizing normality—when a normal human function or condition is labeled as abnormal.¹⁰

In this Viewpoint, we argue that too much medicine and medicalizing normality in contemporary musculoskeletal practice have become the “elephant in

Two Examples of Too Much Medicine Relevant to Physical Therapy Practice
Nonsurgical Interventions for Pain Musculoskeletal pain management costs continue to rise. Individuals may have been misinformed that myriad nonsurgical health care options, including acupuncture, manual therapy, myofascial trigger point therapy, injections, pharmacology, among others, will, in isolation, “fix” the problem. Use of opioids has been at the forefront of the drive to eradicate pain. Worldwide, use of prescription opioid analgesics more than doubled between 2001

- Normal human function is labeled abnormal
- “Abnormalities” detected in MRI as explanation for pain
- Referring non-specific LBP for medical imaging in the absence of red flags

Lewis, J.S., Cook, C.E., Hoffmann, T.C. and O'Sullivan, P., 2020. The elephant in the room: too much medicine in musculoskeletal practice. *journal of orthopaedic & sports physical therapy*, 50(1), pp.1-4.




Posture & Pain: systematic review of systematic reviews

“Despite the availability of many reviews, there is no consensus regarding causality of physical exposure to LBP.”



- Both positive and null associations between spine posture, prolonged standing, sitting, bending and twisting, awkward postures, whole body vibration, and components of heavy physical work were reported.
- Systematic reviews that included only prospective studies were less able to provide consistent conclusions.

- Sitting neck posture at 17 was not a risk factor for PNP at 22 years of age in males
- More relaxed postures (slumped thorax/forward head and Intermediate postures) were protective of neck pain compared with upright posture in females


modernpaincare
...





Predicting Future Neck Pain by Analyzing Sitting Posture in Adolescence

All too often, we see images like this everywhere

However, research has yet to find any longitudinal study to support this belief

To determine whether poor posture leads to future neck pain, 975 seventeen y.o. had their sitting posture assessed and were classified into 1 of 4 groups:

 Upright
  Intermediate
  Slumped/Fwd Head
  Upright/Fwd Head



5 years later, 686 individuals completed follow-up questionnaires

Posture type was **NOT** a significant predictor in men



Upright postures had the highest prevalence of neck pain


Slumped/Fwd Head postures had the lowest prevalence of neck pain

STOP DOING THIS

START DOING THIS


Modern Pain Care

Richards KV, Beales DJ, Smith AL, O'Sullivan PB, Straker LM. Is Neck Posture Subgroup in Late Adolescence a Risk Factor for Persistent Neck Pain in Young Adults? A Prospective Study. *Phys Ther.* 2021 Mar 3;101(3):pzab007. doi: 10.1093/ptj/pzab007.

Richards, K.V., Beales, D.J., Smith, A.L., O'Sullivan, P.B. and Straker, L.M., 2021. Is Neck Posture Subgroup in Late Adolescence a Risk Factor for Persistent Neck Pain in Young Adults? A Prospective Study. *Physical Therapy*, 101(3), p.pzab007.

ORIGINAL ARTICLE

Movement, posture and low back pain. How do they relate? A replicated single-case design in 12 people with persistent, disabling low back pain

Kevin Wernli , Peter O'Sullivan, Anne Smith, Amity Campbell, Peter Kent

First published: 04 July 2020 | <https://doi.org/10.1002/ejp.1631>

Funding information:

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“Psychological factors (such as pain catastrophizing, fear and pain self-efficacy) have been shown to relate more to improved pain or activity limitation than physical parameters such as movement or abdominal muscle function.”

“Human postural habits have anatomical and physiological limitations, but there are a great many choices, the determinants for which appear to be mostly cultural.”

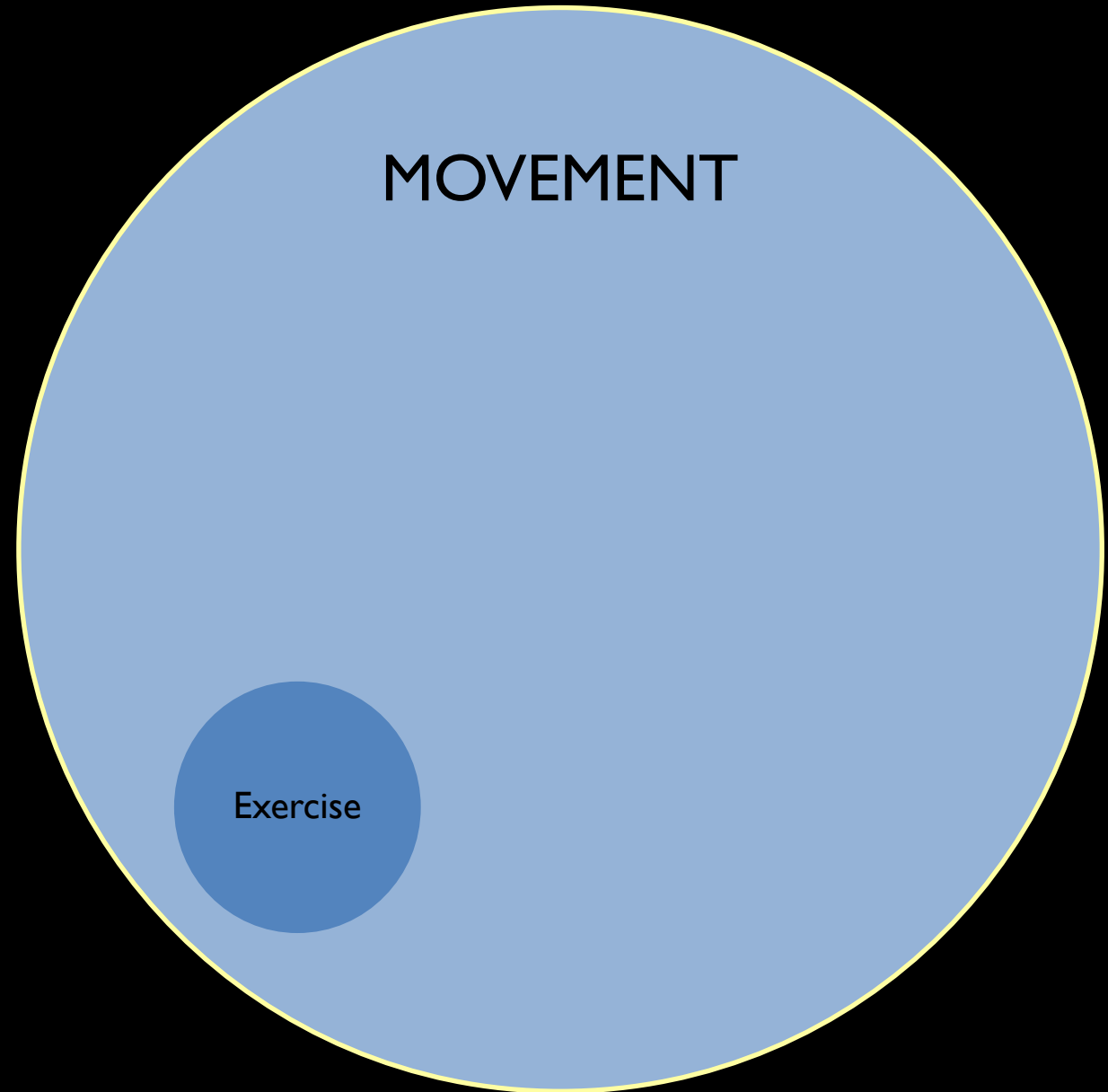
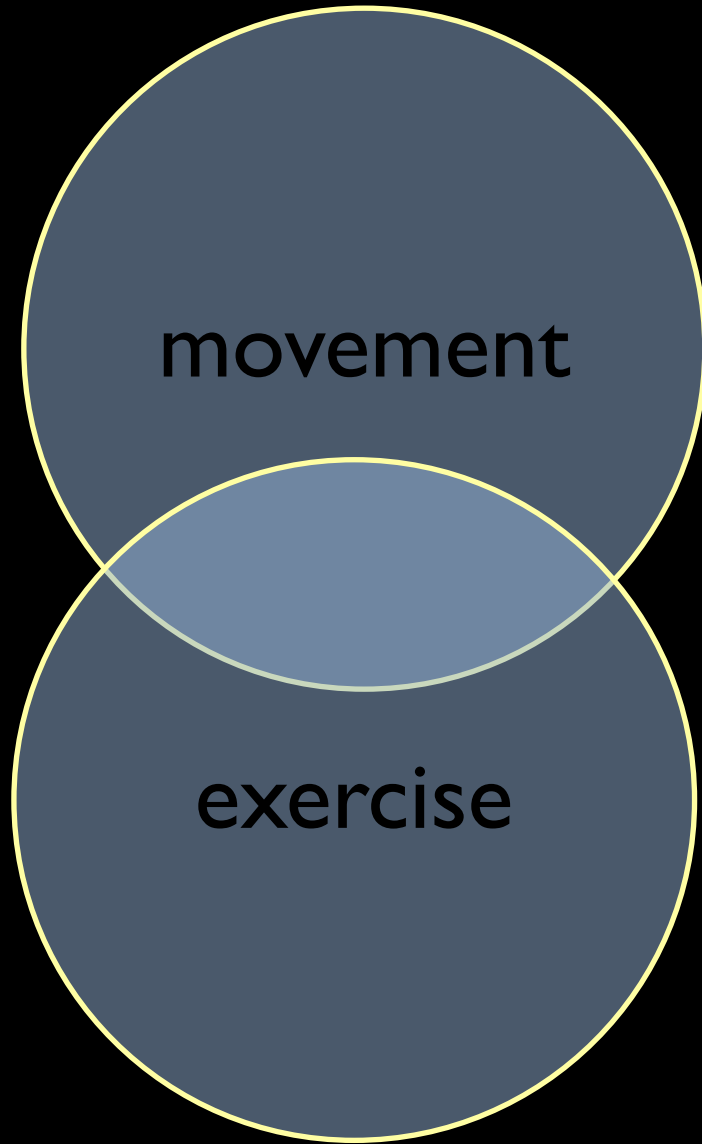
HEWES, G.W. (1955), World Distribution of Certain Postural Habits*. American Anthropologist, 57: 231-244.
doi:[10.1525/aa.1955.57.2.02a00040](https://doi.org/10.1525/aa.1955.57.2.02a00040)

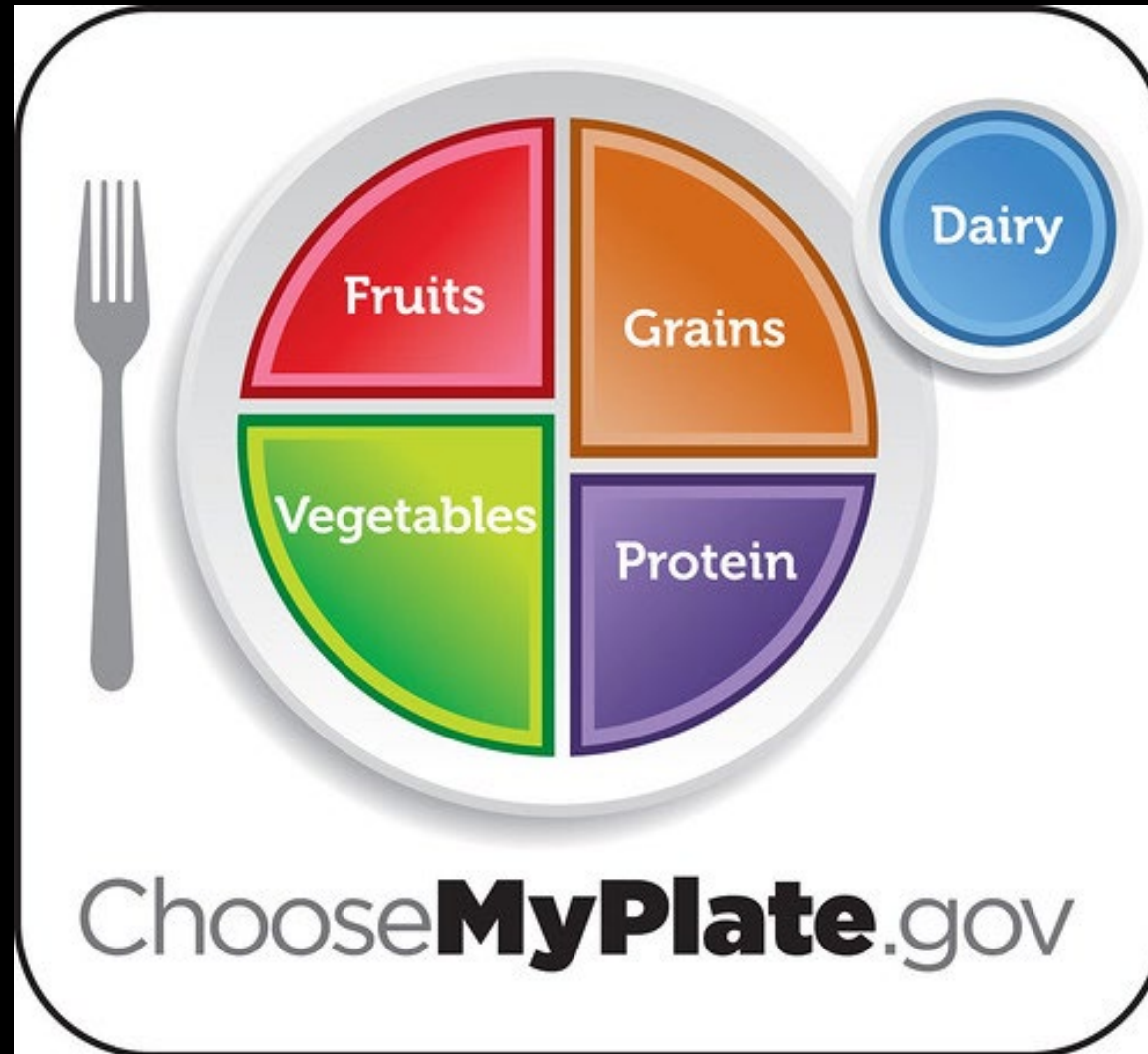


FIG. 1. A portion of the postural typology used in the compilation of data for this paper. Drawings are for the most part based on photographs in the ethnographic literature. Head and arm positions, unless stated otherwise in the accompanying discussion, are not typologically significant. No. 23, for example, could be standing with his left hand on his hip, or resting it on his left shoulder, and his standing posture would be considered the same for present purposes.

Movement Nutrition

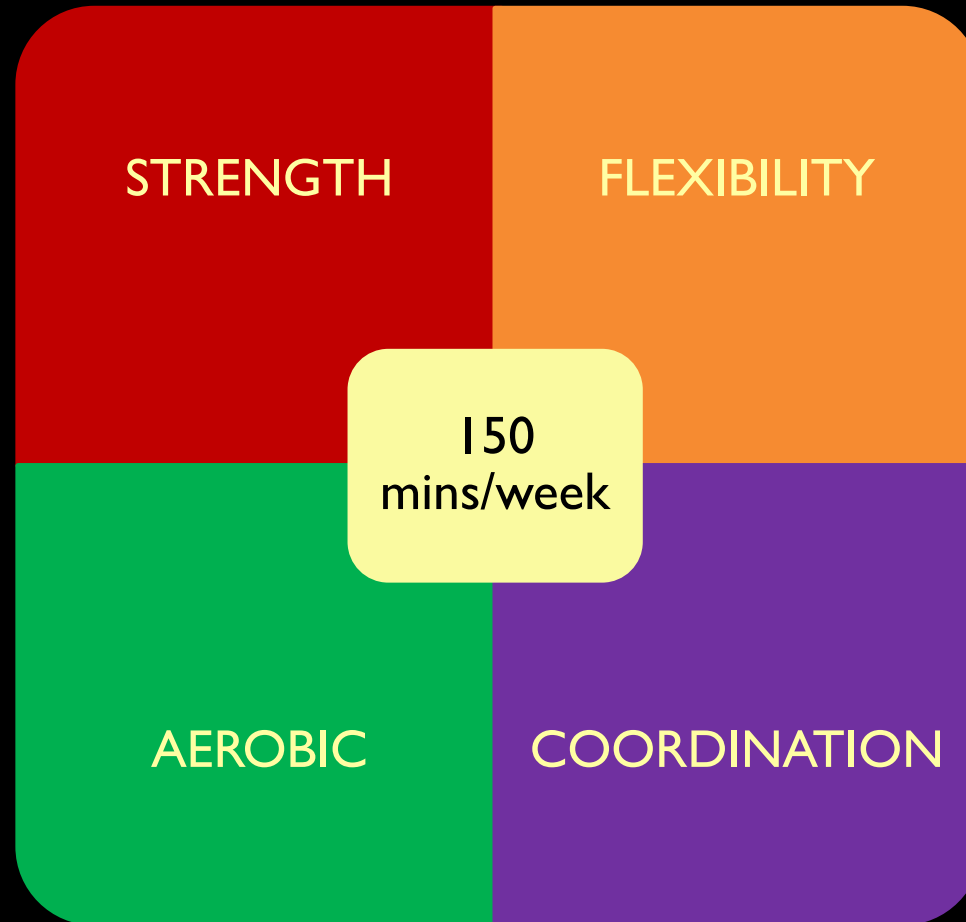
Cultural Transformation

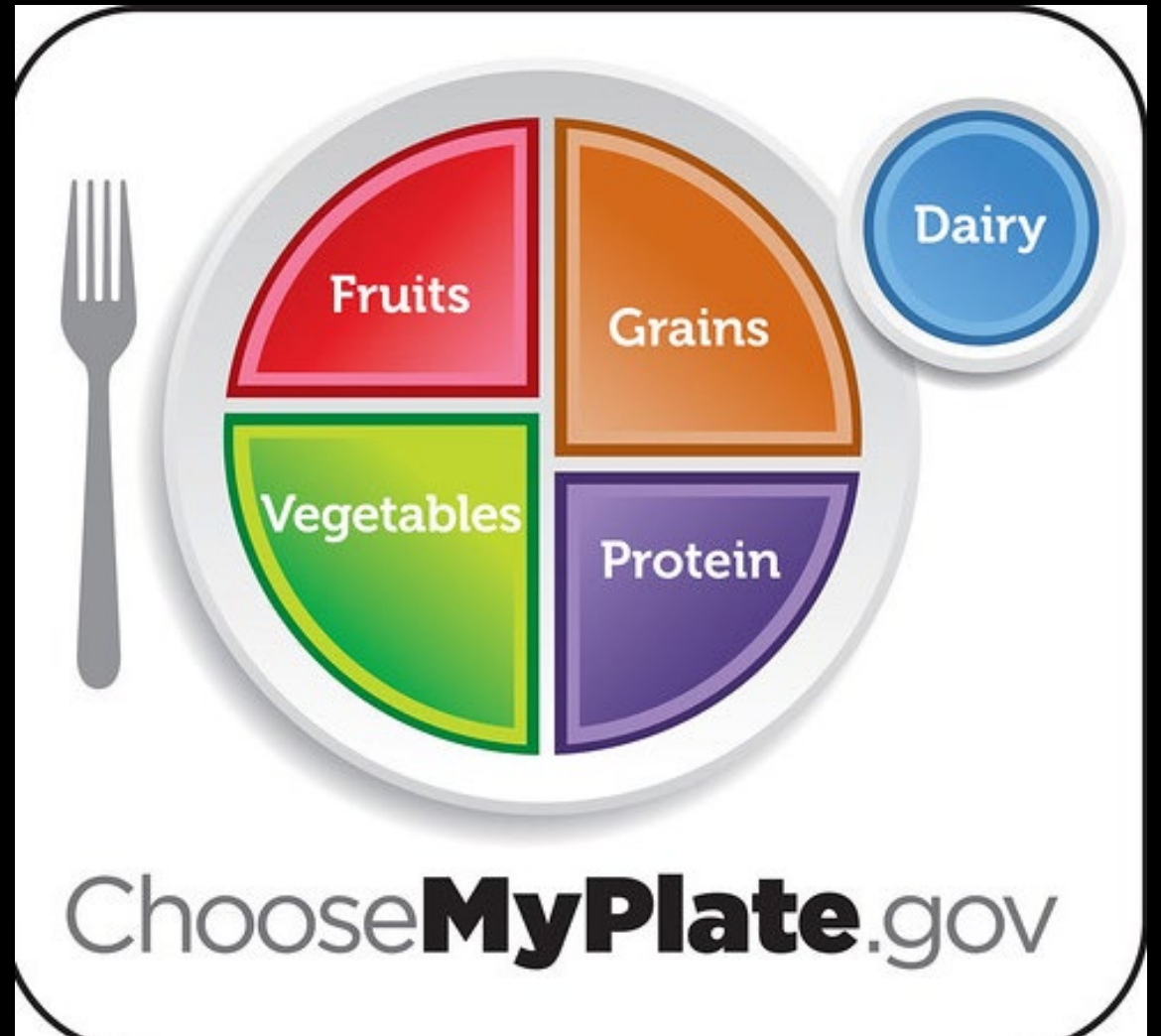
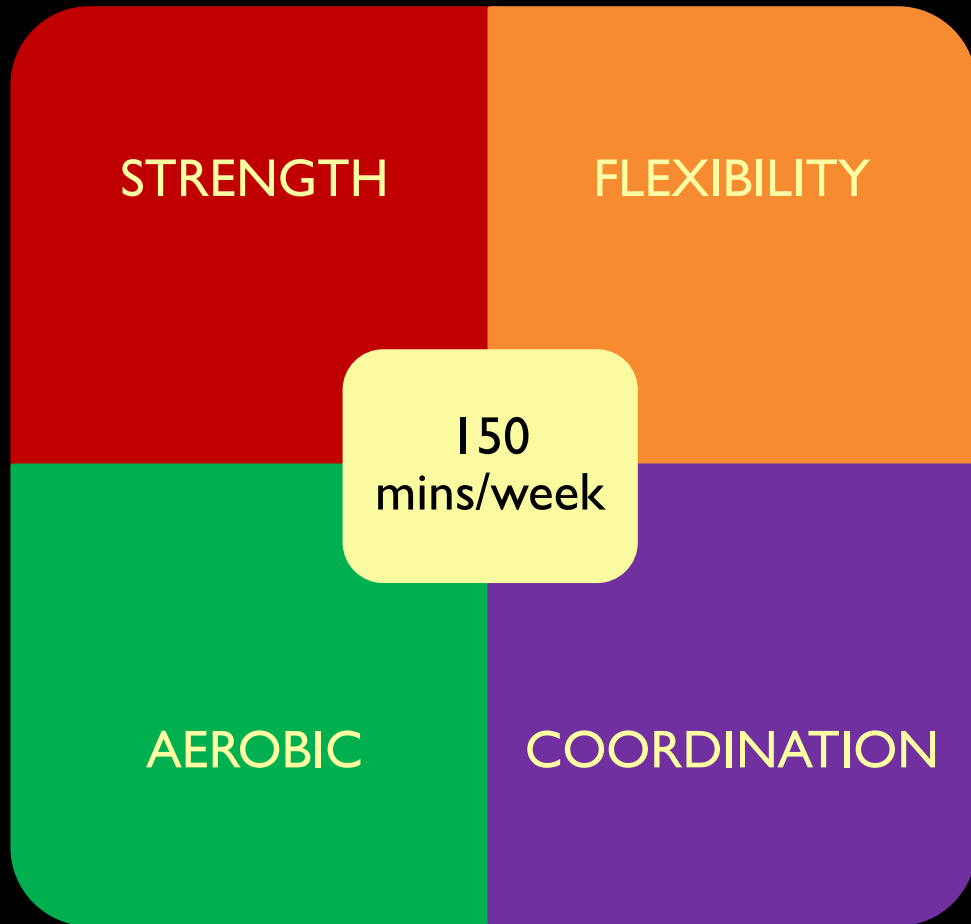






Recommendations for Exercise





Dancing

Housework

Getting outside

Gardening

Childcare





<https://www.nutritiousmovement.com>

#movementmatters

#moveyourDNA

#movementnutrition

“MOVEMENT NUTRITION”

BE A MOVEMENT OMNIVORE

Movement Omnivore vs Exercise Junkie



Strategies for Resilience with Movement



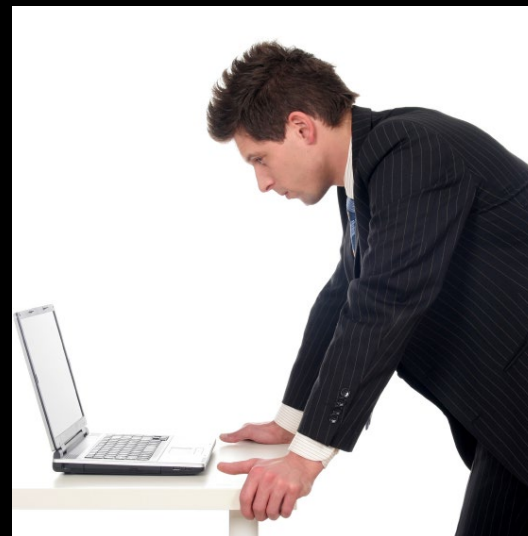
Reframe beliefs



Think like an omnivore



Be a movement optimist



A vision for cultural transformation in workplace ergonomics

Be a Movement Optimist!

- All movement counts for health
- Movement is essential for prevention of chronic health conditions
- Movement is king for maintaining and regaining health
- Movement is the best medicine
- No movement should be off-limits forever (rare exceptions)
- Movement variety matters for health (think like an omnivore!)

Hungry for more?

- Whole Health for Veterans in Pain podcast series
WholeHealth# Pain# PainManagement# Holistic# HolisticHealth#
- Movement Nutrition Introduction (You Tube video 5:31 mins)
- <https://www.youtube.com/watch?v=eeN8efGa6C0>
- Movement Doesn't Have to be Exercise
- <https://www.nutritiousmovement.com/day-life/>

THANK YOU



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