

VA



U.S. Department
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What is 'Nutritional Functioning'?

Redefining food insecurity...
...identifying new avenues of integrative care.

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Disclaimer

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Agenda

- 1) Where We've Come From
- 2) Where We Are: A New Context
- 3) Veteran Populations
- 4) Reframing: Food Values
- 5) Nutritional Functioning, Step 1
- 6) What IS Nutritional Functioning?
- 7) Step 2
- 8) Step 3
- 9) Next Steps: Integrative Care
- 10) Resources & Things to Keep in Mind



Poll Question

How familiar are you with food security?

- a. Not at all.
- b. Somewhat familiar, but I don't encounter it much.
- c. Somewhat familiar, I occasionally encounter it.
- d. Familiar, I regularly address it in my work or practice.
- e. Very familiar, it is a major focus of my work or practice.



My Objectives for You

- Have a better idea of how our understanding of food insecurity has changed over the years
- See food insecurity within a larger socioeconomic and cultural context
- Understand Veterans' unique challenges
- Understand how nutrition in integrative and complementary care is changing





Where We've Come From





In 2022:

12.8% (17 million) of Americans were food insecure:

Uncertain or unable to acquire enough food to meet the needs of all their household members because they had insufficient money or other resources for food.

5.1% (6.8 million) had very low food security:

Normal eating patterns of one or more household members were disrupted and food intake was reduced at times during the year because they had insufficient money or other resources for food.

<https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/key-statistics-graphics/>

Demographics

Food Insecurity tends to affect:

- Minors and the Elderly
- Ethnic minorities
e.g., ~18% of Hispanic Americans
- Racial minorities
e.g., ~23% of non-Hispanic Black Americans
- People with lower education (\leq high school diploma/GED)
- Single-parents
(especially woman-headed households \rightarrow 30.3%)
- Single-person households (~14%)
(i.e., being partnered is protective)





Economics

Food insecurity and **income**...federal poverty levels:

\$15,060 for a single-person household...

\$31,200 for a household of 4...

- Homelessness and **housing instability**
- Employment, especially **fluctuating** employment
- Spending tradeoffs... food, rent, childcare, transportation, **medical care**...

Example: Cost-related medication underuse and food insecurity, i.e., “**treat or eat**”



General Health

- Immune dysfunction
- Systemic inflammation
- Cardiovascular disease
- Metabolic disturbances
- ↓ Health status
- ↓ Quality of Life





Environment

Urban



Suburban

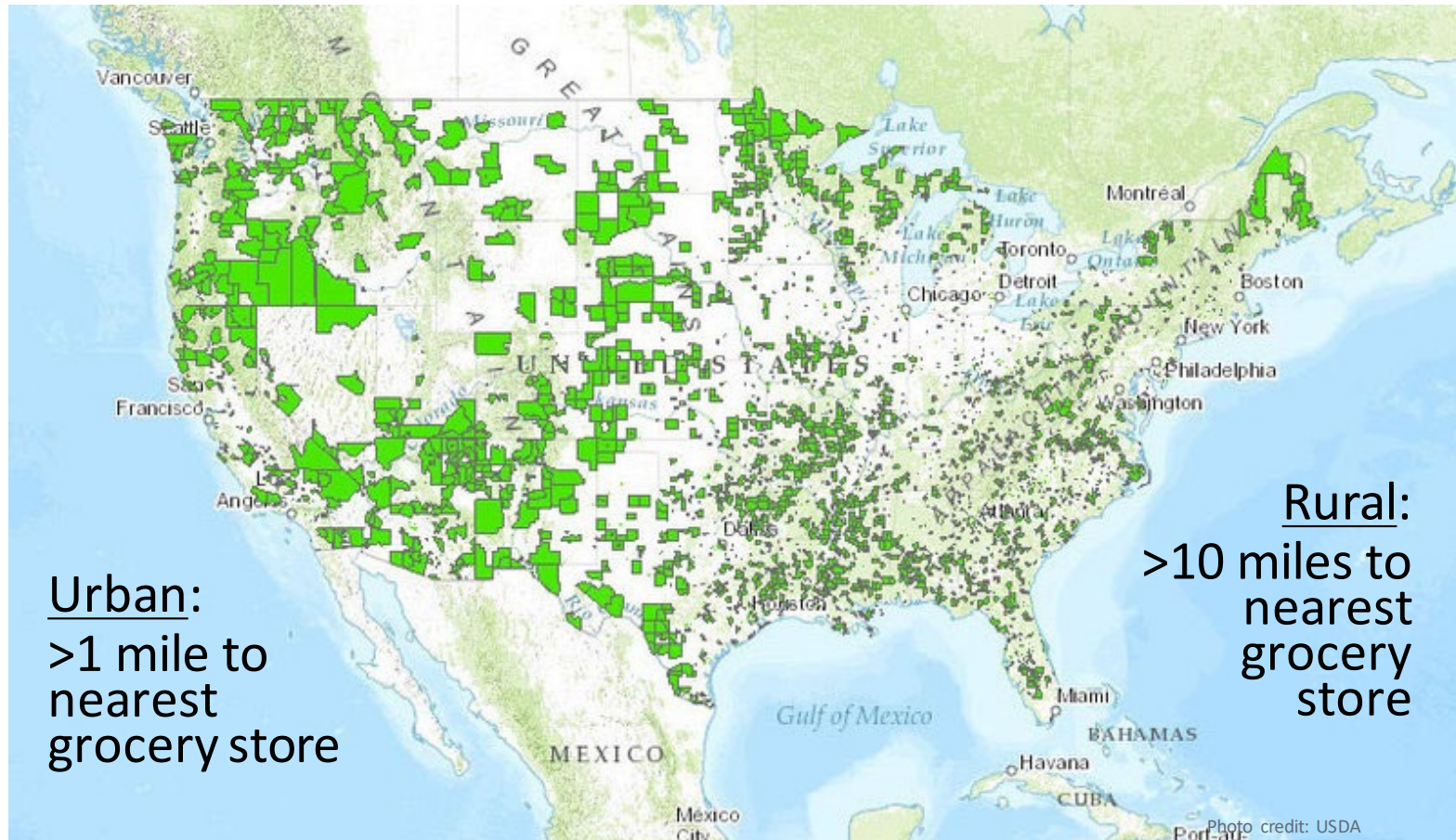


Rural



Environment

Food “Deserts”





Where We Are: A New Context



Where We Are: A New Context

Moving past a binary understanding...

Food oases

Food swamps

Nutrition security

Food sovereignty

Culinary heritage





What do these all relate to?

What do these all relate to?

Social Determinants of Health

Economic Stability	Neighborhood and Physical Environment	Education	Food	Community and Social Context	Health Care System
Employment	Housing	Literacy	Hunger	Social integration	Health coverage
Income	Transportation	Language	Access to healthy options	Support systems	Provider availability
Expenses	Safety	Early childhood education		Community engagement	Provider linguistic and cultural competency
Debt	Parks	Vocational training		Discrimination	Quality of care
Medical bills	Playgrounds	Higher education		Stress	
Support	Walkability				
	Zip code / geography				

Health Outcomes

Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations



Social Determinants of Health...

“...where you work, how reliable your work is, how safe your working conditions are, how much money you have, whether your housing is secure, your gender, whether you are disabled, whether you have secure access to good food, the cost of food, and whether you are a member of a minority group.”

Dennis Raphael, PhD

York University School of Health Policy and Management



Still another way of looking at it...

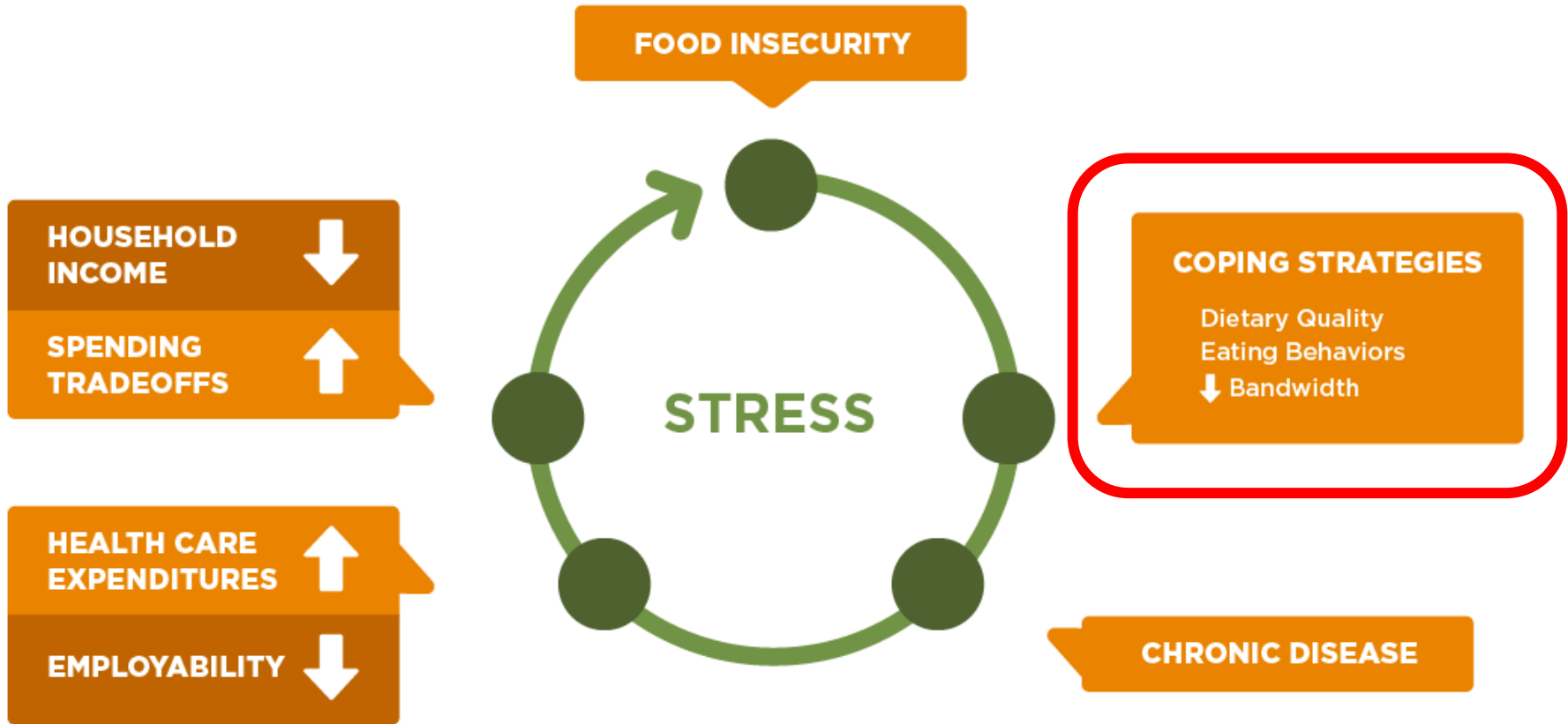


STRESS



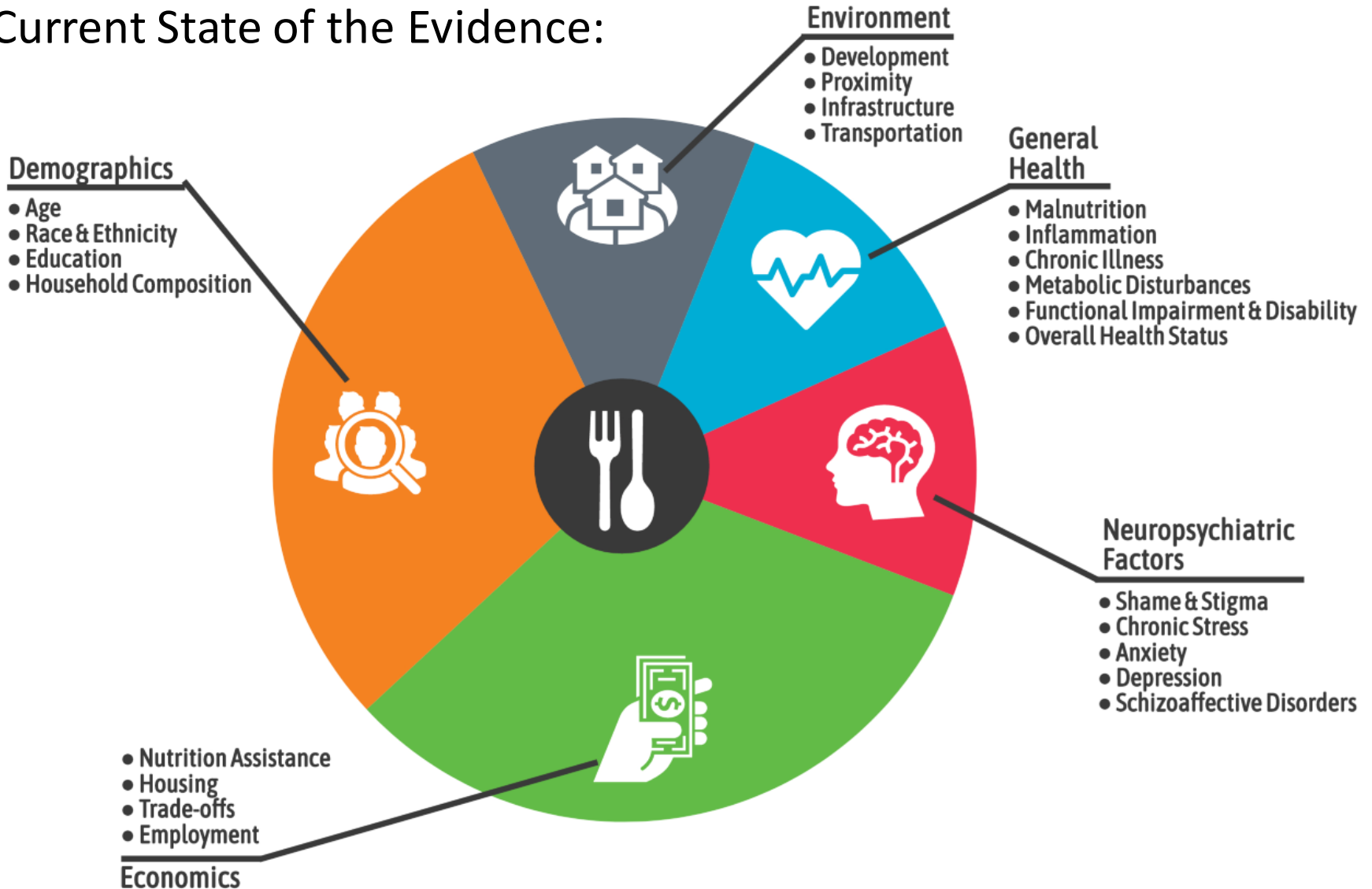


Adapted: Seligman HK, Schillinger D. N Engl J Med. 2010;363:6-9.



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Current State of the Evidence:





Neuropsychiatric Factors

- Depression
- Schizoaffective disorders
- Substance abuse
- Alcohol abuse
- Suicidal ideation

**Food
Insecurity**

Incident depression



Incident food
insecurity

and

Depression



Food insecurity

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Veteran Populations



Veterans (in 2021):

11.1% (~1.8 million) were food insecure

5.3% (~880,000) had very low food security

Rabbitt, M. P., & Smith, M. D. (2021). Food Insecurity Among Working-Age Veterans. Dubowitz, Tamara, Andrea S. Richardson, Teague Ruder, and Catria Gadhah-Meaden, Food Insecurity Among Veterans: Examining the Discrepancy Between Veteran Food Insecurity and Use of the Supplemental Nutrition Assistance Program (SNAP). Santa Monica, CA: RAND Corporation, 2023. https://www.rand.org/pubs/research_reports/RRA1363-2.html.



Veterans (in 2021):

11.1% (~1.8 million) were food insecure:

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Overall:

- Veterans are slightly less likely to experience food insecurity

BUT

- Are much less likely to enroll in food assistance programs

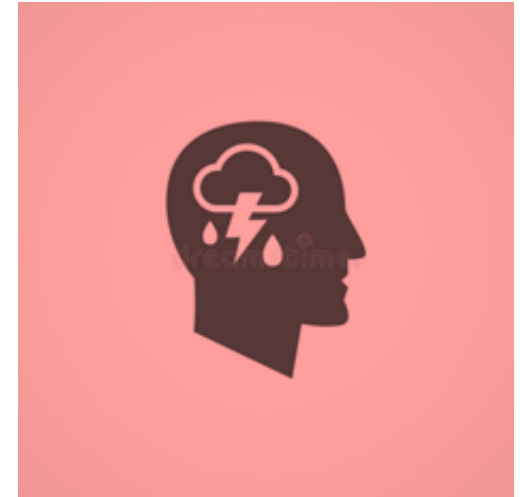
Also,

Over 25% of Active Duty service members are food insecure, compared to 10% of demographically matched civilians.

Rabbitt, M. P., & Smith, M. D. (2021). Food Insecurity Among Working-Age Veterans. Dubowitz, Tamara, Andrea S. Richardson, Teague Ruder, and Catria Gadhwa-Meaden, Food Insecurity Among Veterans: Examining the Discrepancy Between Veteran Food Insecurity and Use of the Supplemental Nutrition Assistance Program (SNAP). Santa Monica, CA: RAND Corporation, 2023. https://www.rand.org/pubs/research_reports/RRA1363-2.html.

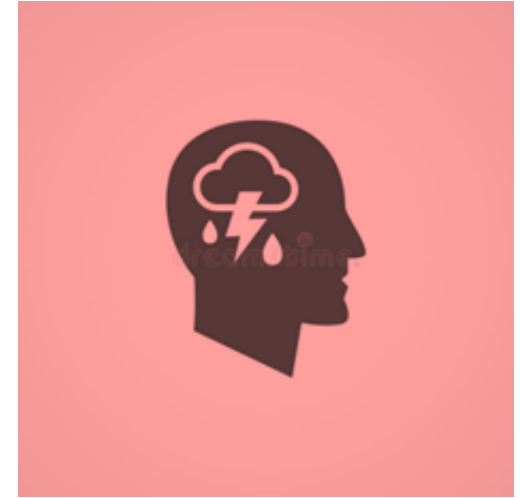
Brostow, D. P., Gunzburger, E., & Thomas, K. S. (2017). **Food insecurity among veterans: findings from the health and retirement study.** *The journal of nutrition, health & aging*, 21(10), 1358-1364.

Brostow, D. P., Gunzburger, E., Abbate, L. M., Brenner, L. A., & Thomas, K. S. (2019). **Mental illness, not obesity status, is associated with food insecurity among the elderly in the health and retirement study.** *Journal of nutrition in gerontology and geriatrics*, 38(2), 149-172.



depression and physical mobility issues

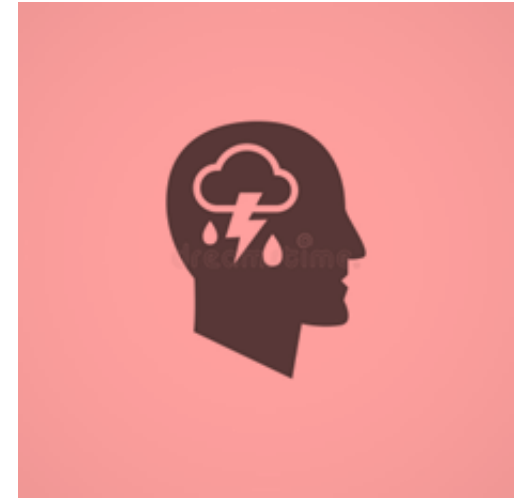
Brostow, D. P., Smith, A. A., Bahraini, N. H., Besterman-Dahan, K., Forster, J. E., & Brenner, L. A. (2022). **Food Insecurity and Food Worries During the COVID-19 Pandemic: A Point-In-Time Study of Injured United States Veterans.** *Journal of Hunger & Environmental Nutrition*, 1-23.



combat history, COVID-related stigma

Kamdar, N. P., Horning, M. L., Geraci, J. C., Uzdavines, A. W., Helmer, D. A., & Hundt, N. E. (2021). **Risk for depression and suicidal ideation among food insecure US veterans: data from the National Health and Nutrition Examination Study.** *Social psychiatry and psychiatric epidemiology*, 1-10.

Elbogen, E. B., Graziano, R. C., LaRue, G., Cohen, A. J., Hooshyar, D., Wagner, H. R., & Tsai, J. (2023). **Food insecurity and suicidal ideation: results from a national longitudinal study of military veterans.** *Archives of suicide research*, 1-16.

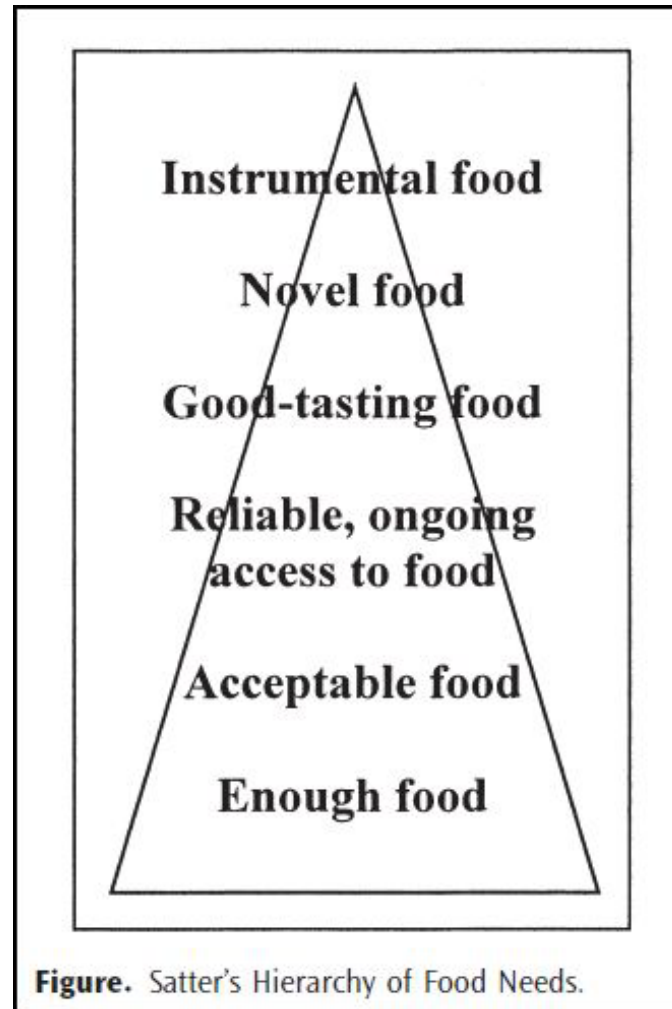


suicidal ideation



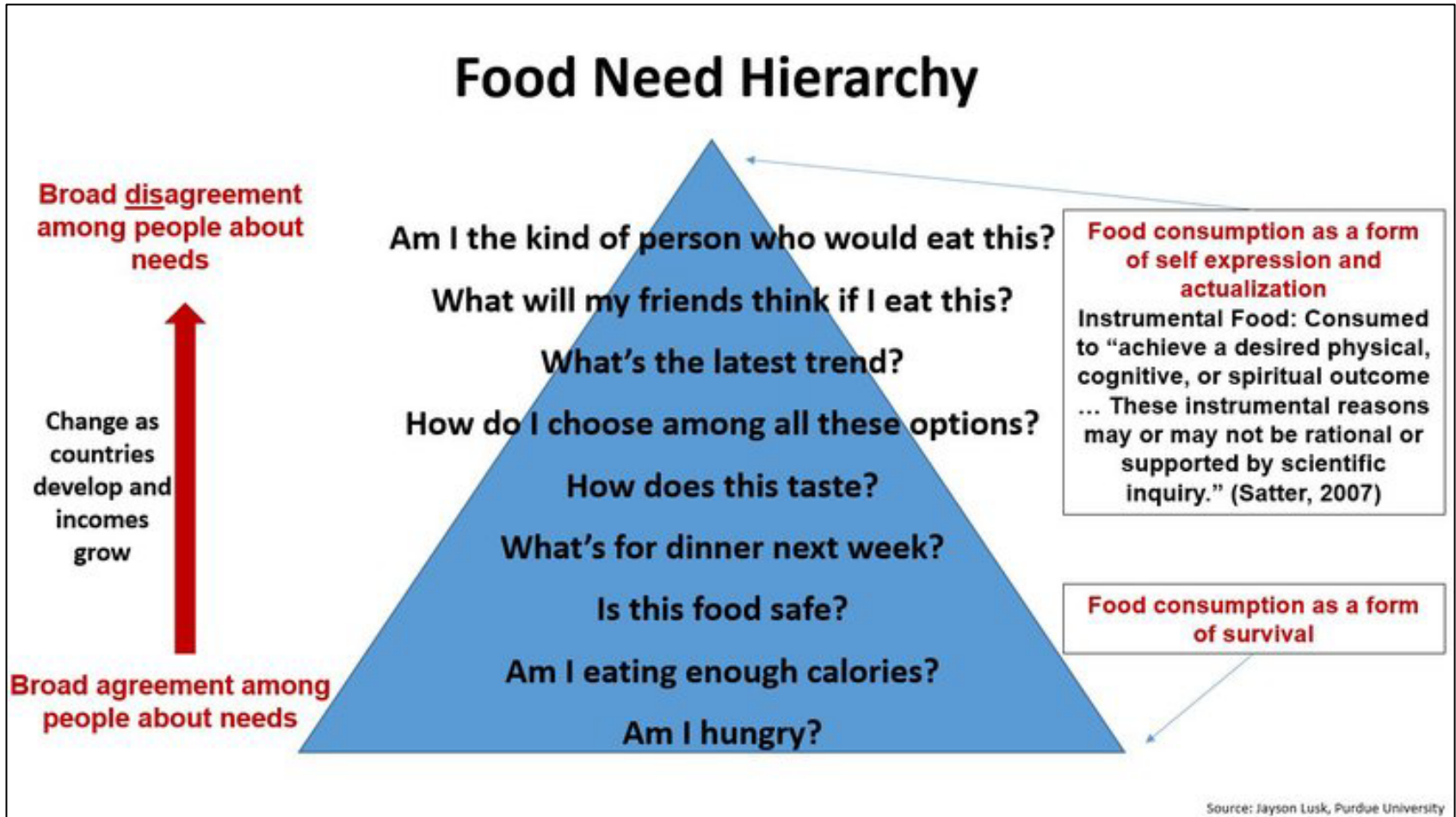
Why people eat what they eat is complicated...

Reframing: Food Values



Satter E. Hierarchy of food needs. *J Nutr Educ Behav.* 2007;39:S187-S188. <https://dx.doi.org/10.1016/j.jneb.2007.01.003>

Reframing: Food Values

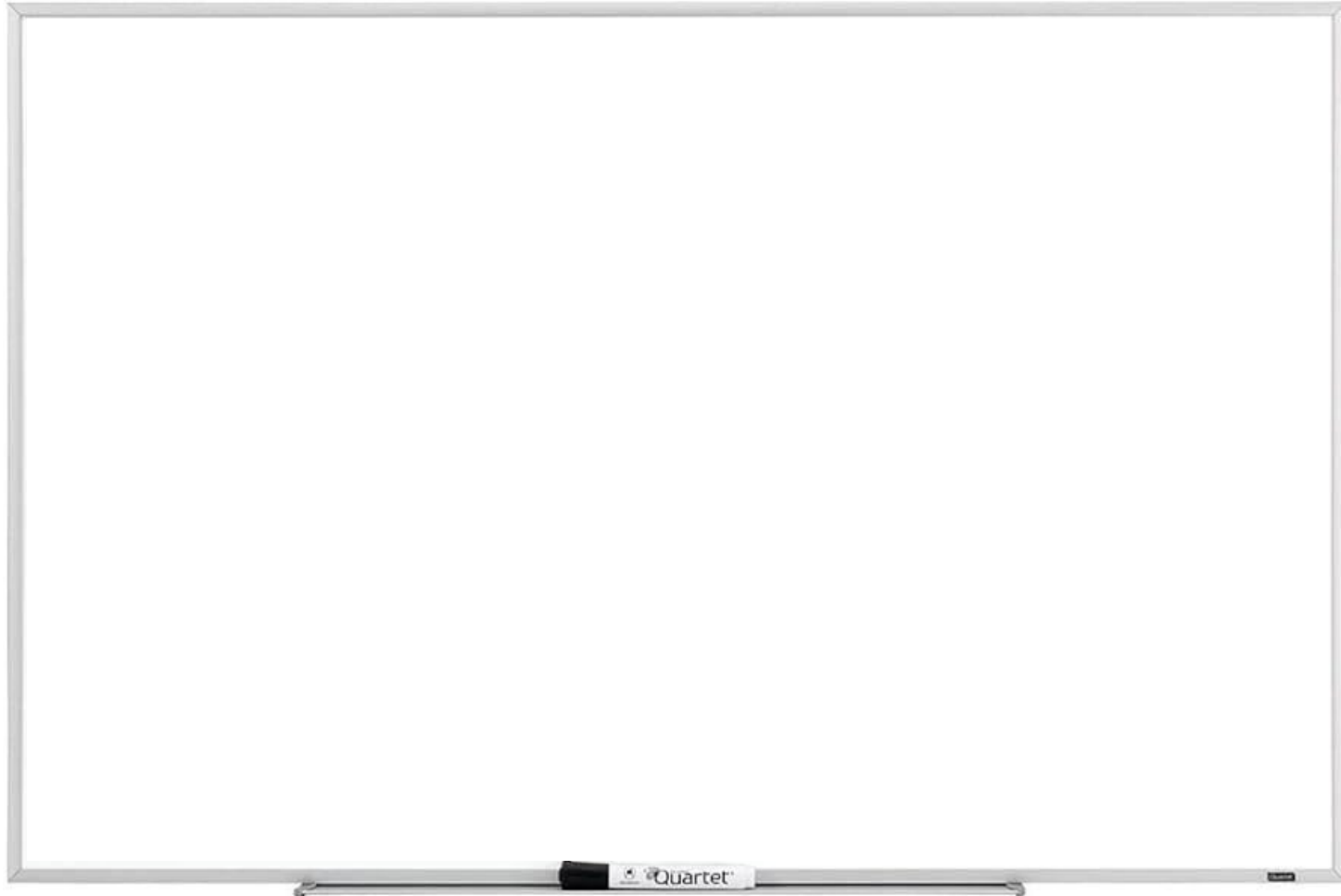




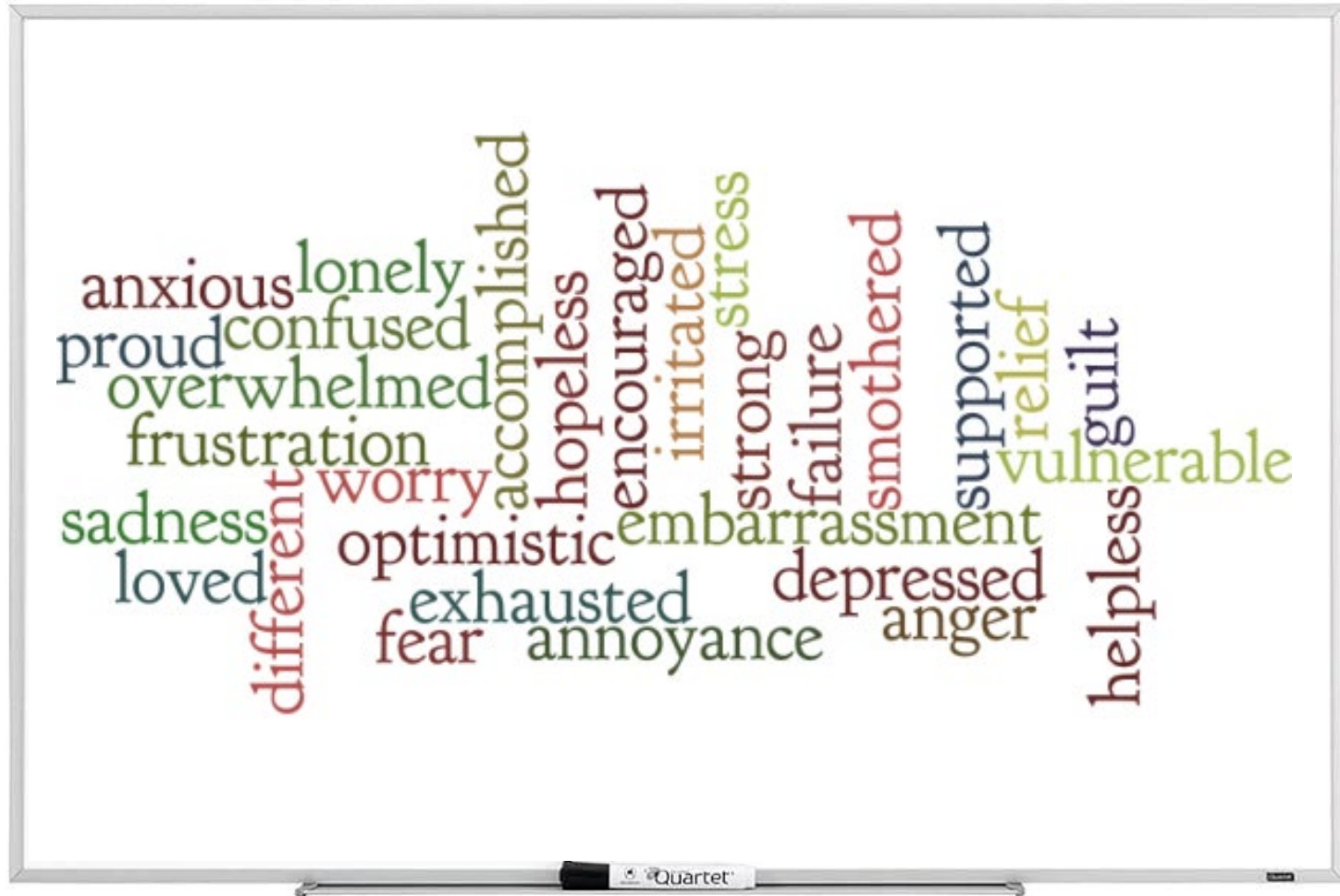
How do you, the Veteran, choose what to eat?



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All these factors...

- Finances
- Demographics
- Health conditions
- Mental health
- Environment/geography
- Ethnocultural background
- Life experiences
- Daily STRESS


All these factors...what do they look like in Veterans?

- Finances
- Demographics
- Health conditions
- Mental health
- Environment/geography
- Ethnocultural background
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- Military experiences
- Military culture
- Service-related injuries
- Post-separation life
- Daily STRESS

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Veterans with polytrauma:

- At least 1 mild traumatic brain injury (mTBI)
- At least 1 associated comorbidity:
 - mood disorder
 - PTSD
 - chronic pain
 - vestibular disturbances
 - cognitive impairment
 - spinal cord injury
 - auditory impairment
 - visual impairment





I asked:

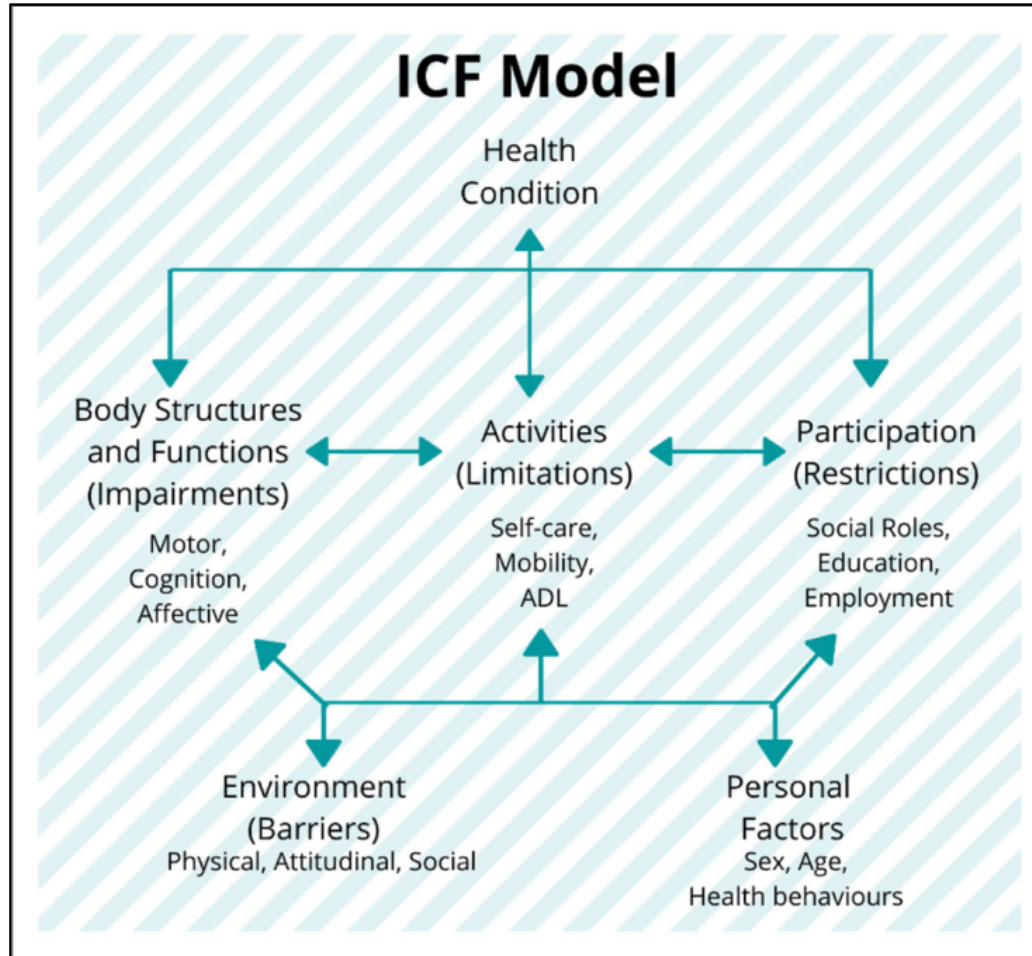
- How are Veterans with polytrauma using food?
- Where/how are they getting it?
- How do they pay for it?
- How do their polytraumatic injuries impact their ability to acquire, prepare, consume food?
- How do they feel about their injuries in a nutritional context?
- How do their background, military experiences, culture, etc. inform their values regarding food?
- What are the **barriers/facilitators**?



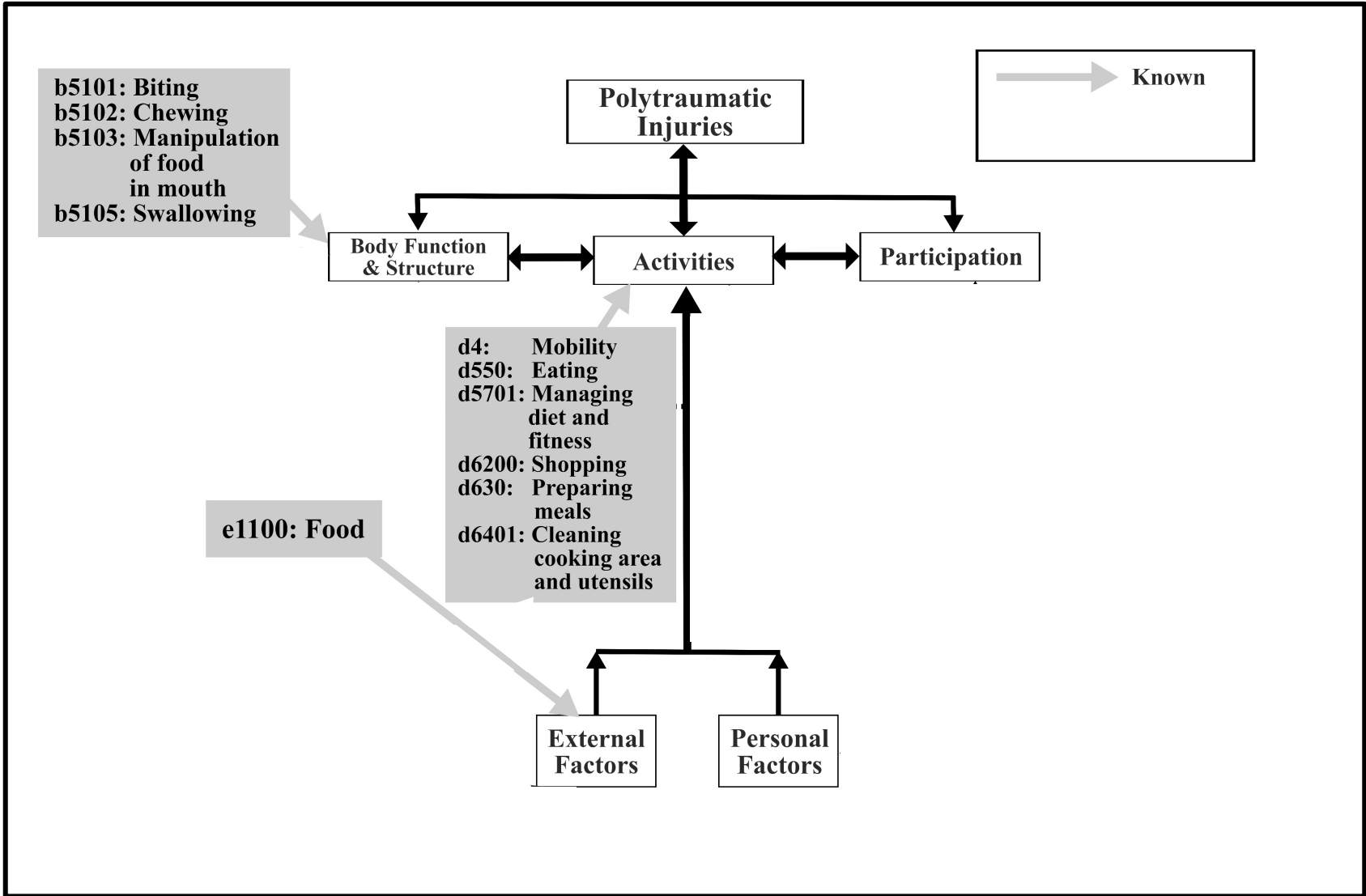
Step 1: Operationalizing 'Nutritional Functioning'

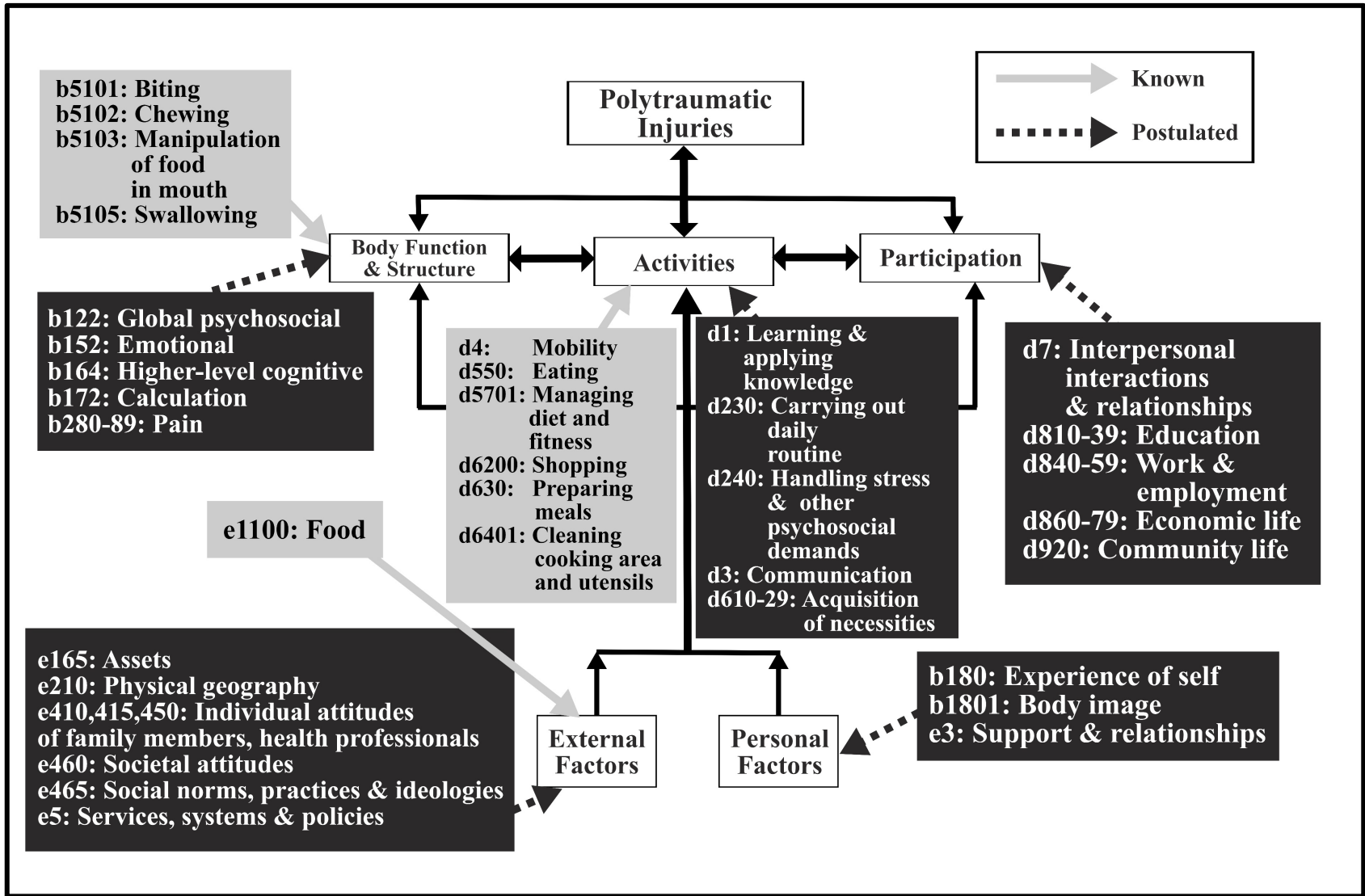
Step 1: Operationalizing 'Nutritional Functioning'

International Classification of Functioning, Disability and Health



https://www.researchgate.net/figure/The-International-Classification-of-Functioning-Disability-and-Health-ICF-model-and_fig2_355680529







Cohort characteristics:

- 3 Polytrauma Rehabilitation Center (PRC) service areas:
Palo Alto, San Antonio, Tampa
- Post-9/11 Veterans with polytrauma
- Polytrauma providers
- Quantitative questionnaires + Qualitative interviews
- Spring/Summer 2020



Cohort characteristics:

- **N = 43 → 11 Women, 32 Men**
- n = 11 Hispanic/Latino
- n = 35 White, n = 6 Black





Cohort characteristics:

- n = 17 previous h/o homelessness
- Avg. 2.2 combat deployments
- 21% report military sexual assault
- n = 4 w/ clinically significant disordered eating behaviors





Cohort characteristics:

- **n = 16 w/ food insecurity (37%):**
n = 9 w/ **LOW** food security (21%)
n = 7 w/ **VERY LOW** food security (16%)
- **n = 5 currently receiving govt. food assistance (~12%):**
n = 1 SNAP ('food stamps')
n = 4 WIC (Women, Infants & Children)





Qualitative characteristics:

Veterans' Self-Perceptions in one phrase:

“I am my TBI.”



Qualitative characteristics:

Veterans' Self-Perceptions in one phrase:


“I am my TBI.”

VA Providers' perceptions in one phrase:

“Everything is about who they used to be.”




Overall: **Rigidity**



Poor/unhelpful experiences with care
Viewing self as a 'before/after' binary
Belief that 'broken' is absolute and forever
Damaging experiences re: weight and fitness
It has to hurt to be effective
Isolation
Lack of purpose

Overall: **Adaptable to a way forward**



Seeing one's self in a wider context
Understanding/acknowledging the course of life
Mindfulness & learned coping strategies
Family/social/peer support
Needing/seeking help is not weakness
Small, gradual steps are not weakness
Awareness that there is no 'silver bullet'





Social Determinants of Health...

“...where you work, how reliable your work is, how safe your working conditions are, how much money you have, whether your housing is secure, your gender, whether you are disabled, whether you have secure access to good food, the cost of food, and whether you are a member of a minority group.”

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struggle with your mental health, have an extensive trauma history, are socially isolated, have not had access to education, have internalized stigma, have experienced bigotry and/or discrimination, have acquired maladaptive coping strategies, etc., etc., etc.



What IS nutritional functioning?

Food Background	The totality of childhood, military, and life experiences that shape current eating habits and food preferences.
Nutrition Knowledge	Degree of education and accompanying beliefs regarding nutrition; how different foods/food groups/eating habits influence health and function.
Meal Aptitude	Degree of familiarity, comfort, and engagement in the process of planning and shopping for meals, and meal preparation.
Resource Navigation	Degree of awareness, experience, and comfort in managing resources so as to budget for food and/or obtain food assistance, as needed.
Navigation to/of Food Spaces	Physical, psychological, and cognitive barriers and facilitators to navigating grocery stores, restaurants, and other food-oriented public spaces.



Pending...

Brostow, D. P., Smith, A.A., Bahraini, N. H., et al. (2024). **Nutrition and Food Security among Veterans: Operationalizing ‘Nutritional Functioning’**. *Archives of Physical Medicine and Rehabilitation*, (accepted).

Step 2: Develop & Pilot a Measure

- Took these 5 constructs and developed a questionnaire
- 103 items, asking the same things in different ways
- Piloted in 270 post-9/11 Veterans with polytrauma
- **Which items “capture” nutritional functioning?**





Step 3: Refine and Re-Validate

- Take out the unneeded items
- Pilot the new, shorter version in a new sample
- Validate the results





Next Steps – Integrative Care

- Implement the measure in different settings...
 - Healthy Teaching Kitchen?
 - Outpatient dietetics?
 - Whole Health?
 - Rural outreach, horticulture programs, ???



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What sort of intervention is needed?
What will align with Veterans' goals and values?



What sort of intervention is needed? What will align with Veterans' goals and values?



- Nutrition counseling
- Culinary education (HTK)
- Financial literacy
- Transportation/mobility
- Targeted PTSD treatment
- Eating disorder intervention
- Peer support
- Body Image & Food Myths 101
- What else?



Resources & Things to Keep in Mind

Nutrition and Food Services	All the types of counseling a Dietitian can provide: https://veteranshealthlibrary.va.gov/RelatedItems/142,41529_VA
Food Security Office	https://www.nutrition.va.gov/Food_Insecurity.asp
Healthy Teaching Kitchen	https://www.nutrition.va.gov/Healthy_Teaching_Kitchen.asp On YouTube: Healthy Teaching Kitchen - YouTube
National Veterans Financial Resource Center (FINVET)	Home FINVET National Veterans Financial Resource Center - MIRECC / CoE (va.gov)
Whole Health	https://www.va.gov/WHOLEHEALTH/index.asp
Polytrauma System of Care	https://www.polytrauma.va.gov/



Resources & Things to Keep in Mind

- Everyone has a “food background”
- Veterans are interested in food and nutrition, regardless of their food security status
- People’s eating habits and sense of identity are intertwined, now, more than ever
- Veterans will anticipate that telling you about their eating habits = moral judgement
- Black and white thinking is a trap, especially when it comes to diet



“You have a relationship with food.

***It may be good, bad, punitive, complicated, pragmatic,
emotional, dismissive, anxious, perfunctory,
intellectualized, easy, contradictory.***

***But you have it, and it says something fundamental
about your relationship with yourself, and your world.”***



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Kimberley Wilson, Psychologist,
Finalist, 2013 Great British Bake Off

Thank You!

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<https://www.mindcharity.co.uk>