RESIDENT WELLBEING: A MIXED METHODS INVESTIGATION

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LAYOUT

1. Describe study background & design
2. Deep dive into measures and past validation efforts
   - Wellbeing item development
3. Quantitative analyses
4. Qualitative analyses and recommendations

INTRODUCTION

We were approached to assess suicidality in resident physicians at a large regional medical institution.

Given the high-risk/low-reward proposition, we reframed to wellbeing assessment including surveying and focus groups.

Recommendations were presented to graduate medical education stakeholders.

GOALS

- Assess holistic wellbeing (including burnout, depression, resilience)
- Understand predictors of wellbeing
- Assess mental health service utilization and barriers to utilization
- Identify possible program improvements to address wellbeing

ON RESIDENCY

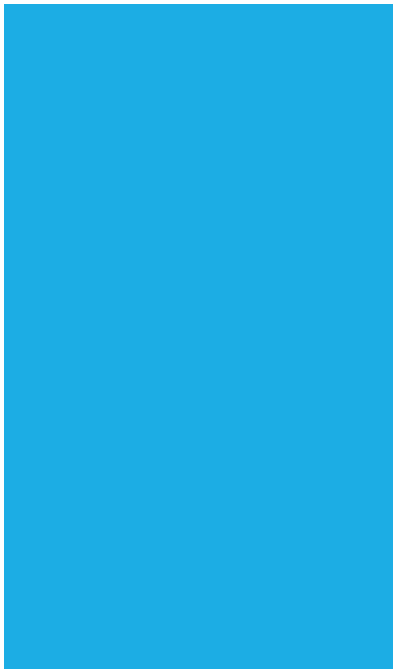
- Medical residency is a 3-8 year (specialty-dependent) period of training after medical school but before independent practice.
- Workloads range from 60-80+ hours per week (*theoretically* capped at 80).
- Burnout and poor wellbeing—with usual onset during residency—are endemic in physicians.

WELLBEING

Broad construct that includes domains of physical health, mental/emotional health, social (family, friends, community) health, financial security, physical security/safety, spiritual health, occupational health, etc.

BURNOUT

- Job-related syndrome characterized by feelings of being emotionally drained or underwhelmed, inability to relate to patients, and sense of futility.
- Important drivers of burnout are organizational/program culture, workload, and emotional burden.
- Burnout is linked to medical error, professionalism lapses, healthcare worker attrition, and more.



DEPRESSION & RESILIENCE

Depression is a persistent mood disorder marked by loss of pleasure, persistent sadness, hopelessness, low self-worth, and physical symptoms including cognitive difficulty, fatigue, pain, and weight gain/loss.

Resilience is the ability to adapt to stress or adversity.

PARTICIPANTS

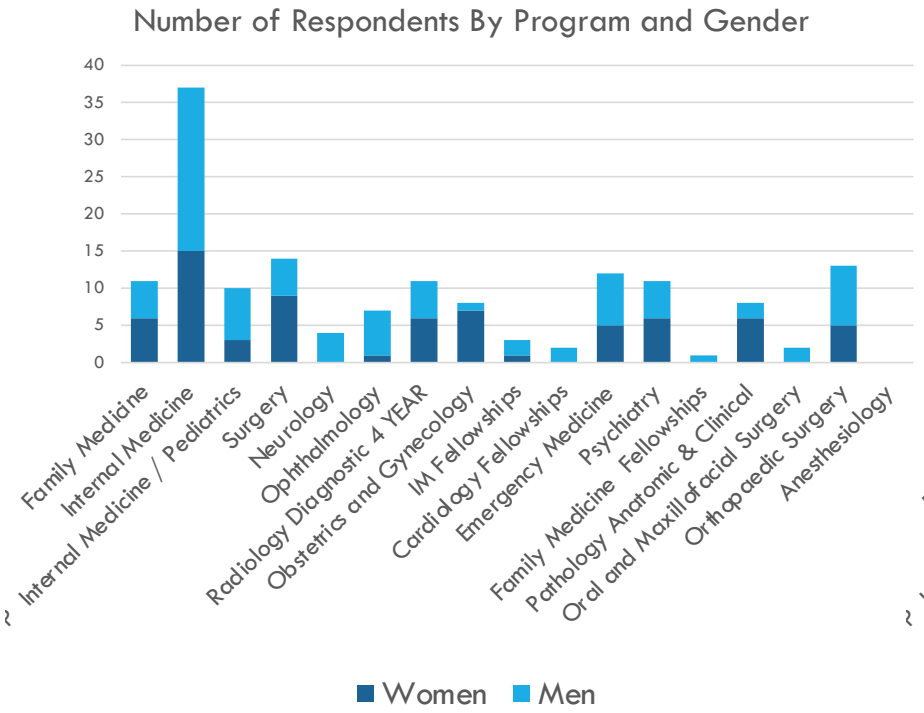
161 of 199 responses

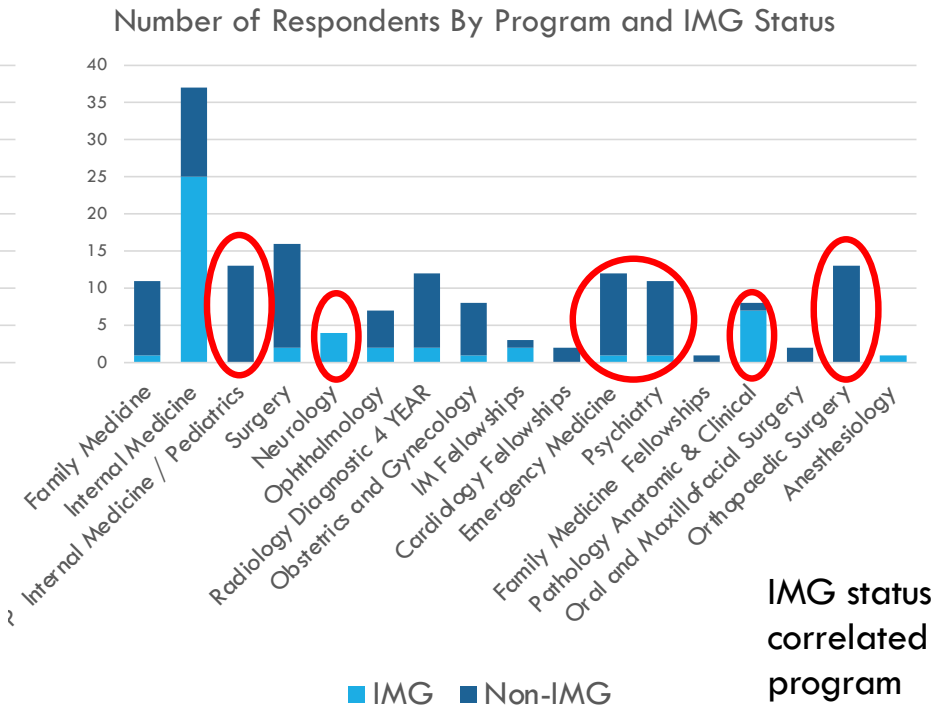
70 women (43%), 84 men (52%), 0 non-binary, 5 prefer not to answer, 2 missing

49 international medical graduates (IMG), 112 non-IMG

16/19 programs represented (some fellows missing)

DEMOGRAPHICS





IMG status correlated with program

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MEASURES

- Biopsychosocial wellbeing: 3 items to assess general health, mental health, and social health
- Depression: 4 item PROMIS scale
- Burnout: 2 items to assess emotional exhaustion (EE), 1 to assess depersonalization (DP); from Maslach Burnout Inventory
- Resilience: 4 item Brief Resilient Coping Scale
- Awareness, comfort, and usage of mental health resources

WELLBEING DEVELOPMENT STEPS

Content Validity

- Review theory to identify domains of wellbeing

1

Criterion Validity

- Select items from those domains that predicts other outcomes

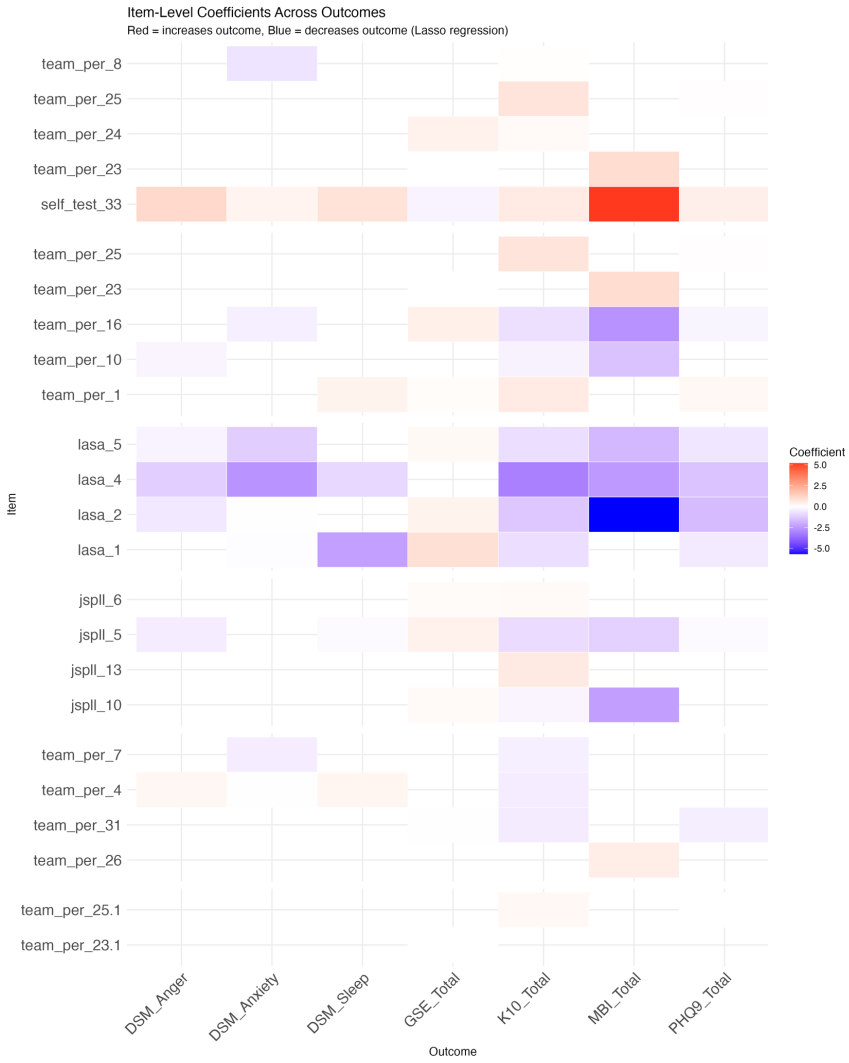
2

Construct Validity

- Show the new measure correlates with other constructs as expected

ITEM SELECTION

The most strongly predictive candidate items were selected using lasso regression on psychologically-relevant constructs.



SELECTION

LASA 1: Your overall quality of life?

LASA 2: Your overall mental (intellectual) wellbeing?

LASA 4: Your overall emotional wellbeing?

LASA 5: Your level of social activity?

Self-Test 33: I lose my temper too easily

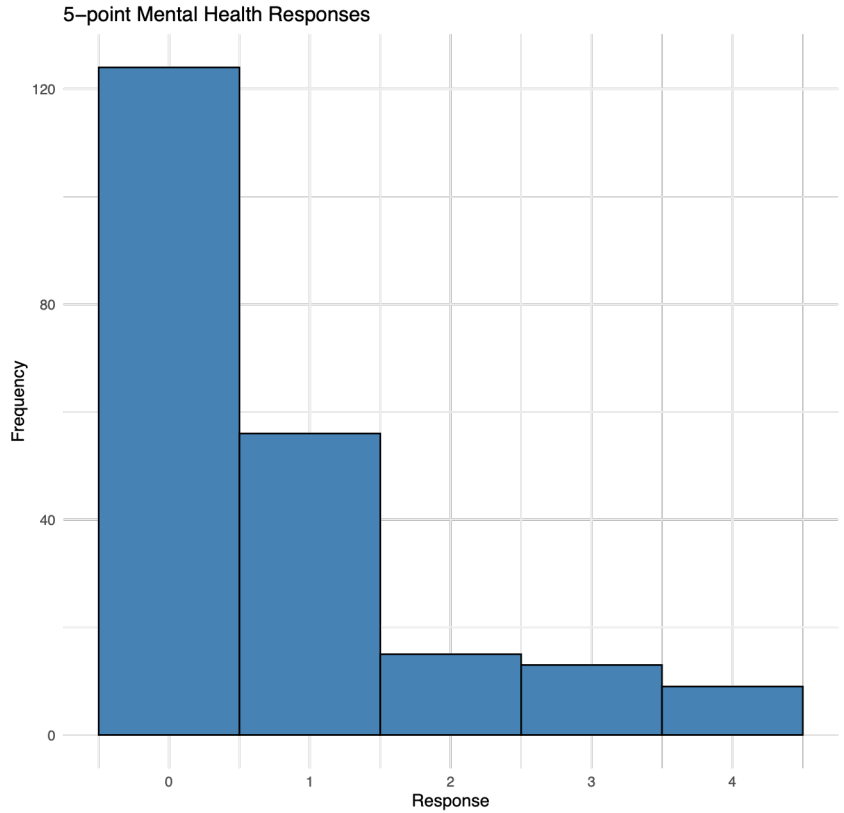
WELLBEING ITEMS

1. Please respond regarding your general health
2. Please respond regarding your mental health
3. Please respond regarding your social health

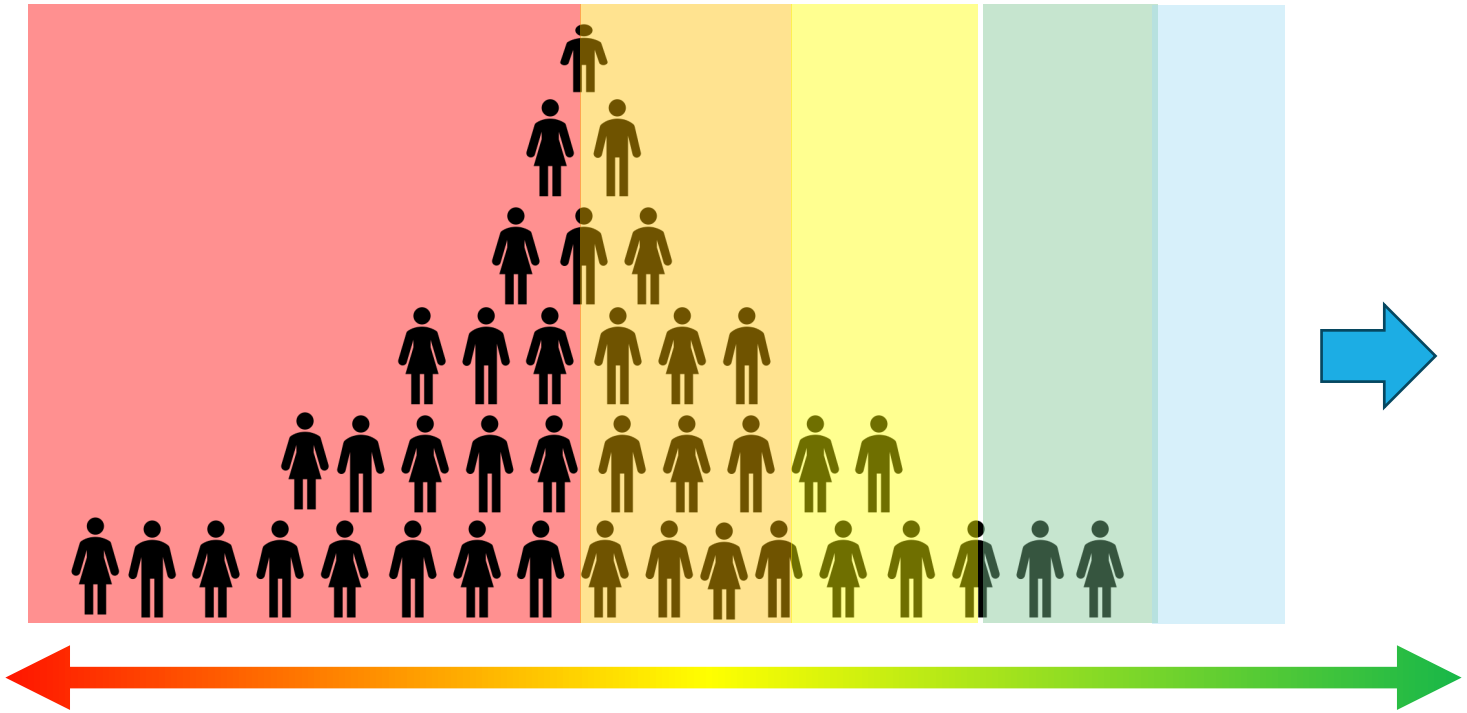
OUR PROBLEM (IN ONE FIGURE)

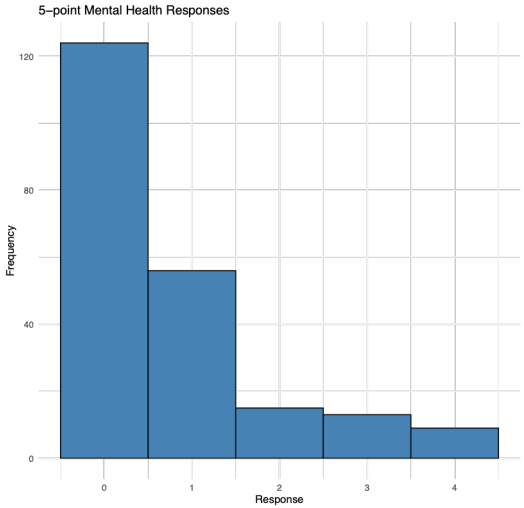
Ceiling/floor effects:

- Limit ability to detect change
- Prevent distinguishing among respondents
- Attenuate correlations



FLOOR EFFECT





BEST PRACTICES FOR ITEM DEVELOPMENT

- Label anchors
- Make anchors objective (where possible)
- Include 6-7 response options
- Anticipate likely response patterns

WELLBEING ITEMS

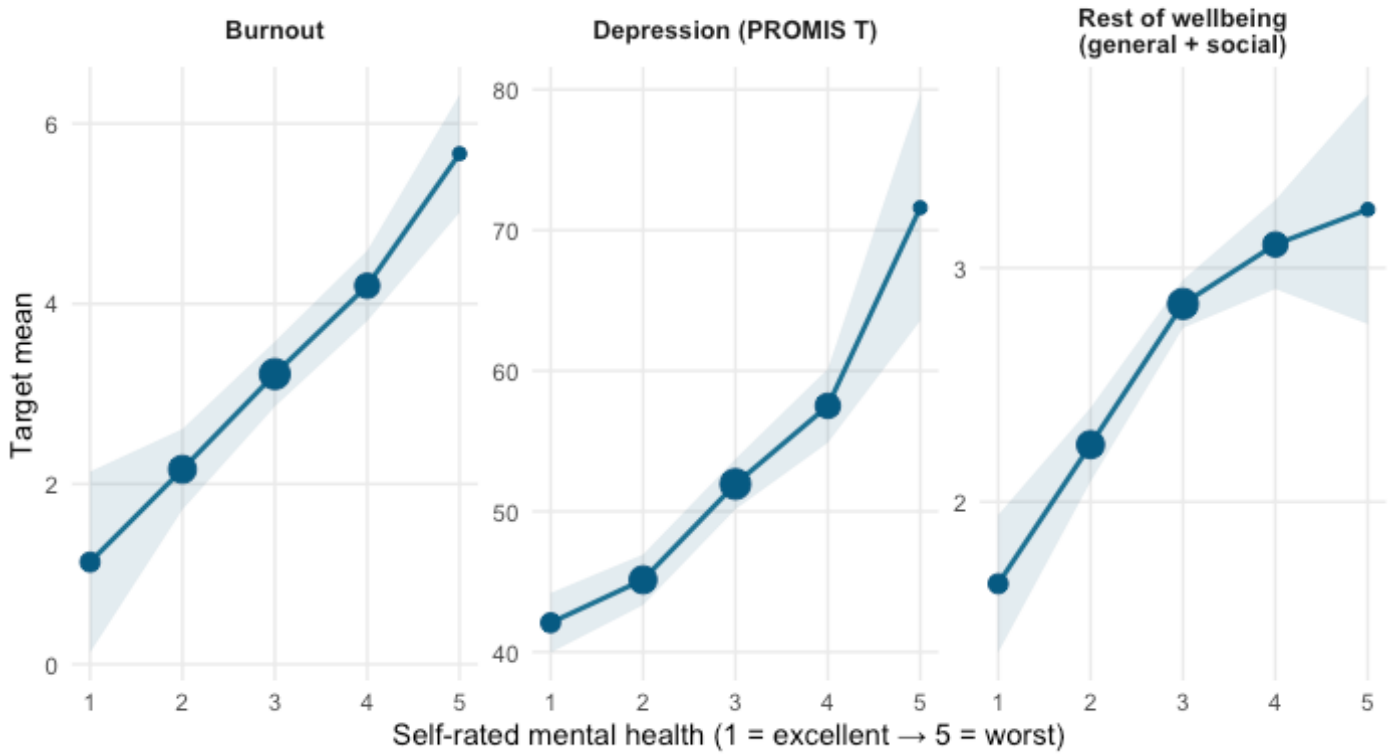
Stem	Response Option				
	1	2	3	4	5
Please respond regarding your general health:	My general health is currently among the best I've seen	My general health is excellent	My general health is normal	My general health has been a barrier to my normal functioning	My general health has made normal functioning very difficult

WELLBEING ITEMS

Stem	Response Option				
	1	2	3	4	5
Please respond regarding your mental health:	My mental health is excellent, about the best I've felt	My mental health is good	My mental health is normal	My mental health has been a barrier to my normal functioning	My mental health has made normal functioning very difficult
Please respond regarding your social life:	My social health is excellent	My social life is good	My social life could be better	I have few social connections	I have almost no one

ALL'S WELL THAT ENDS WELL?

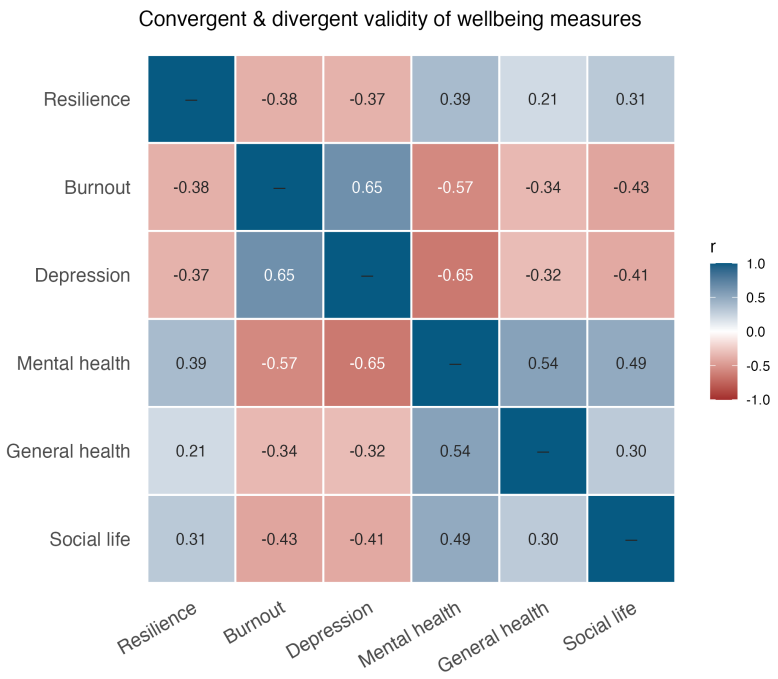
Items are linearly related to other wellbeing measures.



CONVERGENT/DIVERGENT VALIDITY

Wellbeing measures show overall decent convergent/divergent validity:

Convergent: Burnout, depression, mental health strongly correlated
Divergent: General health and resilience (trait-like) least correlated.



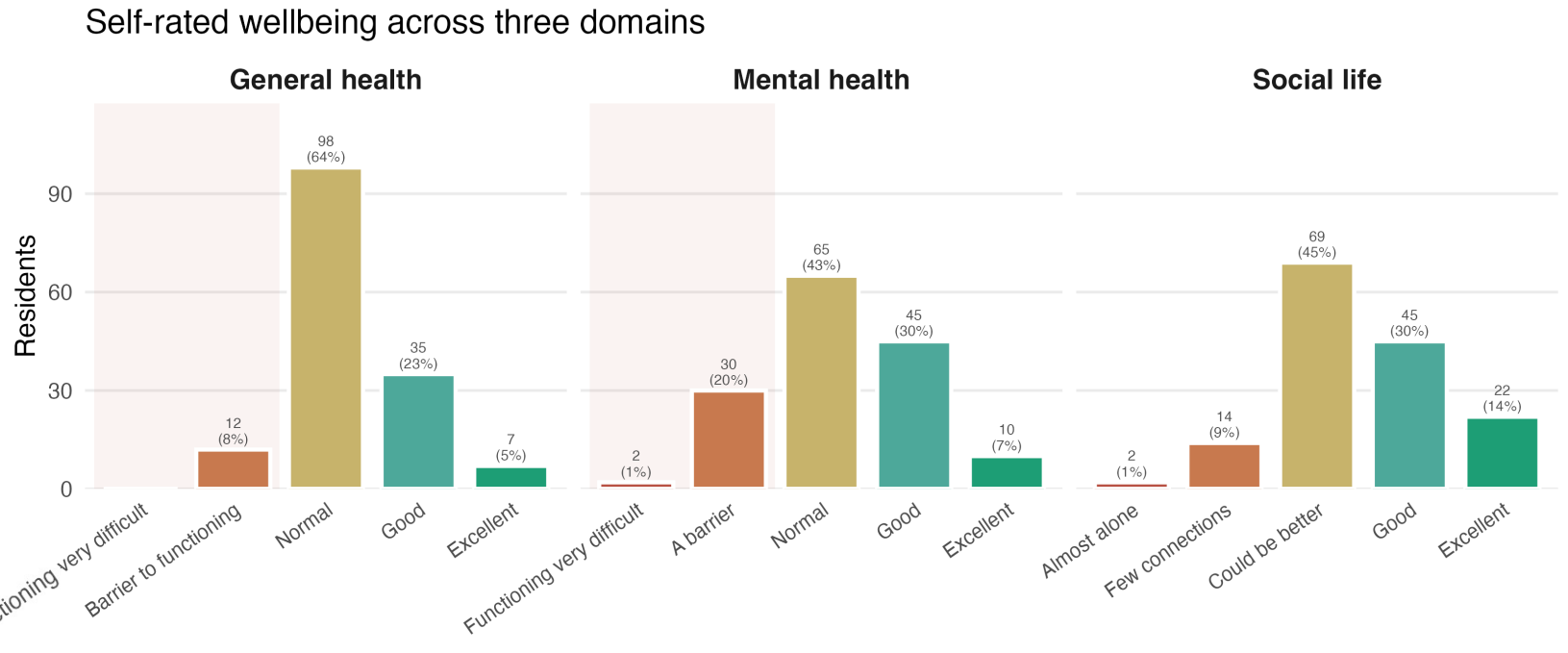
WELLBEING MEASURE

Wellbeing is a multifactorial construct

I employed a bio-psycho-social lens

This is a reasonably strong formative variable (α = 0.71, ω_t=0.74)

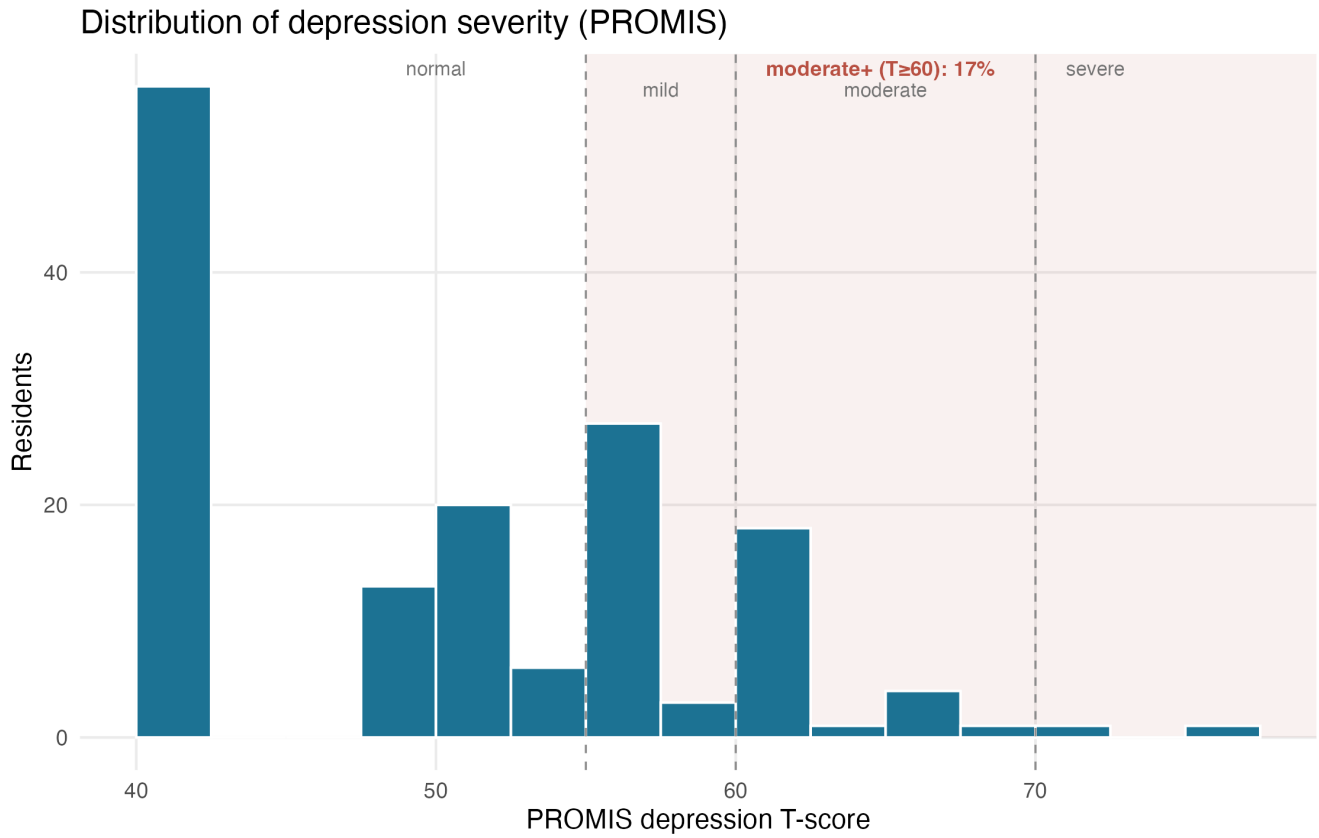
WELLBEING DESCRIPTIVES



DEPRESSION IN OUR SAMPLE

4-item PROMIS scale (5-point: Never-Always), selected for brevity and classification efficacy

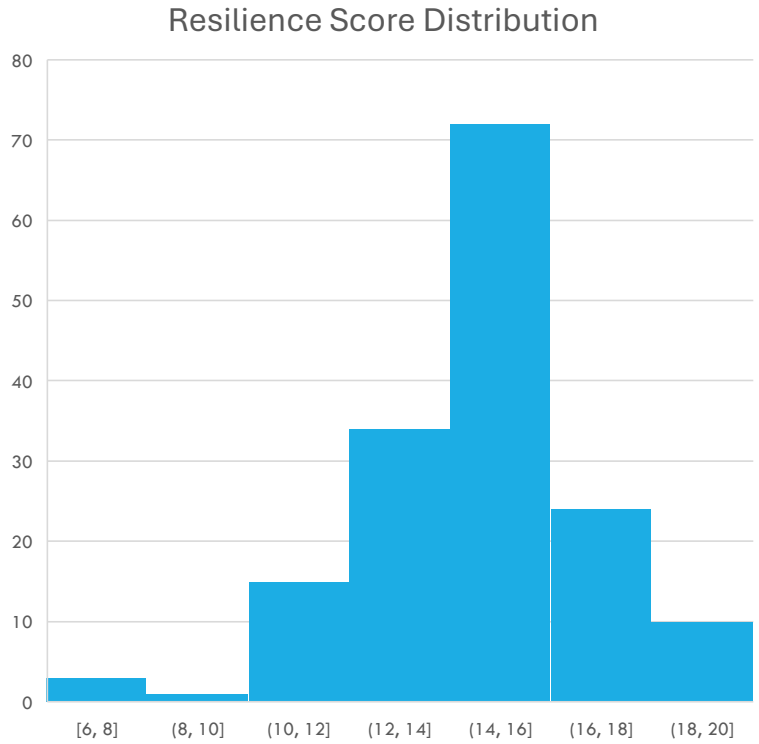
- I felt worthless
- I felt helpless
- I felt depressed
- I felt hopeless



RESILIENCE

4-item Brief Resilience Coping Scale (5-point Likert-type)

- *I look for creative ways to alter difficult situations*
- *Regardless of what happens to me, I believe I can control my reaction to it*
- *I believe that I can grow in positive ways by dealing with difficult situations*
- *I actively look for ways to replace the losses I encounter in life*

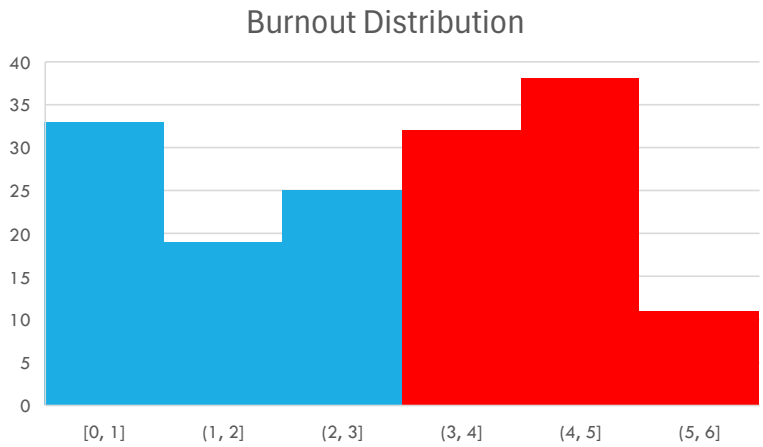


BURNOUT

We use 3 items with a 0 (Never) to 6 (Every day) scale from the Maslach Burnout Inventory:

- I feel emotionally drained from my work
- I've become more callous towards people since I took this job
- I feel burned out from my work

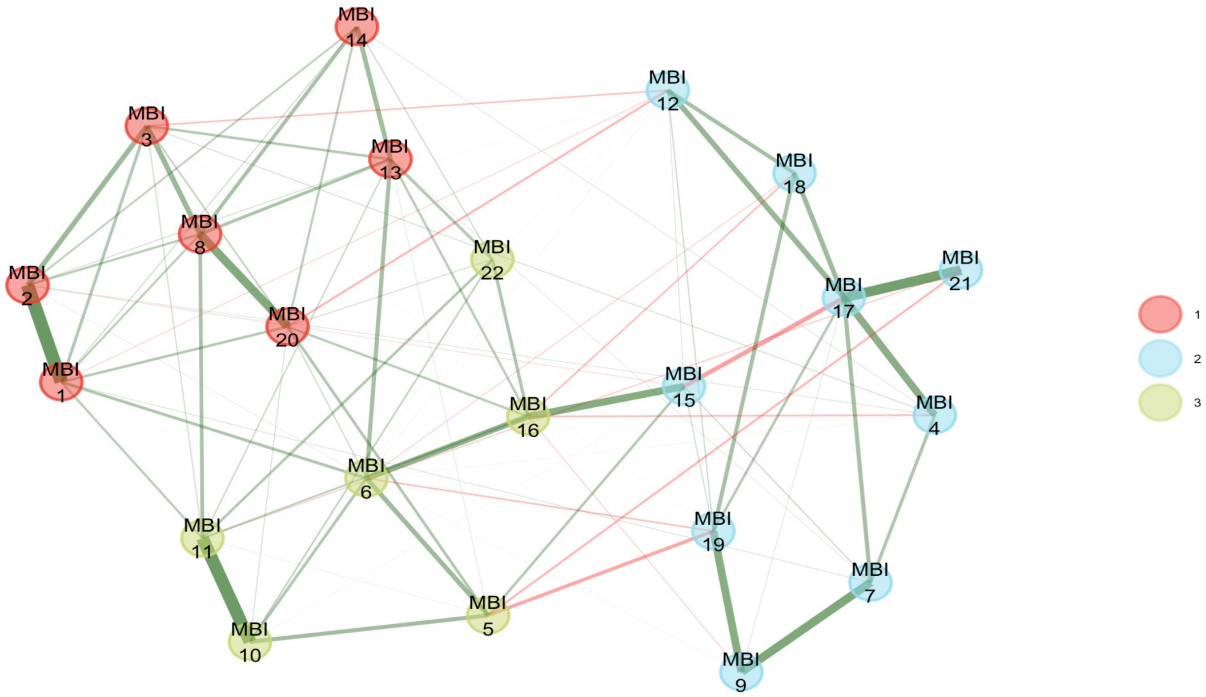
Reliability was high (α=.91, ω_t=.92).



BURNOUT FACTOR STRUCTURE (USING EGANET)

Our past data indicated a 2-factor structure (also found in literature).

These data and subsequent re-analysis suggest 3 factors, consistent with the manual.



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WELLBEING SUMMARY

- Burnout and depression are consistent with other residency programs.
- Resilience is high-average, as expected in physicians.
- Wellbeing items are consistent with depression/burnout.

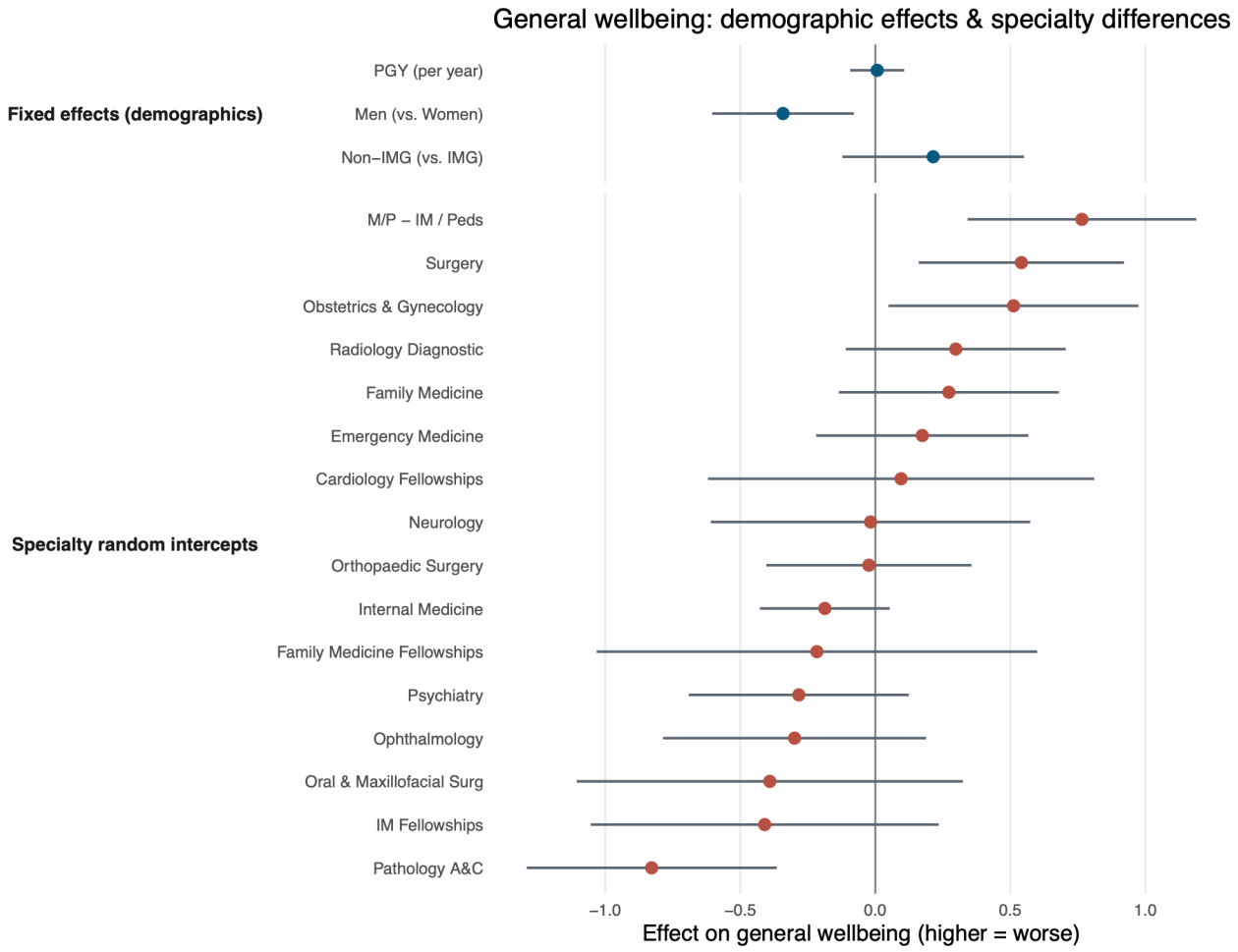
WELLBEING/BURNOUT PREDICTORS

I used a multilevel model of respondents within programs, with PGY, gender, and International Medical Graduate status as covariates.

Multilevel modeling is preferred here given the large number of programs and small number of respondents per program.

WELLBEING PREDICTORS

Gender and program (demonstrated by high ICC of .301) are significant wellbeing predictors.

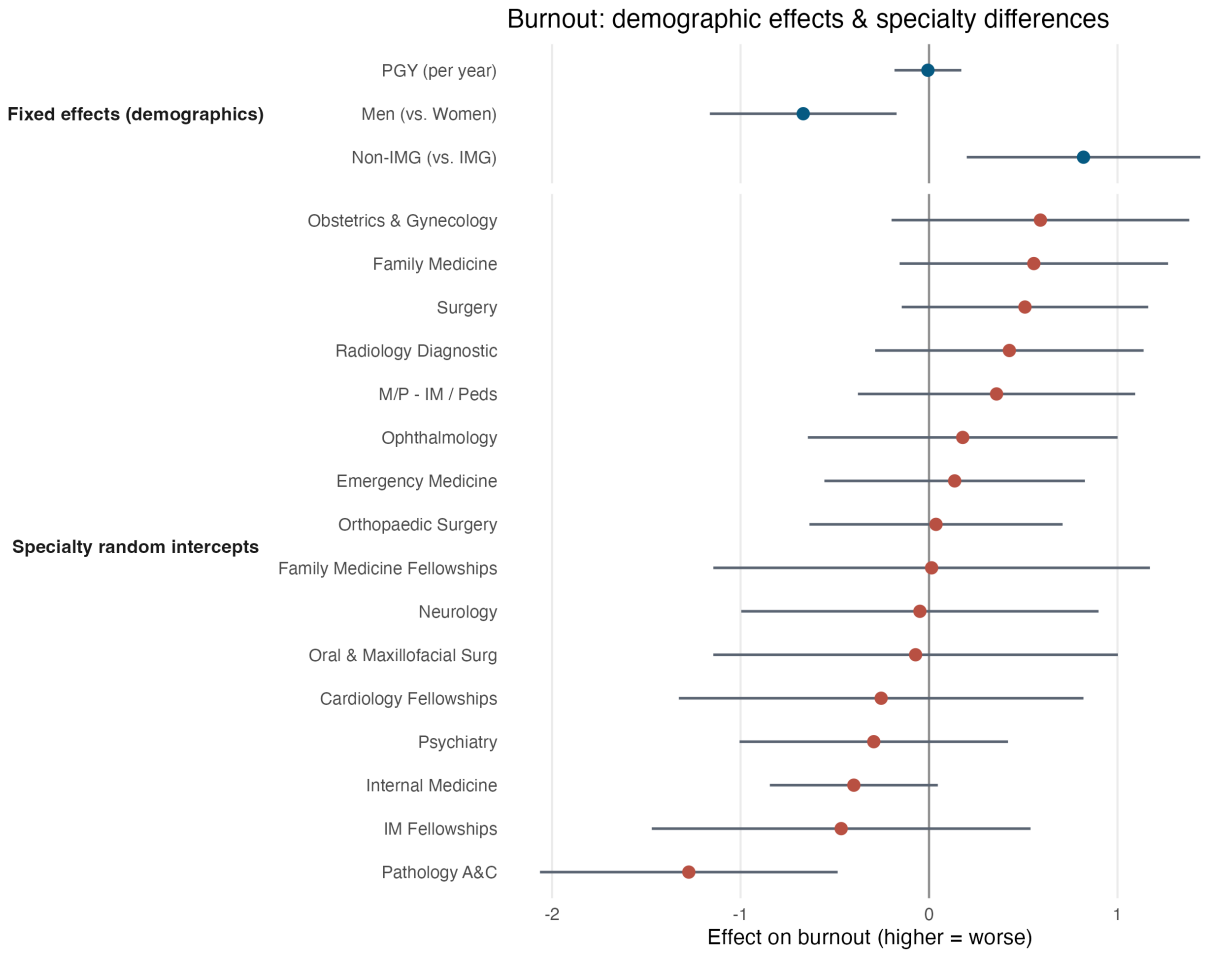


BURNOUT PREDICTORS

Similar story: effect estimates are wider,

but programs have similar ordering (ρ=.79; p<.001),

and ICC remains high (.289).



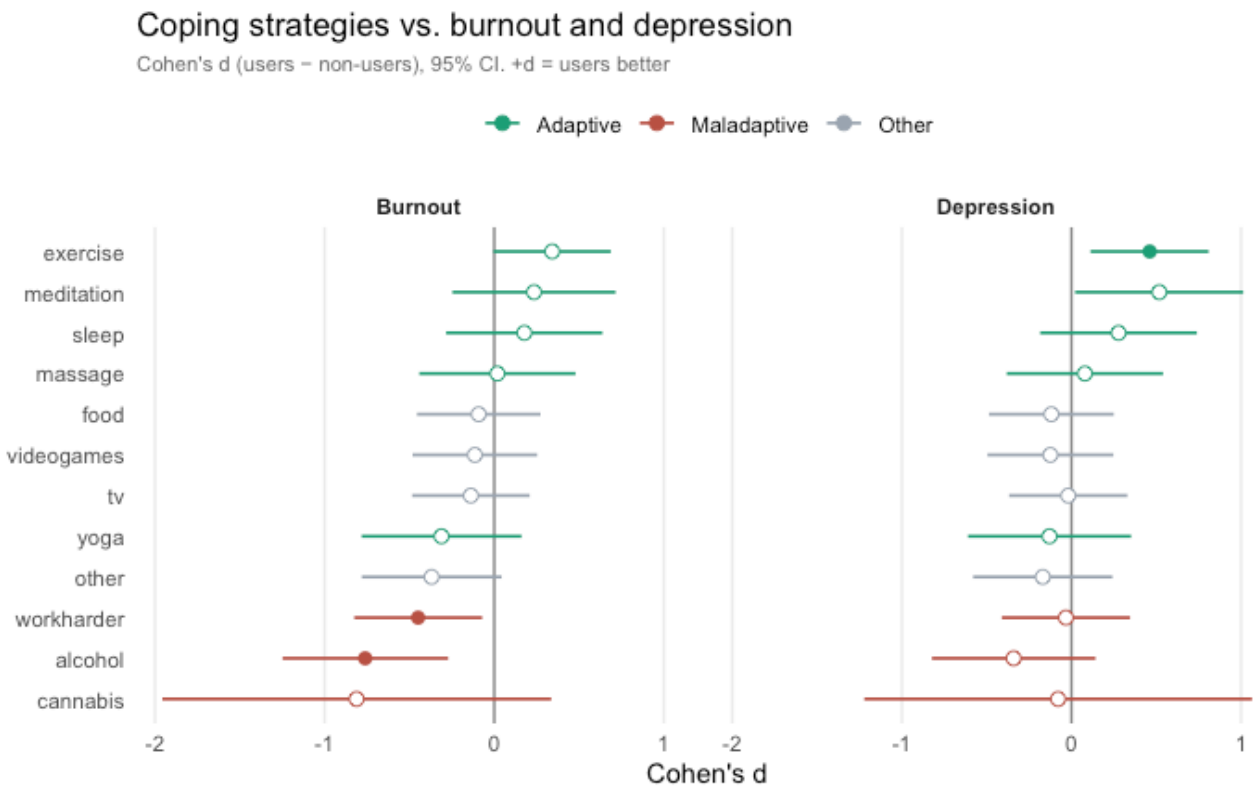
COPING

Coping strategies effects on burnout and depression are shown.

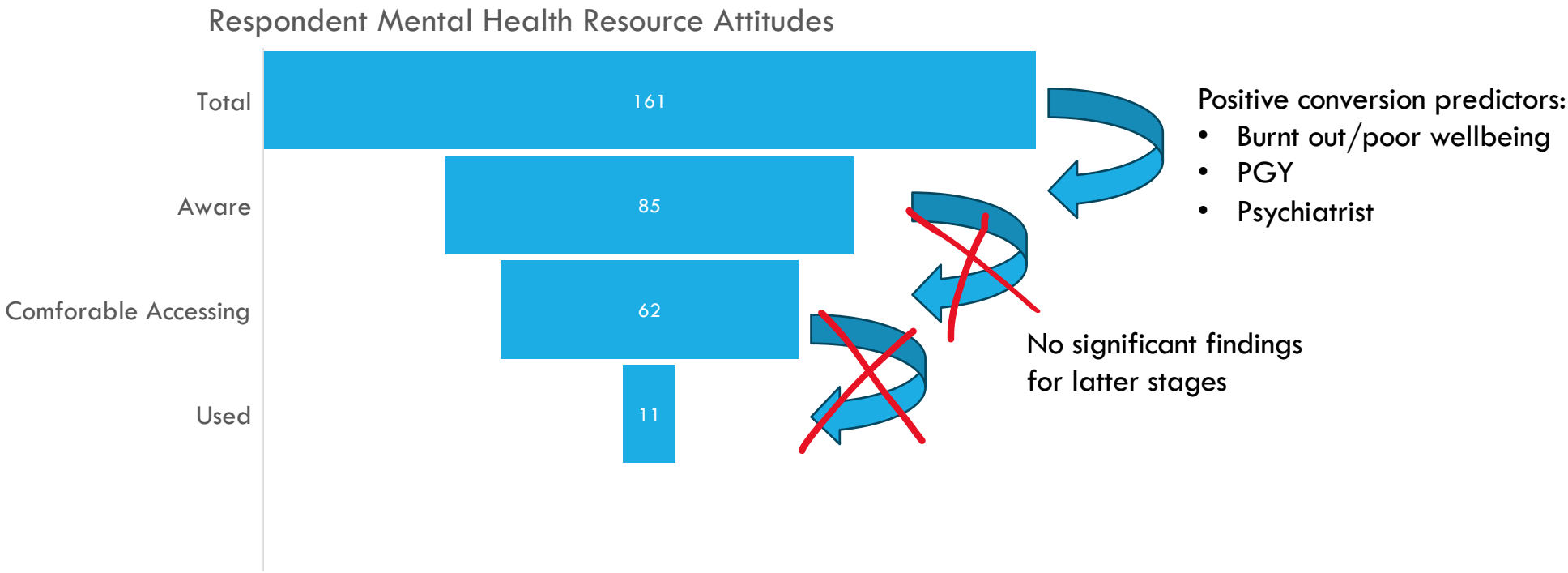
Number endorsing (out of 161):

- Exercise: 111
- Meditation: 19

- Work: 40
- Alcohol: 22



MENTAL HEALTH SUPPORT FUNNEL



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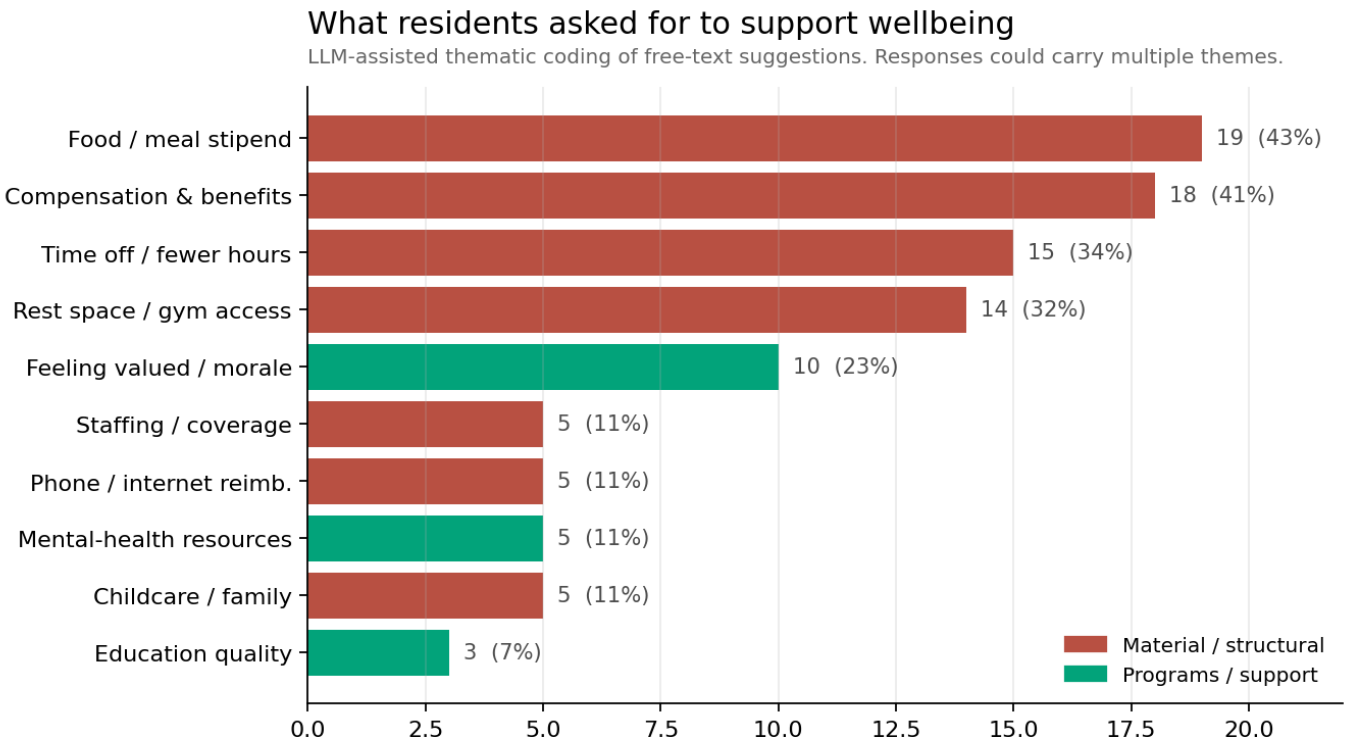
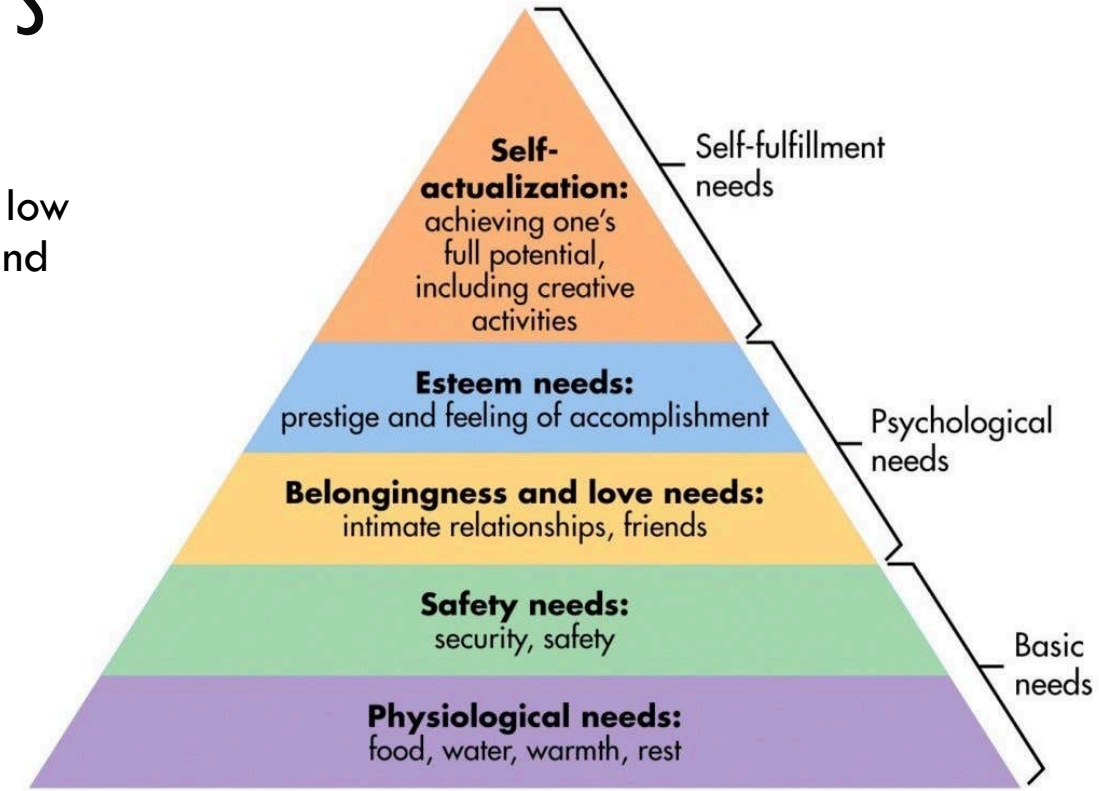
FREE RESPONSE THEMES



FOCUS GROUP RESULTS

Overall feeling undervalued through low compensation, cafeteria allowance, and unequal access to facilities.



IN THEIR OWN WORDS

"We don't need programs. We need to be compensated for the work we do and the high amount of responsibility for people's livelihoods that we hold. We need to not work 70+ hours on the regular but be paid under minimum wage. And we need to not be gaslit that this isn't bad or difficult and that this is the only way to learn."

RECOMMENDATIONS

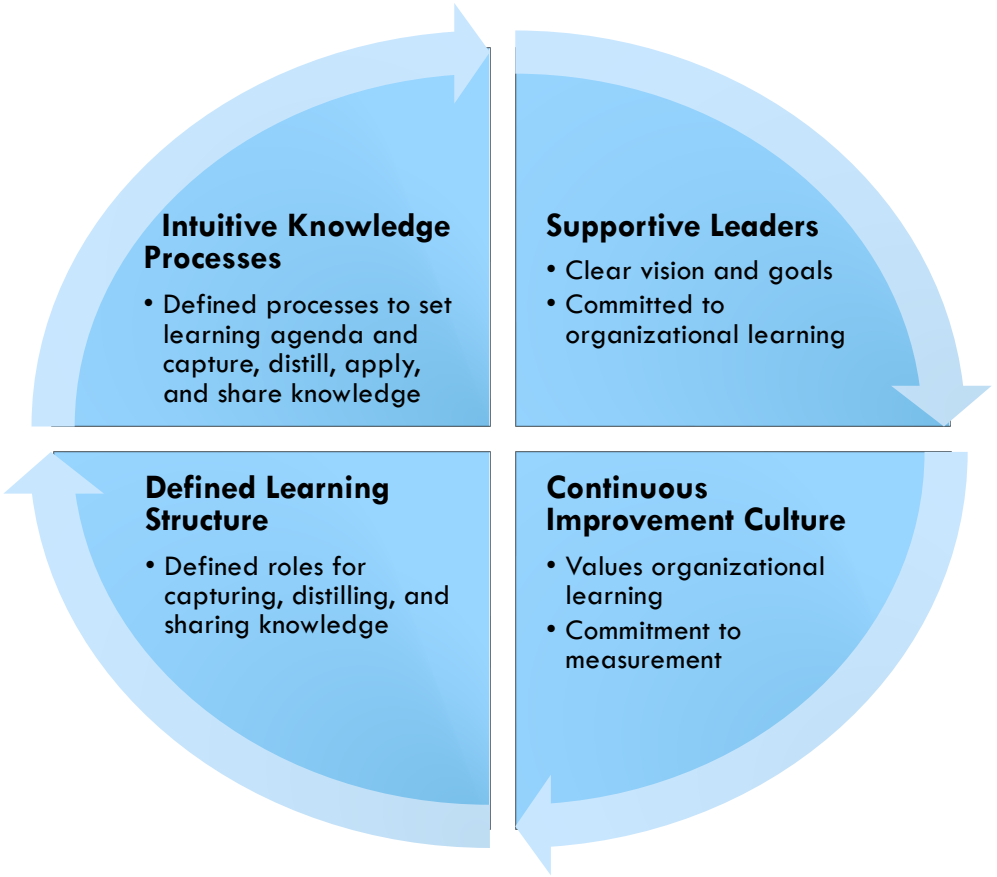
Easiest wins:

- Increase cafeteria allowance, allow access to lounge.
- Improve awareness of mental health resources through program leaders.
- Gym equipment (e.g., stationary bike, resistance bands)
- *Implement feedback collection and response program.*

More difficult:

- Assess/improve quality of mental health resources.
- Program leadership training.
- Increase pay and/or PTO commensurate with other regional programs.

LEARNING ORGANIZATION



TOWARDS A NEW STUDY

Investigate mechanisms for wellbeing by program, gender, and IMG status:

- Assess work hours, especially over the cap
- Organizational trust and respect
- Program leadership perception

Predictors of mental health support utilization:

- Mental illness stigma
- Attitudes towards support efficacy
- Other barriers to using support