

Flourishing and Mindfulness in Surgery: Differences by Race and Gender in a Multicenter Study

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Background

- Physician wellbeing is known to be associated with performance, professionalism, and patient outcomes.
- Attention has primarily been on detractors of wellbeing such as burnout, anxiety and depression.
- There is currently no metric that encompasses detractors and enhancers of global wellbeing.
- Evidence-based guidance on where to invest resources or how to assess the impact of interventions is lacking.
- We began to address this gap in 2 previous studies:

2019 Wellbeing Study

2019 Pilot Longitudinal Cohort

Methods

- To inform future wellbeing interventions, we aim to determine:

A valid **measure of global wellbeing** for surgeons

Individual and workplace elements that affect wellbeing.

Differences by gender, racial identity, and PGY level.

- Multi-center cross-sectional study design**
 - 16 General Surgery Residency Programs nationally
 - Residents of all levels (clinical, lab)
- Multiple-choice wellbeing survey**
 - Open January-March 2021 (open for 6 weeks)
 - Collection of validated instruments
 - Individual and workplace elements reflecting resilience/risk factors
- Data analysis**
 - Correlation between flourishing and resilience/risk factors
 - Differences in gender, race, PGY level assessed through univariate and multivariable models

Results

- Respondents:** 300 mixed-level surgery residents:

Gender	Race/Ethnicity	PGY Level
59% non-male 40% male 1% decline to state	41% non-white 57% white 2% decline to state	57% junior residents 25% senior residents 17% research residents

- Correlation** between flourishing and resilience/risk factors:

Independent Variable	Dependent Variable					
	All Respondents					
	Flourishing			MHC score		
	OR	95% CI	p-value	β	SE	p-value
Resilience						
CAMS-R (Mindfulness)	1.24	1.17-1.32	<0.0001	1.42	0.13	<0.0001
MBI-PA (Personal Accomplishment)	1.54	1.36-1.76	<0.0001	3.07	0.24	<0.0001
DCSQ-Support (Workplace Support)	1.42	1.28-1.58	<0.0001	2.44	0.21	<0.0001
DCSQ-Control (Workplace Control)	1.43	1.25-1.63	<0.0001	2.29	0.35	<0.0001
Risk						
PHQ (Depressive Symptoms)	0.72	0.66-0.78	<0.0001	-1.88	0.12	<0.0001
MBI-EE (Emotional Exhaustion)	0.77	0.71-0.84	<0.0001	-1.67	0.17	<0.0001
MBI-DP (Depersonalization)	0.86	0.81-0.91	<0.0001	-1.08	0.18	<0.0001
PSS (Stress)	0.76	0.71-0.81	<0.0001	-1.48	0.09	<0.0001
STAI (Anxiety)	0.69	0.62-0.76	<0.0001	-2.28	0.17	<0.0001
DCSQ-Demand (Workplace Demand)	0.83	0.74-0.93	0.0008	-1.42	0.34	0.0002

- Differences** by gender, race, and PGY level:

	Gender	Race/Ethnicity	PGY Level
Unadjusted	Non-males have: - significantly higher anxiety - trend toward higher depression - trend toward lower mindfulness - trend toward lower flourishing	Non-white residents have: - significantly higher anxiety - significantly lower MHC score	Junior residents have the lowest control highest demand
Adjusted	Non-males have: - significantly higher depression - trend toward higher EE - trend toward higher anxiety	Non-white residents have: - significantly higher anxiety - significantly lower MHC score	Junior residents have the lowest control highest demand

Conclusions

- Our findings suggest:**
 - Flourishing is a valid measure of global wellbeing in surgical trainees, regardless of gender or race, providing a **tool to measure wellbeing and the efficacy of interventions**.
 - Enhanced Stress Resilience Training (ESRT), a **mindfulness-based intervention** tailored to surgeons and shown to increase mindfulness, might serve as an individual-level intervention to promote flourishing.
 - Underrepresented groups have higher risk and lower resilience** across several measures and lower flourishing overall, suggesting lower overall wellbeing and the need for focused intervention.
- Next steps & future directions include:**
 - Resident focus groups and additional survey timepoints to sharpen our understanding of observed relationship.
 - Multi-center, randomized control trial of ESRT to assess causality between mindfulness-based intervention and surgeon wellbeing.
 - Further study to determine whether mindfulness-based interventions have a role in supporting underrepresented groups within surgery.

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