

# Facets of Mindfulness and their Relationship to Burnout, Empathy, and Perspective-Taking in US Medical Students

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**Background and objectives:** Medical students often experience high levels of stress and burnout. Preventing and addressing physician burnout is a global concern, and many schools are implementing mindfulness-informed programs as one way to promote student well-being. The purpose of this study was to describe unique facets of mindfulness as they relate to burnout, empathy and perspective-taking in a large sample of US medical students in order to more precisely inform mindfulness-based interventions for medical student well-being.

**Methods:** An online assessment (via Survey Monkey) was administered to all incoming, 1st year (M1), 2nd year (M2), 3rd year (M3), and 4th year (M4) medical students for a cross-sectional snapshot of the medical student well-being. Valid measures assessed mindfulness (FFMQ), empathy-concern and perspective-taking (IRI-EC/PT subscales), and burnout (2-item MBI including depersonalization/DP and emotional exhaustion/EE). Bivariate and multivariable analyses examined relationships among key variables. Four facets of mindfulness (acting with awareness, describing, non-judging, and non-reactivity, excluding the observing facet), age, sex, and year of medical school (predictors) that were bivariately related to EE and DP (burnout) at a level of  $p < 0.05$  were considered for inclusion in the multivariable regression models. Years of school were compared with M3 as the reference.

**Results:** 682 students completed the survey (mean age=24, 50% female, 66% Caucasian). Higher overall mindfulness was associated with greater EC ( $r=.13$ ,  $p < .01$ ), greater PT ( $r=.18$ ,  $p < .01$ ), and lower rates of EE ( $r=-.40$ ,  $p < .01$ ) and DP ( $r=-.32$ ,  $p < .01$ ). When controlling for demographics and year in medical school, higher acting with awareness ( $B=-.05$ ), higher non-reactivity ( $B=-.13$ ), greater non-judging ( $B=-.87$ ) and being an incoming student ( $B=-.99$ ) were associated with lower rates of EE whereas M2s showed higher EE ( $B=.39$ ;  $R^2=.29$ ). In a second model, greater non-judging ( $B=-.05$ ), higher acting with awareness ( $B=-.05$ ) and being an incoming student ( $B=-2.44$ ) or an M1 ( $B=-.56$ ) were associated with lower DP ( $R^2=.32$ ).

**Discussion and conclusion:** Findings reinforce the connection between mindfulness and burnout. The mindfulness facets of acting with awareness and non-judgment were particularly related to burnout in these medical students. Developing mindfulness-based intervention that focus on these 2 facets may be effective in helping reduce burnout in medical student populations.