



**Figure 2.** Number of followers per EM residency program Twitter account.

### 3 A Multicenter Study of Grit And it's Relationship to Burnout

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**Background:** Burnout is a syndrome involving mental and psychological exhaustion, a reduced sense of accomplishment and self-esteem, and depersonalization in individuals whose work involves dealing with people. Burnout is common in physicians and the specific emotional and physical challenges of emergency medicine place Emergency Physicians at greater risk. Alternatively, grit, defined as “perseverance and passion for long-term goals,” attempts to quantify the ability of an individual to maintain sustained effort throughout an extended length of time. Grit has been found to be a superior predictor of success in several high-stress, high-achievement fields.

**Objectives:** We aimed to determine if grit, a novel character trait, is associated with resident burnout.

**Methods:** In November 2016, we conducted a multicenter cross-sectional survey at 3 large, urban, academically-affiliated emergency departments. EM residents in each centers training program were invited to provide anonymous responses to two validated survey instruments. Perseverance was measured using the Short Grit Scale. Burnout was measured with the Maslach Burnout Inventory. Categorical data are presented as frequency of occurrence; while continuous data are presented as means +/- std deviation, analyzed by two-tailed t-tests and correlation coefficients (Alpha = 0.05).

**Results:** 146 of 181 eligible residents (81%) completed the study (44 EM1, 42 EM2, 36 EM3, 24 EM4). 98 were males and 45 were females (3 identified as “other”). Grit was predictive of psychological well-being as measured by

the Emotional Exhaustion and Depersonalization subscales of the Maslach Burnout Inventory ( $r = -0.32, P < .01$  and  $r = -0.35, P < .05$  respectively). Analysis for variation by year in training showed that grit did not significantly differ by year in training but burnout did significantly differ, with EM 2 having higher levels of burnout than EM 1 and EM4 ( $P < .05$ ). There were no differences in grit or burnout when analyzing by gender.

**Conclusions:** There appears to be an inverse relationship between self-reported measures of passion and perseverance (grit) and burnout. Measuring grit may identify those who are at greatest risk for burnout. These residents may benefit from earlier counseling to provide support and improve resilience.

### 4 A Prospective Randomized Controlled Trial Comparing Simulation, Lecture and Discussion-Based Education of Sepsis to Emergency Medicine Residents

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**Background:** Septic shock is a life-threatening condition that is traditionally taught to Emergency Medicine (EM) residents in a lecture-based format. Studies suggest that simulation may be more effective in creating competence and comfort in students of EM in managing emergent medical conditions as compared to lecture.

**Objectives:** Our goal was to investigate whether there is a difference in acquisition and retention of medical knowledge and one's comfort level in diagnosis and management of sepsis and septic shock in EM residents taught using simulation (SIM) vs. lecture (LEC) vs. discussion-based learning (DBL). We hypothesized that SIM would improve immediate medical knowledge and confidence levels compared to LEC or DBL.

**Methods:** Subjects were enrolled in this prospective randomized controlled trial from a convenience sample of 35 EM residents present during a didactic day in April 2015 at a 4-year program. Computer generated randomization assigned subjects to one of three didactics on sepsis and septic shock (SIM, LEC or DBL). Each didactic lasted 30 minutes and was based upon a set of learning objectives. The SIM arm participated in a 15-minute one-on-one mannequin simulation followed by a 15-minute debriefing. The LEC arm obtained a lecture. The DBL arm participated in a case-based discussion. Medical knowledge was assessed using a 24 question multiple choice question (MCQ) test. A survey using a 6-point likert scale assessed comfort in diagnosis and management of septic shock. Assessments were