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INSPIRE Study Protocol – Executive Summary

Project Description

On the surface, surgery is a profession highly unamenable to creativity: it is highly risk-averse and subsequently constrained through guidelines, best practices, and regimented instruction. But throughout its history, surgeons, and the patients they treat, have profited from creative ideas: surgical anesthesia, percutaneous endoscopic gastrostomy, and minimally invasive surgery are just a few novel and useful ideas that have revolutionized patient care for the better. More, creativity is important in solving ill-defined problems, making it a particularly useful ability in the operating room when unfamiliar, emergency situations arise. Creativity – the ability to generate novel and useful ideas that improve patient outcomes – is valuable in surgery; understanding, measuring, and cultivating it has clear and meaningful implications for patients.

Precluding the development of valid and effective tools, interventions, and programs improving the creativity of surgeons is our limited understanding of what exactly makes a surgeon creative. There is a clear need for a large-scale and global study of creativity in surgeons, involving a robust and multi-dimensional approach to creativity assessment, to fully characterize highly creative surgeons, including their background, characteristics, and competencies.

The INSPIRE Study is a longitudinal, mixed-methods study of creativity in surgery, which upon completion will represent the largest international study of creativity among surgeons.

Objectives

The primary objective of the INSPIRE study will be to identify the personal, domain-specific, domain-general, and environmental factors associated with high creative achievement in surgeons (defined as the generation of creative highly novel and useful products, ideas, or solutions).

As secondary objectives, we plan to:

1. Assess the feasibility of the quantitative survey;

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2. Explore whether divergent thinking and creative self-efficacy change over time; and
3. Explore surgeons' perceptions of creativity, including
    a. How it is conceptualized and defined,
    b. Its importance for surgical problem-solving and innovation,
    c. The effect of surgical training on creativity, and
    d. Differences in perceptions of creativity by cultural context

Methodology

This study will employ a sequential, explanatory mixed-methods design. The initial quantitative phase includes a 5-year longitudinal survey of creativity, beginning with an initial feasibility assessment stage, followed by the full launch of the survey in a second stage. The subsequent qualitative phase represents the third stage of the study and will involve qualitative interviews with surgeons identified during the quantitative phase to have accomplished high creative achievements.

We plan to collect data on personal factors, professional factors, environmental factors, motivation, personality, divergent thinking, and creative self-efficacy to identify factors associated with high creative achievement. We define high creative achievement as the real-world achievement of highly novel and useful products, ideas, or solutions; we will consider lead involvement in innovation or invention, or a top score on any domain of the Inventory of Creative Activities and Achievements (ICAA) questionnaire to be indicative of high creative achievement.

For the first 4 months of the study, we plan to assess the feasibility of the quantitative survey to determine whether modifications will be required. We plan to invite surgeons that met the criteria for high creative achievement during the quantitative phase for semi-structured interviews.

This proposed study has received ethics approval from the Hamilton Integrated Research Ethics Board (Project #18519).