2017 APDS SPRING MEETING

Resident Wellness and Social Support: Development and Cognitive Validation of a Resident Social Capital Assessment Tool

Stephen J. Kaplan, MD, MPH,[*] Heather M. Seabott, BS,[,†] Erika B. Cunningham, MD,[‡] James D. Helman, MD,[§] Alvin Calderon, MD, PhD,[‡] Richard C. Thirlby, MD,[*] and Kimberly D. Schenarts, PhD[‖]*

[*]Department of Surgery, Section of General, Thoracic, and Vascular Surgery, Virginia Mason Medical Center, Seattle, Washington; [†]Department of Graduate Medical Education, Virginia Mason Medical Center, Seattle, Washington; [‡]Department of Medicine, Virginia Mason Medical Center, Seattle, Washington; [§]Department of Anesthesiology, Virginia Mason Medical Center, Seattle, Washington; and [‖]Department of Surgery, University of Nebraska Medical Center, Omaha, Nebraska

OBJECTIVE: The purpose of this study is to develop and generate validity evidence for an instrument to measure social capital in residents.

DESIGN: Mixed-methods, phased approach utilizing a modified Delphi technique, focus groups, and cognitive interviews.

SETTING: Four residency training institutions in Washington state between February 2016 and March 2017.

PARTICIPANTS: General surgery, anesthesia, and internal medicine residents ranging from PGY-1 to PGY-6.

RESULTS: The initial resident-focused instrument underwent revision via Delphi process with 6 experts; 100% expert consensus was achieved after 4 cycles. Three focus groups were conducted with 19 total residents. Focus groups identified 6 of 11 instrument items with mean quality ratings $\leq$4.0 on a 1-5 scale. The composite instrument rating of the draft version was 4.1 $\pm$ 0.5. After refining the instrument, cognitive interviews with the final version were completed with 22 residents. All items in the final version had quality ratings $>$4.0; the composite instrument rating was 4.8 $\pm$ 0.1.

CONCLUSIONS: Social capital may be an important factor in resident wellness as residents rely upon each other and external social support to withstand fatigue, burnout, and other negative sequelae of rigorous training. This instrument for assessment of social capital in residents may provide an avenue for data collection and potentially, identification of residents at-risk for wellness degradation. (J Surg Ed ▮:▮▮▮-▮▮▮. © 2018 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: social capital, internship and residency, graduate medical education, professional burnout, surveys and questionnaires, qualitative research

COMPETENCIES: Interpersonal and Communication Skills

INTRODUCTION

Background

Burnout, depression, excessive sleepiness, and poor quality of life are conditions negatively associated with resident wellness.[1-5] These adverse conditions erode various domains of wellness, including physical, mental, and emotional wellness. Poor wellness has been implicated in decreased empathy, increased medical errors, and decreased adherence to best practices.[2,6,7] Although research in this field continues to clarify the effects and various facets of resident wellness, no study directly assesses the association of social connections, support, and stability with resident wellness or related outcomes.

Presented at 2017 Surgical Education Week, April 18-22, 2017, Hilton San Diego Bayfront, San Diego, CA, USA.

Funding/Support: This research was supported by the Patterson Surgery Research Endowment at Benaroya Research Institute/Virginia Mason, Seattle, WA.

Correspondence: Inquiries to Stephen J. Kaplan, MD, MPH, Section of General, Thoracic, and Vascular Surgery, Department of Surgery, Virginia Mason Medical Center, 1100 Ninth Ave, C6-GS, Seattle, WA 98101; fax: (206) 458-6082; *e-mail* stephen.kaplan@virginiamason.org

Relationships both within and outside of the work environment can have a strong and valuable influence on wellness through support and coping. This concept that relationships have value from a socio-economic standpoint is known as *social capital*. The positive influence of social capital on health and wellness has long been described.[8-10] However, the role of social capital in resident wellness or the various conditions of poor wellness, has not been defined. On one hand, social capital may serve as a bolster to wellness, mitigating stress, burnout, and eventual cyclical decline though the benefits of social support.[11] On the other hand, the involvements, commitments, and time required to maintain social capital may be distracting from work, which can reduce performance, add to stress, and push residents toward burnout and other unwell states. Although resident wellness is a research topic of interest among educators, there has been no formal investigation that includes social capital. Given the known general association between social capital and wellness, coupled with the absence of inquiry of this association within the resident population, further investigation is warranted.

Social Capital

A unified, precise definition of social capital has yet to emerge in the literature. However, several important milestones in the evolution of the concept have shaped its interpretation. An early definition by Pierre Bourdieu states that "social capital is the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition—or in other words, to membership in a group."[12] In contrast, drawing from 19th century roots in sociology and psychology, political scientist Robert Putnam defined social capital as "connections among individuals—social networks and the norms of reciprocity and trustworthiness that arise from them."[13] Although Putnam's more recent definition was instrumental in illuminating social capital as a social determinant of health, Bourdieu's interpretation remains relevant as it lends more tangible measurement opportunities in terms of productivity and outcomes. Regardless, the concept remains a topic of debate even among current political, sociological, anthropological, and philosophical scholars.

Based on prior and current works, one approach to interpreting social capital has been to divide social capital into 2 distinct, complementary domains: structural and cognitive.[14,15] Structural social capital considers actionable involvement in social resources, such as engagement with individuals or groups. Cognitive social capital comprises an individual's *perceptions* of those resources rather than action. To borrow from Harpham et al.,[14] these domains are characterized by "what people 'do' and what people 'feel'," respectively. Together, structural and cognitive social capital compose the overarching construct: relationships not only matter, they have measurable value, which correlates with health and wellness. It is through this lens that social capital may be best applied to the resident population.

Of note, a 9-question Short version of the Adapted Social Capital Assessment Tool (SASCAT) was developed with the explicit purpose of correlating social capital with wellness (freely available online).[16,17] The instrument was distilled from the original and lengthy Social Capital Assessment Tool as developed for the World Bank.[18] Implementations of the SASCAT show that higher scores are correlated with improved school enrollment, better nutrition, and reduced mental illness.[16] While this instrument is brief and distinguishes between structural and cognitive social capital, evidence for validity of the SASCAT and the concordant outcome associations, are limited to populations within developing countries as investigated through public health and medical anthropologic approaches.[17] Furthermore, previous SASCAT deployments have been in-person interviews, rather than questionnaire form. In-person interviews grant an opportunity for off-script probing questions, follow-up questions, and subsequent robust qualitative analysis; however, interviews and data management can be labor intensive. Furthermore, in-person interviews in the resident population may prove difficult for a variety of reasons, which include time constraints of the residents themselves and potential biases influencing response candidness in an established training culture. Given the distinct differences between residents and populations previously studied with the SASCAT, and the potential draw backs of in-person resident interviews, the SASCAT as-is would not be appropriate for application in a resident population without further investigation.

Purpose

The purpose of this study is to develop and generate evidence for validity of a social capital assessment tool for use in the resident population.

MATERIALS AND METHODS

Study Design and Ethical Considerations

A two-phase approach was taken to develop and generate validity evidence for a resident-specific social capital assessment tool by utilizing a modified Delphi technique, focus groups, and cognitive interviews (Fig. 1).[17,19,20] First, the original SASCAT was used as our model instrument for initial expert review and contextual instrument refinement through a modified Delphi technique.[21] Second, focus groups were conducted using the revised instrument to further gather contextual data for subsequent revision. Last, the twice-revised social capital assessment tool was evaluated through individual cognitive interviews.