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Work style preferences among medical specialties

Nicole J. Borges [a,*], Suzanne Savickas [b]

[a] Wright State University Boonshoft School of Medicine, Office of Academic Affairs, 290P White Hall, Dayton, OH 45435-0001, USA
[b] Kent State University, 202 White Hall, Kent, OH 44242, USA

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ABSTRACT

Strong Interest Inventory Personal Style Scales (SII-PSS) assess people's preferences for work style, learning environment, leadership style, and risk taking. We examined whether the SII-PSS predict medical specialty choice for college students. We administered the scales to 355 students when they began a combined Bachelor of Science/Doctor of Medicine program during the 2003–2005 academic years. Specialty choice was obtained when these students graduated from medical school during 2009–2011 academic years. In the end, 120 students (34%) provided useable data and were included in the analysis. The remaining students either did not graduate from the 6-year BS/MD program or entered preliminary or transitional specialties. Specialties included in the analysis were internal medicine, family medicine, psychiatry, surgery, pediatrics, emergency medicine, anesthesiology, and obstetrics/gynecology. Work style was the only PSS variable that showed differences across various specialties. A MANOVA showed that the work style scale was significantly different across various specialties ($p < .05$, Bonferroni correction $p < .006$). Students who went into internal medicine scored significantly higher on working with people rather than ideas or things ($X = 53.08$, $SD = 8.90$) compared to students who went into surgery ($X = 46.25$, $SD = 7.44$, $F = 6.83$) or anesthesiology ($X = 42.38$, $SD = 5.15$, $F = 10.70$). Students who entered obstetrics/gynecology also scored significantly higher on working with people ($X = 54.25$, $SD = 7.62$) than students who entered anesthesiology ($X = 42.38$, $SD = 5.15$, $F = 12.13$). In the realm of medical specialties, preferences for working with people versus things may underlie choices between the group of medical specialties categorized as primary-care versus those categorized as surgical and as technical specialties.

1. Introduction

While vocational assessments used with high school and college students may readily identify a student's interest in becoming a physician, it has proven much more difficult to appraise which specialty a medical student might prefer. Physician is an occupation yet within this occupation one must choose a job, that is, type of medical work to perform. Psychologists have tried for more than seven decades to construct means of predicting medical specialty choice but with modest success at best (Strong & Tucker, 1952).

Specialty prediction is difficult because medical schools select students as a group who have homogeneous cognitive abilities and who share common personality traits (Borges & Savickas, 2002). Then in medical school the students share a relatively uniform curriculum and training experiences. However, after graduating they enter a wide variety of medical specialties that differ in work settings, job duties, skill requirements, and rewards. In short, homogeneous groups of students enter heterogeneous jobs. Research indicates that no unique patterns of vocational interests or personality traits characterize particular specialties. Each medical specialty

* Corresponding author at: Wright State University Boonshoft School of Medicine, Academic Affairs, 290P White Hall, Dayton, OH 45435-0001, USA. Fax: +1 937 775 2842.
E-mail addresses: nicole.borges@wright.edu (N.J. Borges), ssavicka@kent.edu (S. Savickas).

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includes physicians with a wide variety of interests and personality patterns. There is more variety of interests and traits within each specialty than between specialties. Because of this overlap, differentiating specialties by personality traits and interests is quite challenging (Duffy, Borges, & Hartung, 2009).

The most useful psychometric inventory in predicting medical specialty choice, and the one promoted by the Association of American Medical Colleges, is the *Medical Specialty Preference Inventory* (Porfeli, Richard, & Savickas, 2010; Zimny, 1973). Although the inventory works well with students who have been in school for three years, it does not work as well with medical students in the first two years of study. The difficulty with this measure is that the items require experience in medical clerkships which in most medical schools occur during the third year. First- and second-year students have difficulty in meaningfully answering items for which they have little knowledge and no experience. Academic advisors and career counselors in medical schools could benefit from a valid assessment to use with first- and second-year students in beginning to plan medical specialty choices. Such an instrument would need to be sufficiently broad in scope and general in content for college students and beginning medical students to answer meaningfully.

While assessing the vocational interests and personality traits of entering medical students does not seem effective in predicting their eventual medical specialty choice, personal style dimensions may work. Therefore, we examined using the *Personality Style Scales* scored in the *Strong Interest Inventory* (SII: Harmon, Hansen, Borgen, & Hammer, 1994) with college students committed to becoming a physician to determine their effectiveness in predicting eventual choice of medical specialty. We thought that the *Personal Style Scales* may be effective for this use because the scales measure global preferences for styles of living and working. They are less specifically associated with occupations than the SII interest scales so they may be useful in addressing the problem of predicting medical specialty choice with university students and beginning medical students.

We investigated if broad measures of personality style are useful in predicting specialties, rather than personality traits and vocational interests. We used scales that were constructed to measure broad styles or preferences for living and working. We thought that these broad dimensions would be useful and appropriate with college students early in their medical education by pointing them in a general direction to explore.

Beginning with the 1994 revision, the *Strong Interest Inventory* (SII) includes *Personal Style Scales* (PSS) that were constructed to measure important dimensions of personality that seem related to work (Harmon et al., 1994). The authors used standard interest items from the SII to measure these personality dimensions. Thus, for example, they used items intended to measure Social and Enterprising interests to measure leadership style in terms of directing others, giving speeches, and persuading others. The scales were designed to measure individual differences in preferences for living (Harmon et al., 1994) and to assess important dimensions of personality related to work (Betz, Borgen, & Harmon, 2006). Four scales measure aspects of style with which an individual likes to learn, work, assume leadership, and take risks. Each scale is formatted as a continuum between two opposite poles, with distinct preferences represented by each pole.

The Work Style scale measures interest in working with ideas/data/things versus working with people. It correlates positively to Holland's social and enterprising interests and negatively to realistic and investigative interests. The Learning Environment scale differentiates preferences for working in scholarly and academic learning environments from preferences for learning environments that are practical and hands on. It correlates positively with artistic and investigative interests. The Leadership Style scale measures preference for taking charge of other people in interpersonal and organizational activities versus preference for leading by example. It correlates positively with enterprising interests. The Risk-Taking scale measures preference for physical, social, and financial risks versus preference for safety and security. Risk takers are willing to act spontaneously in contrast to those who like predictability and prefer to take precautions. It is correlated positively with realistic interests.

Studies have shown that the PSS can effectively differentiate between occupations, although they were not intended to do so. For example, Olsen (1996) reported that the *Personal Style Scales* accounted for 60% of the variance in occupational group membership for women and 56% of the variance for men. Donnay and Borgen (1996) reported that in their study 55% of the variance in occupational group membership was explained by the *Personal Style Scales*. They concluded that the PSS appear to discriminate between occupations by virtue of two dimensions: (a) investigative versus enterprising interests and (b) realistic versus social interests.

The Work Style scale appears to be the best of the four style scales in differentiating among occupations. Donnay and Borgen (1996) thought that this may be because the *person* versus *thing* dimension is central core of all occupational interests. They concluded that PSS "might have important uses in examining differential personality characteristics of individuals across different occupations as well as individuals in the same occupation" (p. 288). We thought that the description of the PSS fits the needs of college and beginning medical students because they predict choices with "greater parsimony and simplicity" (Donnay & Borgen, 1996; p. 290); Furthermore, Olsen (1996) wrote that these scales may be useful in increasing self-understanding and in helping students plan areas of their lives other than career concerns.

We could not find any studies that used the PSS to predict specialty choices within an occupation. In this study we examined the validity of the PSS for predicting medical specialty choice. We used a sample of first-year college students who had just entered a BS/MD program. Our rationale was that we wanted to determine if the SII's PSS could be useful in assisting college students and students in the first two years of medical school to begin to think seriously about and explore their eventual choice of medical specialty. An important strength of this approach is that we did not compare occupants of different medical specialties. This type of research participants has already made choices and such studies allow description of groups of individuals already employed in a medical job. Our research tests college students and then tracks them for six or more years to determine which specialty they actually entered. We think that this method makes the results more meaningful to academic advisors and career counselors because it is the students, not the workers, to whom they administer inventories.