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What Makes Us Tick: Implications of Personality Differences Among Otolaryngology Residents and Faculty

Jennifer A. Villwock, MD; Sarah N. Bowe, MD; Duncan C. Rotich, MS; Alvin Beltramo, MS; Alan Friedman, MA; Shannon M. Kraft, MD

**Objective:** The rapid personal and professional growth experienced during medical training and practice is impacted by personality. The surgeon’s personality is renowned in both medical lore and literature. However, it is now known that the personality characteristics of today’s millennial trainees differ from older faculty. This study investigates the variability of different personality attributes among otolaryngology residents and faculty, as well as the practical implications of these findings.

**Methods:** The opportunity to complete a series of web-based, commercially available, self-administered five factor-based personality assessments was given to otolaryngology residents and faculty at nine academic training programs. The psychometrically validated assessments evaluate innate personality 1) strengths, 2) challenges, and 3) motivators/values. Differences between groups in the assessed metrics were evaluated using two-tailed t tests.

**Results:** Seventy-eight otolaryngology faculty and 104 residents completed all three assessments. Of the assessed metrics, there were several significant differences between residents and faculty (all P < 0.05). Residents scored higher than faculty in the domains of interpersonal sensitivity, sociability, and inquisitiveness. With respect to potential challenges, faculty displayed higher levels of skepticism and reservation. In contrast, residents scored higher in the categories of mischievous and dutiful. As for motivators/values, although both groups were highly motivated by altruism, faculty valued tradition more than residents, whereas residents valued hedonism and affiliation more than faculty.

**Conclusion:** There are notable differences between residents and faculty in multiple domains, with implications for communication, education, and professional development.

**Key Words:** Personality, otolaryngology, residents, faculty, millennial, personality assessment.

**Level of Evidence:** 3

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**INTRODUCTION**

Medical training is a period of rapid professional and personal growth. Mentorship is recognized as a critical component to development during this time.1–5 Furthermore, good mentorship cultivates relationships with role models and has been shown to help trainees integrate their current self with their future roles.2 It is important to note that optimal mentoring relationships are highly relational, with trust, shared values, and personal connections as necessary components.5 In addition to guiding career trajectory, good mentorship is also shown to heighten the development of potentially elusive professional competencies comprising the collaborative, reflective, integrative, relational, affective, and moral dimensions.3

Observed behavior is the function of an individual’s personality and environment. Often personality is confused directly with behavior and ignored as only part of the total construct. Personality thus plays a large role in two important aspects of a resident’s educational journey, including how trainees react to the opportunities and challenges presented during training, as well as how they engage within mentoring relationships. Recent work has highlighted the connection between certain personality traits and success in training. In orthopedic surgery, self-discipline, motivation, and willingness to admit error are traits of those who excelled.6 However, methods for fostering such positive characteristics generally have not been well studied. Insight into personality via psychometric assessments is one method that can be used to optimally leverage personality characteristics for productivity, fulfillment, and success. Wise application of such tools may also enable better mentor–mentee pairings. In fact, compatibility regarding values and interests, among other deeper-level qualities, has been shown in prior meta-analyses to predict positive perceptions of mentoring relationships.7

Interestingly, to date no study has objectively described the personality traits of otolaryngology residents and the attending physicians who teach and mentor them. Given the importance of personality within the mentoring relationship, as well as its contribution to...

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*From the University of Kansas Medical Center (J.A.V., D.C.R., A.B., S.K.), Kansas City, Kansas; the Department of Otolaryngology, Massachusetts Eye and Ear Infirmary (S.N.B.), Boston, Massachusetts; and J3Personica (A.F.), 145 Wyckoff Rd, St 304, Eatontown, New Jersey, U.S.A.*

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*Send correspondence to Jennifer A. Villwock, MD, Department of Otolaryngology–Head and Neck Surgery, University of Kansas Medical Center, 3901 Rainbow Blvd, Mailstop 3010, Kansas City, KS 66160. E-mail: jvillwock@kumc.edu*

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behavior—including interpersonal communication and professionalism—this data is critical. Furthermore, improved understanding of the normative personality of our field may provide the basis for truly evidence-based mentorship and professional development initiatives. The objective of this study is to describe, via psychometrically validated assessments, the personality characteristics of otolaryngology residents and faculty and to assess for meaningful differences between the two groups.

MATERIALS AND METHODS

An anonymized dataset was obtained from J3Personica (J3P) (J.A.V., Eatontown, NJ). The institutional review board at the first author’s institution deemed this to be nonhuman research.

Nine Accreditation Council for Graduate Medical Education-accredited programs were invited to complete a series of psychometrically validated assessments. Briefly, the assessments are comprised of three inventories that provide information on 1) baseline personality characteristics or usual tendencies (hogan personality inventory [HPI]); 2) tendencies that emerge under stress (hogan development survey [HDS]); and 3) motivators, preferences, and values or drivers (motivations, values, preferences inventory [MVPI]). The assessments are comprised of a total of 600 questions and take approximately 45 minutes to 1 hour to complete. Most questions are a short phrase to which respondents indicate either the degree to which they agree or disagree, using a 5-point Likert scale, or respond either Yes or No. These assessments have been widely used in personality research and validated for both selection and development purposes. E-mail invitations to complete the assessments online were sent in June 2017. Invitations were unique to each invited participant and required setting up a unique account. For this reason, it would not be possible for any invited participant to complete more than one series of assessments. There were no incentives to participate, aside from gaining psychometrically validated information about personality and narrative feedback that could be used for mentorship and professional development. Reminder e-mails were sent three times, with assessment access closed 4 weeks after the initial e-mail.

Only data from subjects who completed all three assessments were analyzed. The output is percentile data, which was then analyzed to compare differences in the assessed characteristics between residents and faculty via two-tailed student t tests. An α of 0.05 or less was determined to be statistically significant a priori. All statistical comparisons were made using SPSS statistical software (version 24; IBM Corp., Armonk, NY).

RESULTS

Seventy-eight faculty (42.6% response rate) and 104 residents (70.3%) from the nine institutions completed all three assessments.

Significant differences between residents and faculty were found across multiple domains within each of the personality assessments (Figs. 1–3). In terms of baseline characteristics, residents scored significantly higher in the areas of sociability (P = 0.008) and interpersonal sensitivity (P = 0.008). With respect to tendencies that emerge under stress, faculty were significantly more skeptical (P = 0.031) and reserved (P = 0.022), whereas residents scored significantly higher in the domains of mischievous and dutiful. Three domains within the MVPI were significantly different between residents and faculty. Residents placed significantly higher value on hedonism (P < 0.001) and affiliation (P = 0.016); faculty more highly valued tradition (P = 0.001).

DISCUSSION

This study investigated differences among otolaryngology residents and faculty at nine academic training programs via a series of personality assessments. Through the HPI, HDS, and MVPI, the assessments provide insight into an individual’s usual tendencies, stress tendencies, and drivers/motivators, respectively. In the business sector, these assessments have been used extensively for professional development, as well as the basis for work-related selection decisions. More recently, they have been adapted for utilization within healthcare. The intended use of these assessments in medical education is due to the recognition that “medical education and medicine can profoundly benefit from … considering the potential of pertinent personality attributes in the selection and education of intellectually qualified applicants … as well as in professional development of physicians to better perform their roles.”

Orthopedic surgery and neurosurgery residency training programs have previously engaged with J3P to optimize resident selection, leadership development, coaching, and mentorship. They found that the assessment data provided an objective evaluation of traits, allowing mentors to focus feedback on specific areas. Many programs also noted that residents possessed improved self-awareness of behavioral tendencies and continued to utilize the insight gained to enhance performance over time. Ultimately, coaching based on this awareness and insight allowed for better leveraging of personality strengths for success and mitigation of potential personality pitfalls.

This is the first study of its kind that reports in-depth and psychometrically validated data of current otolaryngology residents and faculty. As perhaps expected, both residents and faculty highly value altruism. However, we did find significant differences in multiple other areas. Residents were noted to be more sociable, interpersonal sensitive, and inquisitive than their faculty. Residents were also more likely to value hedonism and affiliation, whereas faculty value tradition. This calls into question the oft described surgeon personality and shows that baseline tendency characteristics and values differ between residents and faculty. These differences in personality may, at least in part, underscore the perceived generational differences between these groups. As such, it is important to be cognizant of how personality traits may impact both behavior and perception of others’ behavior, especially in the high-stakes, high-stress setting of surgical training.

In respect to baseline personality tendencies, higher scores among residents in sociability, interpersonal sensitivity, and inquisitiveness may influence the feedback process. Recent studies have noted that millennial trainees seek real-time, constructive feedback, which includes the quality of the learner’s engagement as well as its process and outcomes. Furthermore, trainees expect this as formative feedback with specific, actionable guidance in
close proximity to learning encounters.\textsuperscript{15} Prior authors have also suggested that the millennial generation expects learning to be a collaborative endeavor.\textsuperscript{14–16} Our resident personality data findings appear to agree with these suggestions because high sociability is associated with a socially proactive, team-oriented disposition. As a result, trainees expect to not just receptively listen to feedback but also share their perspective. In contrast, with a high valuation on tradition, faculty may not be aware or receptive of this need to actively participate, preferring a more

**HPI - Baseline Characteristics/Tendencies**

<table>
<thead>
<tr>
<th>Trait</th>
<th>Faculty</th>
<th>Resident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustment</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>Ambition</td>
<td>35</td>
<td>32</td>
</tr>
<tr>
<td>Sociability*</td>
<td>45</td>
<td>42</td>
</tr>
<tr>
<td>Interpersonal Sensitivity*</td>
<td>38</td>
<td>30</td>
</tr>
<tr>
<td>Prudence</td>
<td>42</td>
<td>40</td>
</tr>
<tr>
<td>Inquisitive</td>
<td>38</td>
<td>35</td>
</tr>
<tr>
<td>Learning Approach</td>
<td>35</td>
<td>40</td>
</tr>
</tbody>
</table>

*indicates significant difference (p<0.05)

**HDS - Tendencies that Emerge Under Stress**

<table>
<thead>
<tr>
<th>Trait</th>
<th>Faculty</th>
<th>Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excitable</td>
<td>60</td>
<td>55</td>
</tr>
<tr>
<td>Skeptical*</td>
<td>65</td>
<td>50</td>
</tr>
<tr>
<td>Cautious</td>
<td>50</td>
<td>45</td>
</tr>
<tr>
<td>Reserved*</td>
<td>70</td>
<td>60</td>
</tr>
<tr>
<td>Leisurely</td>
<td>55</td>
<td>50</td>
</tr>
<tr>
<td>Bold</td>
<td>45</td>
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<tr>
<td>Mischiefious*</td>
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<tr>
<td>Colorful</td>
<td>45</td>
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<tr>
<td>Imaginative</td>
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<tr>
<td>Diligent</td>
<td>65</td>
<td>55</td>
</tr>
<tr>
<td>Dutiful*</td>
<td>70</td>
<td>65</td>
</tr>
</tbody>
</table>

* indicates significant difference (p<0.05)
hierarchical approach to feedback. Additionally, residents were found to have higher interpersonal sensitivity. Such individuals tend to be diplomatic, warm, and friendly, and expect others to behave similarly. Thus, feedback given in a more direct, frank, or straightforward manner, especially without consideration of the trainee’s experience, is likely to be poorly received.

There were also significant differences in stress tendencies, which can be thought of as strengths that are generally present but become counterproductive when overleveraged in demanding situations. Faculty had significantly higher scores in being skeptical and reserved, whereas residents scored significantly higher in the domain of mischievous. Studies of the implications of these personality patterns are much more well studied in business than medicine. For example, in a longitudinal study of managers, these score patterns predict specific challenges. Being more reserved indicates that faculty are generally independent and objective but in stressful situations may become guarded and uncommunicative. Additionally, skeptical faculty are generally perceptive and insightful but under duress can become negative and fault-finding. This predicts difficulties with delegating tasks and responsibilities. As for residents, the mischievous domain is associated with being charming and interesting. This charisma, when overleveraged or in times of duress, is associated with risk-taking and impulsivity.

The noted differences in motives and values have the potential to impact departmental culture. Within the literature, it has been noted that millenials expect to provide a meaningful contribution to a team, and although polite and deferent to authority, they expect to be partners with their leaders. It has been recommended that to maintain engagement, teams must ensure that trainees have a sense of purpose and clear learning objectives commensurate with their level of training. Modern learners have also been raised with “fun, game-like, interactive, and engaging materials” and similarly value this in the educational environment. Our objective findings appear to confirm these suggestions.

Otolaryngology residents placed higher value on hedonism and affiliation, whereas faculty more highly valued tradition. This suggests residents value fun, light-hearted, open-minded, team-oriented environments, with less rigidity and hierarchy compared to faculty. Overall, this indicates that a culture of collaboration, close relationships, and belonging is ideal for trainees. Lack of awareness and understanding of these generational differences could lead to dissonance if the more lighthearted resident cohorts are viewed as unprofessional by faculty. Similarly, resident desires to collaborate could be negatively perceived as a lack of interest in taking on ownership or exhibiting independence.

Throughout training, residents are guided on the path to becoming an independent physician. Mentorship is often considered a key component in the development of professional competency. Behavior is generally considered an expression of personality and environment. Therefore, possessing a detailed description of a residents’ personality traits, particularly under stressful conditions, can help guide feedback sessions. As shown, however, there appear to be distinct personality differences between residents and faculty. Overall, these is much overlap between the personality characteristics assessed in all domains. However, it is important to recognize the differences to avoid issues. For example, differences in interpersonal sensitivity and the related implications for communication style may impact the manner in which feedback is given and received. This could have longitudinal impacts on the perception of department culture. For example, a program

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**MVPI - Motivators and Values**

*indicates significant difference (p<0.05)

![MVPI Chart]

Fig. 3. Faculty and residents results on the MVPI. Statistically significant differences (P < 0.05) are indicated with an *. MVPI = motivations, values, and preferences inventory. [Color figure can be viewed in the online issue, which is available at www.laryngoscope.com.]
could be labeled as malignant if its faculty are predominately blunt communicators and score low on interpersonal sensitivity and have a cohort of residents who score on the opposite side of the spectrum. This is not to say that we should select residents who are “wired” like us. This would ultimately compromise the diversity of thought that leads to innovation. Rather, this highlights us. This would ultimately compromise the diversity of desirability, that is, the desire to provide answers that assessments. Response bias would include social existing interest in and appreciation for personality took Selection bias is introduced if only subjects with a preex- introduces a risk for both selection and response bias. All data were voluntarily provided via self-report, which size and geographic location, as well as the reasonably study was a convenience sample consisting of only nine we think about the educational process.

This study is not without limitations. First, this pilot study was a convenience sample consisting of only nine programs. However, given that the programs varied in size and geographic location, as well as the reasonably high number of participants (i.e., 78 faculty and 104 resi- dents, we believe this helps to improve generalizability. All data were voluntarily provided via self-report, which introduces a risk for both selection and response bias. Selection bias is introduced if only subjects with a preex- isting interest in and appreciation for personality took the assessments. Response bias would include social desirability, that is, the desire to provide answers that show “good” personality traits such as altruism. This is less likely given that prior studies have shown that, even when subjects may be motivated to manipulate their responses, their assessment results do not significantly change. Furthermore, these results were not evaluative but instead exploratory. Furthermore, the stated intended use was solely for mentorship and/or profes- sional development, which would ideally reduce social desirability. Only attending physicians who serve as aca- demic faculty were eligible to participate. As such, attending physician data may not be generalizable to the nonacademic practicing surgeon population. It is possible that some of the differences between trainees and faculty are due to the increased age and experiences of the latter group. However, in the psychology literature, personality has been found to be relatively stable upon reaching adulthood. Finally, we cannot exclude the possibility that variables not incorporated into the analyses (e.g., gender, race/ethnicity) could have partially contrib- uted to the observed group differences.

CONCLUSION

Personality plays an important role in medical edu- cation and professional development. Otolaryngology resi- dents and faculty display different personality traits, stress tendencies, and values. Awareness of these differences—especially as they relate to feedback, patient care, and culture—is important to optimize the training environment, minimize conflict/misunderstandings, and tailor development opportunities to resonate with partici- pant personalities.

Acknowledgment

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BIBLIOGRAPHY