



# **Predicting Physician Executive Performance**

Kimberly S. Nei, Hogan Assessment Systems

Derek Lusk, Hogan Assessment Systems

Richard Metheny, Witt/Kieffer

*This paper was accepted as a SIOP symposium for the 2017 conference.*

## Introduction

Health care systems benefit when physicians become leaders (Kumar, 2013). Many leaders focus on the bottom line, but in health care, financial success is not everything. Physician executives have a unique understanding of the patient experience and can bridge the gap between making money and providing high-quality patient care, creating a truly integrated health care system (Schwartz & Pogge, 2000). They are vital to health care systems by providing a unique perspective on cost containment, quality assurance, maintenance of professional standards, and access to care (Birrer, 2002). For these reasons, hiring and developing physician executives who can provide high-quality integrated care is critical.

In fact, the Accreditation Council for Graduate Medical Education (ACGME) considers leadership skills a critical element in medical training (Itani, Liscum, & Brunicardi, 2004). However, the qualities and skills needed by physician executives is an understudied area (Horwitz, Horwitz, Daram, Brandt, Brunicardi, & Awad, 2008). Therefore, Providence Health & Services and Swedish Health Services (hereafter “Providence”) sought to conduct research to improve its practices for identifying and developing physician executives throughout the organization. To this end, Providence collaborated with Witt/Kieffer and Hogan Assessment Systems (hereafter “Hogan”) to conduct research to identify the personal characteristics that differentiate adequate versus excellent physician executives and develop unique personality profiles to drive a customized competency report for physician executive identification and development throughout the organization’s talent pipeline.

## Method

First, we conducted a job analysis by conducting focus groups and collecting data using Hogan’s job analysis instrument, the Job Evaluation Tool (JET; Hogan Assessment Systems, 2000). This step allowed us to confirm critical competencies important for physician executives. Next, we examined Hogan archival data using a synthetic validation approach to examine the scales most predictive of the critical competencies. These steps allowed us to identify the personal characteristics related to success across competency-related behaviors (e.g., communicating a vision, giving feedback, developing high-performing teams, and emotional intelligence) in the physician executive role.

Next, 136 physician executives across the health system completed personality and values assessments to provide information about their personal characteristics. These assessments included the Hogan Personality Inventory (HPI; a measure of day-to-day behavioral characteristics; Hogan & Hogan, 2007), Hogan Development Survey (HDS; a measure of behavioral tendencies that may hinder job performance; Hogan & Hogan, 2009), and Motives, Values, Preferences Inventory (MVPI; a measure of key motives and drivers; Hogan & Hogan, 2010).

Simultaneously, Hogan and Witt/Kieffer created an online performance rating form based on job analysis results, the 16 Competencies Leadership Model for Healthcare, and expert judgment. Using this form, supervisors provided overall performance and competency ratings for nearly 100 physician executives who completed the personality assessments. In

addition, Providence provided information regarding operating commitments for accessible physician executives. Finally, Hogan analyzed all data to examine the characteristics predictive of key performance outcomes and competency-related behaviors among physician executives.

## Results

Tables 1 through 3 present correlations between predictor scales and performance ratings. Results in Table 1 indicate that the Adjustment, Ambition, Sociability, Interpersonal Sensitivity, and Inquisitive scales from the HPI were all positively related to a range of competencies. The results in Table 2 indicate that the Excitable, Skeptical, and Diligent scales from the HDS were negatively associated with various competencies, whereas the Reserved and Dutiful scales were positively associated with certain competencies. The results in Table 3 indicate that the Aesthetic, Affiliation, Altruistic, Hedonistic, Scientific, and Tradition scales from the MVPI were negatively related with several competencies. Overall, our research results indicated that several individual difference characteristics differentiate adequate versus excellent physician executives. Specifically, physician executives who received higher performance scores are resilient under pressure, able to handle competing priorities with ease, optimistic and confident, even-tempered and do not let the small things become bothersome, trustworthy and approachable, and motivated by sharing credit with others and achieving results.

Next, Hogan sought to combine these results to create predictive personality algorithms for identifying and developing physician executives. Research indicates that combinations of personality variables are more predictive of many work-related outcomes than single personality scales (e.g., Ones, Dilchert, Viswesvaran, & Judge, 2007; Tett & Christiansen, 2007). Consistent with this idea, personality algorithms combine multiple personality scales to maximize the prediction of job performance. Therefore, we created algorithms comprised of multiple assessment scales conceptually aligned with and predictive of each competency identified as critical for physician executive performance. To determine the effectiveness of these algorithms, we examined correlations between the algorithms and the supervisor ratings for each competency. The results in Table 4 indicate that combinations of multiple personality characteristics are predictive of several critical competencies.

Last, Hogan examined the utility of using these competency algorithms for physician executive identification and development. To do so, we examined correlations between competency algorithms and other important performance outcomes identified by Providence (see Table 5). As seen in these tables, many competency algorithms were significantly correlated with ratings of patient loyalty and demonstrating Providence's mission and core values. These results indicate that physician executives who score higher on the competency algorithms will be seen as displaying Providence's mission and values. They will also have happy patients who are more likely to recommend the practice to others.

## Discussion

Overall, our results show that a variety of personality scales predict competencies identified by Witt/Kieffer to be important for physician executives. Further, by creating algorithms, personality assessments can be used to predict other important performance outcomes. This allowed Witt/Kieffer to build a solution for Providence to drive higher-quality decision making within their physician executive population. These results also suggest that measures used frequently by I/O psychologists in other industries may also prove beneficial for specialized jobs in health care. In this symposium, we will briefly review our methods and results, along with limitations of the current study (e.g., small sample size). We will conclude with lessons learned, suggestions for future research, and recommendations for how I/O psychologists can use similar approaches to better demonstrate the value we can offer to the health care industry.

## References

- Birrer, R. B. (2002). The physician leader in health care. What qualities does a doctor need to be an effective organizational leader? *Health progress*, 83(6), 27-30.
- Hogan Assessment Systems (2000). *Job evaluation tool*. Tulsa, OK: Author.
- Hogan, J., & Hogan, R. (2010). *Motives, Values, Preferences Inventory manual (2nd ed.)*. Tulsa, OK: Hogan Assessment Systems.
- Hogan, R., & Hogan, J. (2007). *Hogan Personality Inventory manual (3rd ed.)*. Tulsa, OK: Hogan Assessment Systems.
- Hogan, R., & Hogan, J. (2009). *Hogan Development Survey manual (2nd ed.)*. Tulsa, OK: Hogan Press.
- Horwitz, I. B., Horwitz, S. K., Daram, P., Brandt, M. L., Brunnicardi, F. C., & Awad, S. S. (2008). Transformational, transactional, and passive-avoidant leadership characteristics of a surgical resident cohort: analysis using the multifactor leadership questionnaire and implications for improving surgical education curriculums. *Journal of Surgical Research*, 148(1), 49-59.
- Itani, K. M. F., Liscum, K., & Brunnicardi, F. C. (2004). Physician leadership is a new mandate in surgical training. *The American Journal of Surgery*, 187, 328-331.
- Kumar, R. D. C. (2013). Leadership in healthcare. *Anesthesia & Intensive Care Medicine*, 14, 39-41.
- Ones, D. S., Dilchert, S., Viswesvaran, C., & Judge, T. A. (2007). In Support of personality assessment in organizational settings. *Personnel Psychology*, 60, 995-1027.
- Schwartz, R. W., & Pogge, C. (2000). Physician leadership is essential to the survival of teaching hospitals. *The American Journal of Surgery*, 179, 462-468.
- Tett, R. P., & Chistiansen, N. D. (2007). Personality tests at the crossroads: A response to Morgeson, Campion, Dipboye, Hollenbeck, Murphy, and Schmitt. *Personnel Psychology*, 60, 967-993.

Table 1 Correlations between HPI Scales and Supervisor Ratings of Critical Competencies

Supervisor Ratings of Competencies	HPI Scales						
	ADJ	AMB	SOC	INP	PRU	INQ	LRN
<b>Well-Cultivated Self-Awareness</b>							
Leading with Conviction	.23*	.20	.04	.06	.00	.13	.22
Using Emotional Intelligence	.35**	.08	.14	.26*	-.10	.19	-.03
<b>Compelling Vision</b>							
Developing Vision	.04	-.16	-.12	-.17	-.21	-.12	.14
Communicating Vision	.29*	.06	.10	.14	-.07	.05	.17
Earning Trust and Loyalty	.26*	-.01	.14	.18	-.03	.24*	-.05
<b>Real Way with People</b>							
Listening Like You Mean It	.24*	.08	.24*	.07	-.10	.24*	.12
Giving Great Feedback	.09	.13	-.11	-.09	-.04	-.17	.16
Mentoring	.18	.15	.14	.08	-.09	.04	.13
Developing High-Performing Teams	.24*	.27*	.14	.25*	-.11	.03	.16
Energizing Staff	.33**	.14	.18	.28*	-.06	.08	.18
<b>Masterful Execution</b>							
Generating Informal Power	.14	.20	.18	.12	-.18	.02	.21
Building True Consensus	.33**	.17	.19	.00	-.03	.22	.22
Mindful Decision Making	.26*	.10	-.03	-.05	-.09	.11	.06
Driving Result	.15	.05	.02	.04	-.13	-.07	.10
Stimulating Creativity	.22	.12	.13	.16	-.06	.07	.07
Cultivating Adaptability	.27*	.08	.04	.05	-.07	.16	.07

Note. Critical competencies from the 16 Competencies Leadership Model for Healthcare;  $N = 65-78$ ; \* =  $p < .05$ ; \*\* =  $p < .01$ ; ADJ = Adjustment; AMB = Ambition; SOC = Sociability; INP = Interpersonal Sensitivity; PRU = Prudence; INQ = Inquisitive; LRN = Learning Approach.

Table 2 Correlations between HDS Scales and Supervisor Ratings of Critical Competencies

Supervisor Ratings of Competencies	HDS Scales										
	EXC	SKE	CAU	RES	LEI	BOL	MIS	COL	IMA	DIL	DUT
<b>Well-Cultivated Self-Awareness</b>											
Leading with Conviction	-.20	-.24*	-.20	.04	-.10	.04	.22	.05	.00	-.16	.15
Using Emotional Intelligence	-.26*	-.21	-.07	.00	-.07	-.02	.15	.08	.13	-.10	.18
<b>Compelling Vision</b>											
Developing Vision	-.12	-.13	.08	.17	-.12	-.13	.03	-.04	-.11	-.14	-.04
Communicating Vision	-.25*	-.30**	-.04	.13	-.21	.01	.08	.00	.03	-.18	.14
Earning Trust and Loyalty	-.14	-.15	-.07	.00	-.11	.03	.17	.11	.13	.00	.27*
<b>Real Way with People</b>											
Listening Like You Mean It	-.23*	-.18	-.06	.02	-.02	.03	.15	.11	.07	.04	.08
Giving Great Feedback	-.12	-.13	-.06	.23	-.04	-.12	-.01	-.02	-.10	-.14	.01
Mentoring	-.29*	-.08	-.13	.04	-.14	-.03	.15	.17	.08	-.06	.20
Developing High-Performing Teams	-.26*	-.24*	-.15	.11	-.11	-.05	.11	.12	.09	-.19	.16
Energizing Staff	-.26*	-.30**	-.22	.04	-.11	.01	.16	.06	.20	-.15	.12
<b>Masterful Execution</b>											
Generating Informal Power	-.24*	-.16	-.12	.05	-.05	-.03	.16	.09	.01	-.27*	.03
Building True Consensus	-.37**	-.24*	-.07	.08	.01	.06	.03	.06	.05	-.25*	.09
Mindful Decision Making	-.11	-.14	-.02	.23*	-.02	.03	.06	-.04	.01	-.09	.14
Driving Result	-.10	-.20	-.07	.20	-.12	-.04	.09	.03	.01	-.13	.12
Stimulating Creativity	-.26*	-.18	-.13	.11	-.10	.06	.10	.06	.06	-.18	.16
Cultivating Adaptability	-.26*	-.21	-.11	.11	.03	.02	.02	.03	.03	-.19	.19

Note. Critical competencies from the 16 Competencies Leadership Model for Healthcare;  $N = 65-78$ ; \* =  $p < .05$ ; \*\* =  $p < .01$ ; EXC = Excitable; SKE = Skeptical; CAU = Cautious; RES = Reserved; LEI = Leisurely; BOL = Bold; MIS = Mischievous; COL = Colorful; IMA = Imaginative; DIL = Diligent; DUT = Dutiful.

Table 3 Correlations between MVPI Scales and Supervisor Ratings of Critical Competencies

Supervisor Ratings of Competencies	MVPI Scales									
	AES	AFF	ALT	COM	HED	POW	REC	SCI	SEC	TRA
<b>Well-Cultivated Self-Awareness</b>										
Leading with Conviction	-.08	-.01	-.05	-.04	-.12	-.02	-.09	-.20	-.11	-.17
Using Emotional Intelligence	.11	.08	.06	-.01	-.09	-.06	-.04	-.06	-.09	-.23*
<b>Compelling Vision</b>										
Developing Vision	.00	-.24*	-.10	-.04	-.20	-.15	-.12	.02	-.12	-.10
Communicating Vision	-.05	-.06	.01	.01	-.19	.01	-.12	-.08	-.12	-.28*
Earning Trust and Loyalty	.09	.05	.08	.06	.02	-.05	-.03	-.03	.00	-.11
<b>Real Way with People</b>										
Listening Like You Mean It	.08	.11	.03	.08	.02	-.11	.03	.02	-.04	-.24*
Giving Great Feedback	-.28*	-.33**	-.26*	-.19	-.23	-.11	-.19	-.21	.03	-.08
Mentoring	.02	.12	-.01	.11	.10	.06	.06	-.17	.12	-.14
Developing High-Performing Teams	-.08	-.05	-.07	-.14	-.10	-.20	-.10	-.34**	.02	-.25*
Energizing Staff	-.14	-.02	.03	.06	-.16	-.03	-.09	-.12	-.12	-.27*
<b>Masterful Execution</b>										
Generating Informal Power	.00	.11	.07	.00	-.04	.02	.09	-.09	-.14	-.26*
Building True Consensus	.06	.04	.07	-.18	-.07	-.16	-.09	-.09	-.05	-.20
Mindful Decision Making	-.10	-.11	-.03	-.04	-.09	-.02	-.12	-.10	.01	-.18
Driving Result	-.20	-.11	-.14	-.01	-.07	.02	-.09	-.04	.02	-.12
Stimulating Creativity	-.09	-.06	.00	-.11	-.24*	-.08	-.17	-.17	-.01	-.28*
Cultivating Adaptability	-.01	-.03	.06	.04	-.09	-.05	-.14	-.13	.10	-.10

Note. Critical competencies from the 16 Competencies Leadership Model for Healthcare;  $N = 65-78$ ; \* =  $p < .05$ ; \*\* =  $p < .01$ ; AES = Aesthetics; AFF = Affiliation; ALT = Altruistic; COM = Commerce; HED = Hedonism; POW = Power; REC = Recognition; SCI = Science; SEC = Security; TRA = Tradition.



Table 4 Validity Results for Competency Algorithms

Supervisor Ratings of Competencies	Competency Algorithms	
	<i>r</i>	<i>p</i>
<b>Well-Cultivated Self-Awareness</b>		
Leading with Conviction	.14	.20
Using Emotional Intelligence	.25*	.35*
<b>Compelling Vision</b>		
Developing Vision	.01	.01
Communicating Vision	.15	.21
Earning Trust and Loyalty	.22	.31
<b>Real Way with People</b>		
Listening Like You Mean It	.15	.21
Giving Great Feedback	.15	.21
Mentoring	.17	.23
Developing High-Performing Teams	.24*	.34*
Energizing Staff	.29*	.40*
<b>Masterful Execution</b>		
Generating Informal Power	.17	.24
Building True Consensus	.21	.29
Mindful Decision Making	.13	.18
Driving Results	.18	.25
Stimulating Creativity	.27*	.37*
Cultivating Adaptability	.27*	.37*

Note. Competency Algorithms computed using HPI, HDS, & MVPI Scales; Critical competencies from the 16 Competencies Leadership Model for Healthcare; *N* = 65-78; \* = *p* < .05; \*\* = *p* < .01; *r* = Observed Correlation; *p* = Correlation corrected for unreliability in the criterion.

Table 5 Corrected Correlations between Competency Algorithms and Key Providence Outcomes

Competency Algorithms	Patient Loyalty	Mission & Values
<b>Well-Cultivated Self-Awareness</b>		
Leading with Conviction	.34*	.05
Using Emotional Intelligence	.25	.23
<b>Compelling Vision</b>		
Developing Vision	.32*	.18
Communicating Vision	.33*	.36*
Earning Trust and Loyalty	.18*	.28
<b>Real Way with People</b>		
Listening Like You Mean It	.31*	.20
Giving Great Feedback	.35*	.16
Mentoring Others	.34*	.25
Developing High-Performing Teams	.35*	.40**
Energizing Staff	.19	.29
<b>Masterful Execution</b>		
Generating Informal Power	.41**	.29
Building True Consensus	.33*	.39*
Mindful Decision Making	.33*	.10
Driving Results	.48**	.29
Stimulating Creativity	.27	.32*
Cultivating Adaptability	.37*	.32*

Note. Competency Algorithms computed using HPI, HDS, & MVPI Scales; Critical competencies from the 16 Competencies Leadership Model for Healthcare; N = 80-86; \* =  $p < .05$ ; \*\* =  $p < .01$ ; Correlation corrected for unreliability in the criterion.