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GENETIC COUNSELORS' VIEWS OF TRAITS THAT MAKE FOR EFFECTIVE LEADERS

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ABSTRACT

Genetic counseling is rapidly evolving as technology and services related to healthcare are developed and become a part of the healthcare industry. Because of its youth and rapid growth, there is currently no literature analyzing or describing leadership in genetic counseling as there is for nursing, surgical teams, or other more established fields of healthcare. Currently practicing genetic counselors were surveyed about their views of whether specific traits found to be valued in leaders in nursing were important in their bosses, institutional leaders, and genetic counseling professional society leaders. Likert scale responses were analyzed using descriptive and inferential statistics; qualitative responses to open-ended questions were analyzed using open coding. Nearly all traits previously endorsed as useful for nursing leaders were found to be applicable to leaders of genetic counselors. In particular, effective communication was found to be the most important trait for leaders at every level, and honesty/transparency was consistently suggested as being important in leaders. Approachability and supportiveness were perceived as important in direct supervisors. Institutional leaders were perceived as needing to be decision-makers. Participation in staff development was overall not perceived to be highly important.

KEY WORDS

GENETIC; COUNSELING; LEADERSHIP; TRAITS; NURSING; COMMUNICATOR; SUPERVISOR; ORGANIZATION; PROFESSIONAL

INTRODUCTION

Much has been said on the topic of leadership within the world of healthcare; comparatively little has been said about leadership within the field of genetic counseling. Genetic counseling is rapidly evolving as innovations in genetics continue to be developed and genetic testing becomes more accessible and widespread. Because of its youth and rapid growth, there is currently no literature analyzing or describing leadership within the field as there is for nursing, surgical teams, or other more established fields of healthcare. Because there is limited research specific to genetic counseling, studies of leadership in analogous healthcare fields such as nursing were reviewed to see if models could be applicable to genetic counseling.

Across the literature, there does not appear to be one consistent definition or model of leadership. In *Bridging worldviews: Toward a common model of leadership across the health professions* (Garman et al., 2019), the authors began their discussion of leadership with the statement that "as far back as 1974, David Stogdill, a pioneer of modern leadership behavioral research, noted that 'there are almost as many different definitions of leadership as there are persons who have attempted to define the concept' (Stogdill, 1974, p. 7)" (Garman et al., 2019, p. 2). Several noteworthy academic models of leadership are summarized below.

Garman et al. (2019) referred to Yukl (2012) in defining leadership as "'influencing and facilitating individual and collective efforts to accomplish shared objectives' (p. 66, Yukl 2012)" (p. 3, Garman et al., 2019). They chose this definition to encapsulate the discrete acts of leadership that happen spontaneously among people not necessarily in positions of authority. They then proceed to discuss competencies that have come to be used as quality metrics for evaluating leaders. They established the following list of competencies as being important and generalizable across different fields of healthcare: community collaboration; organizational awareness; network/relationship development; accountability; achievement orientation; analytical thinking; communication skills

(writing); communication skills 2 (speaking/facilitating); initiative; performance measurement; process and quality improvement; project management; financial skills; human resource management; information technology management; collaboration; team leadership; impact and influence; interpersonal understanding; talent development; self-confidence; self-awareness; well-being; change leadership; information seeking; innovation; strategic orientation; professional and social responsibility.

Competencies – understood as measures of knowledge, skill, abilities, and traits - were first used as a metric to evaluate leadership by psychologist David McClelland (McClelland, 1973). Since then, numerous studies have established competency taxonomies, some general and others profession-specific. A simplified description of the complex methodology by which Garman et al. (2019) arrived at their list of competencies is that they began with a series of interviews with leaders, recruited through the National Center for Healthcare Leadership (NCHL). Following this interview process, which resulted in a list of 825 individually codable behavioral descriptions of leadership, they compared their list against the NCHL's current list of competencies and revised the list into a seven-domain framework that could be applied to healthcare. Following a long series of reviews by numerous committees, the list/model was made into a survey sent to health sector leaders asking them to evaluate the importance of each of the competencies. This led to the revision of the list into their final results.

In *Healthcare educational leadership in the twenty-first century* (Sandhu, 2019), leadership is described in more pragmatic terms; it is described as influencing others to understand what needs to be done and getting them to do what needs to be done. The author takes the view that aims, missions, and values are not really the start or the core of leadership, and instead suggests that leadership works best when it functions within the culture of the organization. Sandhu (2019) stresses the importance of reflection in their definition of leadership. They describe it as an iterative process in which reflection and action are alternated, and emphasize that this is particularly important for innovative leaders, especially for clinical leaders: "...they need to learn from reflection and grasp that the latter is not a passive

exercise. Caring for our profession and patients, means that qualities of clinical reasoning and critical thinking have to be developed in our students and trainees" (p. 3). They then define clinical reasoning as requiring observation, knowledge, and skills to make judgement calls about clinical decisions in patient management. Sandhu (2019) especially emphasizes that leadership rarely necessarily requires some kind of paradigm shift or grandiose mission. Instead, they describe leadership as occurring much more organically, arising in most people at one point or another in situations where they find themselves in a position to exercise situational awareness and emotional intelligence.

Clinical Leadership and Nursing Explored: A Literature Search (Stanley & Stanley, 2018) is a comprehensive literature review of studies of clinical leadership in the nursing field. The review attempted to synthesize what has been published about clinical leadership, in contrast with nursing leadership or healthcare leadership in general. The initial search results, after eliminating duplicates, numbered 452 publications. They then conducted a more rigorous exclusion process, discarding publications that described reflections on clinical leadership, personal testimonies, news items about clinical leader programs, evaluations of CL development programs, opinion articles, articles about CL, but that were not focused on nursing and all non-research focused publications. This left them with 27 publications remaining, which ultimately included research related to clinical leadership and other literature reviews that also considered research articles about clinical leadership and nursing.

They devoted a section of the literature review to different definitions of leadership, and they began that section by affirming that there is not a consistent definition across the literature. They found that some definitions of clinical leadership included that clinical leaders were experts in clinical care, that they were effective communicators who influenced the people they worked with to improve their clinical skills and provide better patient care, and that they often arise emergently rather than being given their power by an authority figure.

This approach to defining leadership is in contrast to the models described so far that focused on relationships between workers and leaders who are removed from the work being done and are more heavily invested in leading from a distance only. The descriptions of clinical leadership in the papers reviewed in Stanley & Stanley (2018) somewhat consistently described leadership of a group as being by one of the group's members, with more emphasis on practical skills, effective interpersonal communication with their colleagues, and a tendency to influence each other through their direct interactions to grow and focus on improving the quality of their care. Several of the papers suggest that clinical leaders are emergent, that anyone who works in the clinic and finds themselves exercising leadership is, by definition, a clinical leader, regardless of whether there is any formal hierarchical authority (Stanley & Stanley, 2018).

Stanley & Stanley (2018) then describe a definition put forth in Stanley (2006), seen within various subsequent publications both by Stanley and others that reference and build upon each other, called congruent leadership, in which clinical leaders were followed because there was a match (congruence) between the leader's value and their actions. This often included supporting others, communicating clearly, having clinical expertise or sound clinical skills, being approachable, visible, and honest, and treating people with respect (Stanley, 2017). They comment that when clinical leaders display behaviors that illustrate their values, especially related to things like quality of care, and they consistently hold to those values, they are noticed by those they lead and are an inspiration to them. Leaders emerge in this way, even when they are not necessarily in positions of explicit authority.

Ultimately, in their review of the literature, Stanley & Stanley (2018) found that most publications listed and elaborated on some number of attributes that the respective authors found to be associated with leaders. While there was overlap in certain core attributes, there was also a lot of variance between papers, to the point where many of the 73 attributes (62%) were only cited in one or two papers. The top 15 core attributes included: clinical competence/good clinical practice; effective

communicator; supportive; value/beliefs focused; focus on clinical excellence and quality care; role model for others; motivator of others; mentor; decision-maker; visible; team-focused; approachable; clinically knowledgeable; empowered; participates in staff development/education.

These fifteen attributes were each cited at least four times across the papers, with the first seven being cited at least seven times each. Because of the prevalence of these fifteen traits and their apparent broad applicability in clinical leadership, they are ultimately what this research project became structured around.

METHODS

An anonymous, online survey was created using the SurveyMonkey website. A brief description of the study with a link to the survey was sent to members of the National Society of Genetic Counselors through their student research survey program on February 13, 2020. All genetic counselors currently in practice were eligible to participate. A reminder email was sent on February 20, 2020, one week following the initial email invitation.

The survey included three demographic questions pertaining to primary specialty, primary work setting, and years of experience as a genetic counselor. Participants were then asked to rate each of the 15 core attributes described by Stanley & Stanley (2018) according to how important it is that leaders at each of three levels of leadership (direct supervisor or manager, organizational/institutional leaders, and the leaders of their professional organizations) exhibit each attribute. A 1-4 Likert scale was utilized, with 1 being “not at all important” and 4 being “very important”. The survey concluded with two open-ended items: “What other traits, if any, do you think are important, and why?” and “Please feel free to share any additional thoughts you have on leadership in genetic counseling.”

Descriptive statistics were used to characterize demographic features of respondents and calculate mean responses on importance of each leadership trait at all three levels of leadership. Mean responses for each trait were then compared across levels of leadership. A single factor ANOVA was

calculated for each trait to determine if variation in perceived importance of a trait varied across leadership levels. T-tests were used to assess whether there were any significant differences in perceived importance of each trait based on specialty (clinical [n=68] and non-clinical [n=39]), workplace (major medical center [n=70] and all other workplaces [n=37]), and years of experience (0-9 years [n=75] and 10+ years [n=32]).

Lastly, responses to the open-ended questions regarding additional leadership traits or other comments were analyzed using open coding.

RESULTS

In total, 109 genetic counselors responded to the survey. Two participants' responses were excluded due to missing responses, bringing the total to 107 responses included in the analysis. A majority of respondents consider traits derived from nursing to be applicable to genetic counseling leadership. For any given trait at any given organizational level, for the chosen 1-4 Likert scale, a response of 1 or 2 indicates some level of disagreement, and a response of 3 or 4 indicates some level of agreement. Thus, a mean of greater than 2.5 (the midpoint of the chosen Likert scale) can be interpreted to mean that a majority of responding counselors found the trait to be important for their leaders to have, and a mean of less than 2.5 can be interpreted to mean that a majority of responding counselors found the trait to not be important for their leaders to have. Average rating for all traits in this study – across all levels of leadership – was 3.40 (SD = 0.33). Only one trait's average ranking was lower than 2.5: mentor at the institutional leadership level (M = 2.43).

At the individual manager level, the mean rating for all traits was 3.46 (SD = 0.25) (see Table 1). Three traits scored higher than the standard deviation above the mean, and were therefore considered most important: "effective communicator" (M = 3.94), "supportive" (M = 3.87), and "approachable" (M

= 3.81). The traits that were found least important were “visible” (M = 3.17) and “values/beliefs focused” (M = 3.18).

Genetic counselors found the above traits slightly less important for leaders at the institutional level, with the mean of the 15 traits as a whole 3.24 (SD = 0.42). “Effective communicator” was again the highest ranked (M = 3.82), followed by “focused on clinical excellence” (M = 3.74) and “decision maker” (M = 3.68). In contrast, “mentor” was ranked much lower (M = 2.43), placing it below the 2.5 mark and therefore considered not very important by a majority of respondents. “Participates in staff development/education” was also significantly lower than the average for this category.

Finally, at the level of professional organizations, the data indicate that once again, “effective communicator” was ranked significantly higher than average as a trait important in leadership (M = 3.97). While it was the only trait falling outside the standard deviation on the high end, “motivator of others” (M = 3.72) and “role model for others” (M = 3.70) come in at second and third places. “Participates in staff development/education” was the lowest (M = 2.92), followed by “team-focused,” at (M = 3.21), although “participates in staff development/education” scored lower than average fairly consistently at each of the three leadership levels.

Table I

	Direct supervisor/manager mean	**Organization or institution leader mean**	**Professional organization leaders mean**
Clinical competence/good clinical practice	3.37	2.84	3.59
Effective communicator	***3.94***	***3.82***	***3.97***
Supportive	***3.87***	3.47	3.58
Value/beliefs focused	3.18	3.46	3.50
Focus on clinical excellence and quality care	3.59	***3.74***	3.59
Role model for others	3.47	3.33	3.70
Motivator of others	3.49	3.48	3.72
Mentor	3.26	2.40	3.24
Decision-maker	3.39	***3.68***	3.50
Visible	3.17	3.14	3.49

Team-focused	3.57	3.47	3.21
Approachable	***3.81***	2.93	3.38
Clinically knowledgeable	3.24	2.79	3.53
Empowered	3.36	3.26	3.63
Participates in staff development/education	3.23	2.74	2.92
Mean of Category	**3.46**	**3.24**	**3.50**
Standard Deviation of Category	**0.25**	**0.42**	**0.25**

Primary specialty

When respondents were sorted by specialty into "clinical" and "non-clinical" categories (see Table III) and the average ratings compared, there was a statistically significant difference in perceived importance of several traits (p = X). At the direct supervisor level, the three traits reflective of clinical skills ("clinical competence/good clinical practice," (p = 0.0069) "focus on clinical excellence and quality care," (p = 0.0016) and "clinically knowledgeable" (p = 0.0098)) were perceived as significantly more important for leaders of genetic counselors in clinical specialties, while "motivator of others" (p = 0.0442) was the only trait perceived as significantly more important for leaders of genetic counselors in non-clinical specialties.

At the institutional leadership level, the three traits reflective of clinical skills ("clinical competence/good clinical practice," (p = 0.00285) "focus on clinical excellence and quality care," (p = 0.023135) and "clinically knowledgeable" (p = 0.002605)) were again perceived as more important in leaders in clinical specialties, while "visible" (p = 0.025749) was the only trait perceived as more important in non-clinical specialties.

Finally, at the professional organization level, "participates in staff development/education" (p = 0.003825) and "clinical competence/good clinical practice" (p = 0.0291) were perceived as more important in clinical specialties than non-clinical. This is the only level at which "participates in staff development/education" was significantly different across the specialties.

Primary work setting

There were no statistically significant differences in perceived importance of any trait at any level of leadership when average responses were compared between genetic counselors at major medical centers and those working in any other primary work setting. See Table IV.

Years of experience

When the responses were analyzed according to years of experience as a counselor, some differences were statistically significant. At the direct supervisor level, genetic counselors who had been working for 10 or more years rated “value/beliefs focused” as more important than those who had been working for 9 or fewer years ($p = 0.0039$), but rated “clinical competence/good clinical practice” ($p = 0.0148$) and “clinically knowledgeable” ($p = 0.0454$) as less important. At the organization level, genetic counselors working 10 or more years perceived “value/beliefs focused” ($p = 0.0151$) and “visible” ($p = 0.0007$) as more important but perceived “participation in staff development” ($p = 0.0246$) as less important. At the level of professional organizations, “clinical competence/good clinical practice” ($p = 0.0241$) and “supportive” ($p = 0.0128$) were both perceived as less important by counselors who had worked more than 10 years, but being “value/beliefs focused” ($p = 0.0007$) was perceived as more important. See Table V.

Open-ended responses

Open coding of responses to the two open-ended items generated a list of traits that genetic counselors perceived as important for leaders to have. The trait mentioned most frequently was honesty/transparency (11 respondents). Additionally, cultural competency, valuing diversity, and/or having diverse leadership were named by 8 respondents. Being empathetic and listening to the people that they are leading were described by 7 respondents. Being strategic was suggested by 6 respondents. Being open-minded, self-aware, and humble were each noted by 3 respondents times. The following traits were described by only one or two individuals each: having business sense, allyship, being an

advocate, being aware, capable of balancing, composed, confident, decisive, directness, being growth-minded, flexible, fair, experienced, innovative, having integrity, being levelheaded, progressive, self-regulation, having managerial training, having vision, willingness, having work/life balance.

Table VI - Open-ended responses tallied	
Coded Response	**Tally**
Honesty/transparency	11
Values diversity	8
Empathy	7
Listens to others	7
Strategic	6
Humility	3
Open-minded	3
Self-aware	3

DISCUSSION

Overall, genetic counselors found most of the traits considered important for leaders in nursing to be applicable to genetic counseling. “Effective communicator” was consistently found to be perceived as a highly important trait at all levels of leadership by genetic counselors. “Supportive” and “approachable” were each found to also be perceived as more important at the direct supervisor level, while being “visible” and “value/beliefs focused” were not perceived as being very important. “Focused on clinical excellence and quality care” and “decision-maker” were both found to be perceived as highly important in institutional leadership, while being a “mentor” and “clinically knowledgeable” were each perceived as less important as the other traits at that level. At the level of professional leadership organization, being a “mentor” and “team-focused” were both also viewed as being less important than the other traits.

A major aspect of genetic counseling is communicating information to patients and doctors in an unbiased and informative way. It makes sense that genetic counselors would value effective

communication in their leaders when so many of their own day-to-day responsibilities involve communicating information effectively.

“Mentor” being perceived as not very important at the institutional leadership level could be interpreted to mean that the leader of an institution is typically far enough removed from individual genetic counselors and other workers that they are not often seen or expected to act in a mentoring role. Placed in the context of other expectations for institutional leaders – acting as a decision-maker and communicator for the company as an entity – it seems reasonable that respondents deprioritized the mentoring of individual employees by their institutional leaders, as they instead looked to direct managers for this type of support. The fact that “Participates in staff development/education” was also significantly lower than the average supports this interpretation that counselors don’t expect professional development from the people in charge of their institutions. These expectations about institutional leaders’ responsibilities, particularly the expectation of a degree of separation of institutional leaders from clinical work, could also be why “clinically knowledgeable” was perceived as less important at this level.

The data from this study suggests that clinical genetic counselors prize clinical abilities more highly in their leaders than non-clinical genetic counselors. This is a somewhat intuitive finding, and it is one that makes sense as a point of departure from the nursing world. Nursing is almost entirely a clinical field, while genetic counseling, in contrast, can be viewed to have a more pronounced split between clinical and non-clinical roles. This could also be interpreted as non-clinical genetic counselors viewing themselves as filling the niche of having that expertise in clinical knowledge within their organization, thus obviating the need and expectation for their leaders to have that specialized knowledge as well. This could be further explored in future studies specifically looking at the differences in how clinical and non-clinical genetic counselors see themselves within their organizations. The lack of significant variation in opinions about leadership between genetic counselors at major medical centers and all

other workplaces, when compared to the differences found in specialty, could indicate that the job functions of a genetic counselor matters more than the nature of the company or organization.

As genetic counselors spend more time working, they shift to caring more about their leaders' character than their clinical skill. It could also mean that genetic counselors who have been practicing for longer are more confident in their own skills both as a practitioner and as a professional within the workplace and no longer value supportiveness as highly because they no longer require that form of support from a supervisor. Future studies analyzing the professional development of genetic counselors could further elucidate changes in relationships to people in leadership or mentorship roles.

It is interesting that participants frequently suggested empathy as an important trait for leaders to have, when it was not included on the list of fifteen most-cited traits in nursing literature (Stanley & Stanley, 2018). One possible explanation for this is that counselors value empathy and listening as an aspect of the profession more than nurses did, as it is a central tenet of genetic counseling. Honesty and transparency can be explained in a similar way, with providing information in an unbiased way to clients being a cornerstone of the established ethics of the practice, whereas nursing could be construed as a more directive field. This is not to imply nursing is bereft of empathy or transparency; rather, the findings of this study indicate these traits are more heavily emphasized in genetic counseling.

This study is unique in that it is one of the first attempts to understand leadership in genetic counseling. It builds upon the use of competencies, specifically traits and roles, as descriptors of leaders, as originally described in McClelland (1973). It relies on the definitions and traits found to be associated with clinical leadership in nursing as described in Stanley & Stanley (2018). While this approach strengthened the overall study design, it also served as a limitation. Using the list of traits generated from nursing literature rather than conducting an initial round of open-ended surveying designed to generate a unique list of traits for genetic counseling likely relayed biases present in the original

methodology to the present study. Another limitation is that only members of the National Society of Genetic Counselors were surveyed, which undoubtedly carries its own selection biases.

Future studies wishing to build upon this research could also study genetic counselor career arcs and analyze how and when genetic counselor shifted to taking leadership positions, hopefully querying their motivations for doing so. Additionally, future studies could study the roles and niches that genetic counselors fill within their respective organizations and how they see themselves within the greater organization, especially in non-clinical roles.

CONCLUSION

The results of this study suggest the traits assembled by Stanley & Stanley (2018) for leaders of nurses are applicable to genetic counseling. The majority of genetic counselors surveyed found all traits to be important to their direct supervisors, the leaders of their institution, and the leaders of their professional organizations. Effective communication was consistently viewed as highly important for leaders at all levels. Unique trends arose among counselors across demographic categories: more experienced counselors were more likely to care about visibility and ethics in their leaders, and counselors that worked in a clinical specialty were found to perceive clinical skills as more important than those working in non-clinical roles. Finally, honesty and transparency were brought up as being important multiple times in the open-ended question section, indicating a very high degree of importance for leaders of genetic counselors. Numerous respondents also commented on the importance of diversity in leadership and/or having leaders who valued diversity and were culturally competent, possibly indicating a perceived shortcoming in current genetic counseling leadership. Being empathetic and strategic and listening to others also came up frequently, which is possibly reflective of some of the values unique to genetic counselors which they also prize in their leaders. Future research could explore possible explanations for the findings, as well as survey some of the traits elucidated in

the open-ended responses to more quantitatively measure their importance like the other traits in this study. The results of this study and future studies will inform and assist those aspiring to take leadership roles among genetic counselors, enabling them to lead genetic counselors more effectively.

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CONFLICTS OF INTEREST

Rand declares that they have no conflicts of interest.

HUMAN STUDIES AND INFORMED CONSENT

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000. Informed consent was obtained from all patients for being included in the study.

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APPENDIX

Table II - ANOVA Across Categories		
Trait	***P-value***	***P<0.05?***
Clinical competence/good clinical practice	0.00	TRUE
Effective communicator	0.00	TRUE
Supportive	0.00	TRUE
Value/beliefs focused	0.00	TRUE
Focus on clinical excellence and quality care	0.14	FALSE
Role model for others	0.00	TRUE
Motivator of others	0.01	TRUE
Mentor	0.00	TRUE
Decision-maker	0.01	TRUE

Visible	0.00	TRUE
Team-focused	0.00	TRUE
Approachable	0.00	TRUE
Clinically knowledgeable	0.00	TRUE
Empowered	0.00	TRUE
Participates in staff development/education	0.00	TRUE

Table III - Responses sorted by specialty - Clinical vs Non-Clinical

Level	Trait	Means		P-value	P<0.05?
		Clinical	***Non-Clinical***		
Supervisor	Clinical competence/good clinical practice	3.54	3.08	0.006867	TRUE
Supervisor	Effective communicator	3.96	3.92	0.482445	FALSE
Supervisor	Supportive	3.90	3.82	0.299446	FALSE
Supervisor	Value/beliefs focused	3.10	3.31	0.142884	FALSE
Supervisor	Focus on clinical excellence and quality care	3.74	3.33	0.00157	TRUE
Supervisor	Role model for others	3.41	3.56	0.292956	FALSE
Supervisor	Motivator of others	3.38	3.67	0.044222	TRUE
Supervisor	Mentor	3.18	3.41	0.130754	FALSE
Supervisor	Decision-maker	3.31	3.54	0.107948	FALSE
Supervisor	Visible	3.10	3.28	0.2246	FALSE
Supervisor	Team-focused	3.57	3.56	0.981408	FALSE
Supervisor	Approachable	3.79	3.85	0.510926	FALSE
Supervisor	Clinically knowledgeable	3.40	2.97	0.009837	TRUE
Supervisor	Empowered	3.34	3.41	0.638085	FALSE
Supervisor	Participates in staff development/education	3.28	3.15	0.472054	FALSE
Organization leader	Clinical competence/good clinical practice	3.06	2.46	0.00285	TRUE
Organization leader	Effective communicator	3.79	3.87	0.345366	FALSE
Organization leader	Supportive	3.48	3.46	0.903035	FALSE
Organization leader	Value/beliefs focused	3.41	3.54	0.390409	FALSE
Organization leader	Focus on clinical excellence and quality care	3.84	3.56	0.023135	TRUE
Organization leader	Role model for others	3.25	3.46	0.181751	FALSE
Organization leader	Motivator of others	3.41	3.59	0.210383	FALSE
Organization leader	Mentor	2.37	2.46	0.628632	FALSE
Organization leader	Decision-maker	3.66	3.72	0.677129	FALSE
Organization leader	Visible	3.00	3.38	0.025749	TRUE
Organization leader	Team-focused	3.40	3.59	0.148983	FALSE
Organization leader	Approachable	2.90	2.97	0.670193	FALSE
Organization leader	Clinically knowledgeable	3.00	2.42	0.002605	TRUE
Organization leader	Empowered	3.22	3.33	0.532532	FALSE

Organization leader	Participates in staff development/education	2.81	2.62	0.339448	FALSE
Prof. Organizations	Clinical competence/good clinical practice	3.69	3.41	0.02909	TRUE
Prof. Organizations	Effective communicator	3.97	3.97	0.910518	FALSE
Prof. Organizations	Supportive	3.63	3.49	0.264337	FALSE
Prof. Organizations	Value/beliefs focused	3.41	3.67	0.066394	FALSE
Prof. Organizations	Focus on clinical excellence and quality care	3.57	3.62	0.758214	FALSE
Prof. Organizations	Role model for others	3.75	3.62	0.227343	FALSE
Prof. Organizations	Motivator of others	3.71	3.74	0.740488	FALSE
Prof. Organizations	Mentor	3.32	3.10	0.228155	FALSE
Prof. Organizations	Decision-maker	3.44	3.61	0.279851	FALSE
Prof. Organizations	Visible	3.40	3.64	0.102998	FALSE
Prof. Organizations	Team-focused	3.18	3.26	0.601041	FALSE
Prof. Organizations	Approachable	3.44	3.28	0.307495	FALSE
Prof. Organizations	Clinically knowledgeable	3.57	3.46	0.37035	FALSE
Prof. Organizations	Empowered	3.65	3.59	0.663707	FALSE
Prof. Organizations	Participates in staff development/education	3.12	2.55	0.003825	TRUE

Table IV - Sorted by workplace - Major Medical Center vs Others					
Level	**Trait**	**Means**		**P-value**	**P<0.05?**
		Major Medical Center	**Others**		
Supervisor	Clinical competence/good clinical practice	3.43	3.25	0.31	FALSE
Supervisor	Effective communicator	3.93	3.97	0.37	FALSE
Supervisor	Supportive	3.87	3.86	0.87	FALSE
Supervisor	Value/beliefs focused	3.14	3.25	0.45	FALSE
Supervisor	Focus on clinical excellence and quality care	3.65	3.47	0.18	FALSE
Supervisor	Role model for others	3.49	3.42	0.61	FALSE
Supervisor	Motivator of others	3.44	3.58	0.31	FALSE
Supervisor	Mentor	3.27	3.25	0.91	FALSE
Supervisor	Decision-maker	3.37	3.44	0.59	FALSE
Supervisor	Visible	3.17	3.17	0.97	FALSE
Supervisor	Team-focused	3.57	3.56	0.91	FALSE
Supervisor	Approachable	3.77	3.89	0.15	FALSE
Supervisor	Clinically knowledgeable	3.31	3.11	0.24	FALSE
Supervisor	Empowered	3.34	3.42	0.61	FALSE
Supervisor	Participates in staff development/education	3.27	3.17	0.57	FALSE
Organization leader	Clinical competence/good clinical practice	2.96	2.61	0.09	FALSE
Organization leader	Effective communicator	3.82	3.83	0.84	FALSE
Organization leader	Supportive	3.46	3.50	0.75	FALSE

Organization leader	Value/beliefs focused	3.41	3.56	0.33	FALSE
Organization leader	Focus on clinical excellence and quality care	3.80	3.61	0.12	FALSE
Organization leader	Role model for others	3.24	3.50	0.11	FALSE
Organization leader	Motivator of others	3.41	3.61	0.16	FALSE
Organization leader	Mentor	2.34	2.53	0.34	FALSE
Organization leader	Decision-maker	3.70	3.64	0.63	FALSE
Organization leader	Visible	3.10	3.22	0.49	FALSE
Organization leader	Team-focused	3.41	3.58	0.20	FALSE
Organization leader	Approachable	2.89	3.00	0.54	FALSE
Organization leader	Clinically knowledgeable	2.87	2.64	0.24	FALSE
Organization leader	Empowered	3.20	3.39	0.30	FALSE
Organization leader	Participates in staff development/education	2.79	2.64	0.47	FALSE
Prof. Organizations	Clinical competence/good clinical practice	3.56	3.64	0.57	FALSE
Prof. Organizations	Effective communicator	3.97	3.97	0.99	FALSE
Prof. Organizations	Supportive	3.62	3.50	0.37	FALSE
Prof. Organizations	Value/beliefs focused	3.42	3.67	0.08	FALSE
Prof. Organizations	Focus on clinical excellence and quality care	3.51	3.75	0.08	FALSE
Prof. Organizations	Role model for others	3.70	3.69	0.93	FALSE
Prof. Organizations	Motivator of others	3.73	3.69	0.74	FALSE
Prof. Organizations	Mentor	3.28	3.17	0.54	FALSE
Prof. Organizations	Decision-maker	3.51	3.47	0.78	FALSE
Prof. Organizations	Visible	3.48	3.50	0.89	FALSE
Prof. Organizations	Team-focused	3.23	3.17	0.71	FALSE
Prof. Organizations	Approachable	3.42	3.31	0.46	FALSE
Prof. Organizations	Clinically knowledgeable	3.49	3.61	0.35	FALSE
Prof. Organizations	Empowered	3.61	3.67	0.65	FALSE
Prof. Organizations	Participates in staff development/education	3.04	2.67	0.06	FALSE

Table V - Sorted by time working					
		0-9 years	**10+ years**	**P-value**	**P<0.05?**
Supervisor	Clinical competence/good clinical practice	3.50	3.06	0.014791	TRUE
Supervisor	Effective communicator	3.95	3.94	0.852053	FALSE
Supervisor	Supportive	3.89	3.81	0.297224	FALSE
Supervisor	Value/beliefs focused	3.05	3.47	0.003866	TRUE
Supervisor	Focus on clinical excellence and quality care	3.63	3.50	0.35372	FALSE

Supervisor	Role model for others	3.45	3.50	0.759809	FALSE
Supervisor	Motivator of others	3.41	3.66	0.103121	FALSE
Supervisor	Mentor	3.25	3.28	0.86443	FALSE
Supervisor	Decision-maker	3.32	3.56	0.106322	FALSE
Supervisor	Visible	3.11	3.31	0.18299	FALSE
Supervisor	Team-focused	3.56	3.58	0.882155	FALSE
Supervisor	Approachable	3.81	3.81	0.992017	FALSE
Supervisor	Clinically knowledgeable	3.35	3.00	0.04535	TRUE
Supervisor	Empowered	3.33	3.44	0.517308	FALSE
Supervisor	Participates in staff development/education	3.27	3.16	0.5476	FALSE
Organization leader	Clinical competence/good clinical practice	2.93	2.63	0.14942	FALSE
Organization leader	Effective communicator	3.79	3.91	0.165946	FALSE
Organization leader	Supportive	3.49	3.44	0.723675	FALSE
Organization leader	Value/beliefs focused	3.35	3.72	0.015132	TRUE
Organization leader	Focus on clinical excellence and quality care	3.77	3.66	0.361063	FALSE
Organization leader	Role model for others	3.25	3.50	0.138134	FALSE
Organization leader	Motivator of others	3.41	3.63	0.15603	FALSE
Organization leader	Mentor	2.40	2.41	0.975581	FALSE
Organization leader	Decision-maker	3.61	3.84	0.102217	FALSE
Organization leader	Visible	2.96	3.56	0.000741	TRUE
Organization leader	Team-focused	3.40	3.63	0.108497	FALSE
Organization leader	Approachable	2.85	3.09	0.206107	FALSE
Organization leader	Clinically knowledgeable	2.86	2.63	0.24105	FALSE
Organization leader	Empowered	3.16	3.50	0.071417	FALSE
Organization leader	Participates in staff development/education	2.88	2.41	0.024599	TRUE
Prof. Organizations	Clinical competence/good clinical practice	3.68	3.38	0.02409	TRUE
Prof. Organizations	Effective communicator	3.97	3.97	0.896603	FALSE
Prof. Organizations	Supportive	3.68	3.34	0.012826	TRUE
Prof. Organizations	Value/beliefs focused	3.36	3.84	0.00073	TRUE
Prof. Organizations	Focus on clinical excellence and quality care	3.53	3.72	0.192839	FALSE
Prof. Organizations	Role model for others	3.72	3.66	0.587571	FALSE
Prof. Organizations	Motivator of others	3.68	3.81	0.266944	FALSE
Prof. Organizations	Mentor	3.24	3.25	0.958765	FALSE
Prof. Organizations	Decision-maker	3.42	3.69	0.089067	FALSE
Prof. Organizations	Visible	3.40	3.69	0.067117	FALSE
Prof. Organizations	Team-focused	3.15	3.34	0.258757	FALSE
Prof. Organizations	Approachable	3.39	3.38	0.943398	FALSE
Prof. Organizations	Clinically knowledgeable	3.56	3.47	0.487787	FALSE

Prof. Organizations	Empowered	3.60	3.69	0.527531	FALSE
Prof. Organizations	Participates in staff development/education	2.96	2.81	0.479767	FALSE