RESEARCH

StrengthsFinder Signature Themes of Talent in Doctor of Pharmacy Students in Five Midwestern Pharmacy Schools

Kristin K. Janke, PhD,^a Karen B. Farris, PhD,^b Katherine A. Kelley, PhD,^c Vincent D. Marshall, MS,^b Kimberly S. Plake, PhD, RPh,^d Steven A. Scott, PharmD,^d Todd D. Sorensen, PharmD,^a Gary C. Yee, PharmD^e

^a University of Minnesota College of Pharmacy, Minneapolis, Minnesota

^b University of Michigan College of Pharmacy, Ann Arbor, Michigan

^c The Ohio State University College of Pharmacy, Columbus, Ohio

^d Purdue University College of Pharmacy, West Lafayette, Indiana

^e University of Nebraska Medical Center College of Pharmacy, Omaha, Nebraska

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Objective. To describe student pharmacists' Signature Themes from the Clifton StrengthsFinder across 5 Midwestern pharmacy institutions and to compare themes by gender, institution, and undergraduate population.

Methods. Student pharmacists completed the StrengthsFinder 2.0 assessment and received their top 5 Signature Themes. Themes were organized and examined by domains (Executing, Influencing, Relationship Building, Strategic Thinking). The distribution of the themes was compared between student pharmacists and undergraduates and themes and domains were compared by institution and gender.

Results. Although results varied by institution, the top 5 themes among the 1244 of 1250 students (99.5%) who completed the assessment were: Achiever, Harmony, Learner, Responsibility, and Empathy. Female student pharmacists had more themes in Executing and Relationship Building, while males had more themes in Influencing and Strategic Thinking. Pharmacy students exhibit more Executing domain talents and fewer Influencing domain talents compared with undergraduates.

Conclusion. Signature Themes were consistent among student pharmacists across 5 Midwestern colleges of pharmacy.

Keywords: strengths, student development, StrengthsFinder, talents, Signature Themes

INTRODUCTION

To excel in your chosen field and to find lasting satisfaction in doing so, you will need to understand your unique patterns. You will need to become an expert at finding and describing and applying and practicing your strengths.¹

-Marcus Buckingham and Don Clifton, *Now, Discover Your Strengths*

For more than a decade, the Gallup Organization has conducted research with the highest performing individuals in their respective fields. A core finding from this work is

that to be effective, people must be given the opportunity to "do what they do best every day." At first glance, this statement may appear simplistic and based on common sense. Yet, actualizing this concept in the work place is remarkably illusive. When Gallup asked 198 000 employees working in 7939 business units across 36 companies whether they perceived they were given the opportunity to do what they do best every day, less than 20% responded positively.¹ The implications of this statistic were examined in follow-up research that explored the environments in which this percentage of respondents worked. These respondents were 38% more likely to work in more productive business units and 44% more likely to work in business units with higher customer satisfaction scores.¹ This highlights the relationship between the ability to apply one's strengths regularly to one's work and levels of employee engagement.² Applying work environment and employee engagement research to health care is challenging, as less data exists for this sector.

Corresponding Author: Kristin K. Janke, PhD, University of Minnesota College of Pharmacy, Minneapolis, MN 55455.
Tel: 612-626-4648. Fax: 612-625-9931.
E-mail: janke006@umn.edu

For example, one must extrapolate impact on general business measures such as “unit productivity” or “customer satisfaction” to metrics related to health care quality or patient satisfaction. Yet, a relationship may exist. One Gallup poll found the level of nurse engagement at work was the most important predictor of mortality variation across 200 hospitals.³

The ability of pharmacists to align personal strengths with roles in pharmacy can potentially increase engagement, which may in turn produce a greater impact on health outcomes. The need for academic pharmacy to assist student pharmacists in this type of self-awareness and application is reflected in the most recent Center for the Advancement of Pharmacy Education (CAPE) Educational Outcomes, which were expanded to include greater focus on the affective domain, emphasizing the importance of self-awareness, innovation, leadership, and professionalism.⁴ Knowledge and application of one’s personal strengths is well aligned with CAPE 2013 Outcomes 4.1 (self-aware) and 4.2 (leader). Furthermore, awareness of strengths is critical to the development of effective teams, reflected in Outcome 3.4 (collaborator). While the Accreditation Council for Pharmacy Education’s (ACPE’s) Standards and Guidelines are less explicit in this area, achievement of Standard 9.3 (developing leaders) depends in part on developing graduates who can apply their unique talents to leadership roles.⁵

The Clifton StrengthsFinder (Gallup, Inc., Washington, DC) is one of the most popular assessment tools focused on identifying individual’s “Signature Themes” (ie, talents), with more than 9 million people having taken the test to date.⁶ Through personal communications, the authors are aware of many colleges and schools of pharmacy using this tool as a learning activity with student pharmacists. In addition, reports of the use of StrengthsFinder are available in the pharmacy literature.⁷⁻¹¹ This widely adopted tool provides a unique opportunity to evaluate how student pharmacists are similar or unique across schools and how they compare to nonpharmacy students. Our analysis provides an additional lens through which to view pharmacist cohorts being prepared for the workforce and to consider how prevalence of talents are aligned with the evolving practice roles in pharmacy. Insights may also be gained into important programmatic issues ranging from recruitment and admissions, talent distribution across demographic factors, student preferences in professional roles, and professional and career development programming. Ultimately, we expect that knowledge of Signature Theme distribution among student pharmacists will assist the academy in preparing pharmacists to engage in roles through which they are able to “do what they do best every day.”

The goal of this research is to characterize the Signature Themes of student pharmacists in 5 Midwestern colleges of pharmacy and to compare themes by gender, school, and publically available data about university undergraduates.

METHODS

The study design was longitudinal in that data were collected at several schools of pharmacy over time. However, this analysis used a cross-sectional design and compared all subjects from each school for all completions of The Clifton StrengthsFinder 2.0. Data from the University of Michigan, the University of Minnesota, The University of Nebraska, The Ohio State University, and Purdue University were collected, and each school submitted and obtained institutional review board (IRB) approval for the study. The University of Michigan obtained IRB approval for analyzing the combined dataset.

All data were collected from student pharmacists, who completed the StrengthsFinder assessment as part of a course requirement. Each school attempted to include data from all students within a class. All schools required a minimum of 2 years of prepharmacy coursework before being admitted to pharmacy school. Some schools contributed multiple years of data. In this analysis, Michigan had 150 respondents (2 cohorts), Minnesota had 601 (4 cohorts), Nebraska had 116 (2 cohorts), Ohio State had 232 (2 cohorts), and Purdue had 145 (1 cohort), providing 1244 student pharmacist respondents from a pool of 1250 possible respondents (99.5%). Although respondents were from different years in their pharmacy training (76% first year, 12% second year, 12% final year), StrengthsFinder was designed to identify long-standing patterns of thought, feeling, and behavior associated with success.¹ Scores do not differ substantially by age,¹ and the instrument has test-retest reliability.¹² For these reasons, the year of StrengthsFinder administration was not anticipated to be relevant.

StrengthsFinder uses 177 item pairs to determine the students’ primary Signature Themes or talents. The instrument has been examined in a number of confirmatory, reliability, validity, and utility studies both within Gallup and externally, which adds to a growing body of evidence regarding its content, construct, and criterion-related validity, as well as its reliability.¹² Each respondent accessed Gallup’s online survey system, completed the instrument, and received a report including their top 5 Signature Themes. Some investigators received a file on students and their Signature Themes; others had students submit their themes as part of an assignment. Investigator or their designates assigned each student a unique study identifier after adding the student’s gender, where possible. Gender

was included because it was hypothesized that gender may be related to some talents (eg, women and empathy). Gender data were not available from Ohio State. The data from the 5 schools were merged with unique study identification numbers, and a variable was added indicating school designation. Information regarding the distribution of the Signature Themes for undergraduate students was obtained from Gallup's StrengthsQuest website. This information reports the frequency of each Signature Theme of all their undergraduate completions to date, and results were available from 1 577 478 undergraduate students.¹³

The distribution of the Signature Themes across pharmacy schools was examined to determine the top 5 and lowest 5 in each institution and in the undergraduate population. Gallup organizes the 34 Signature Themes into 4 Leadership Domains: Executing, Influencing, Relationship Building, and Strategic Thinking.¹⁴ Differences in these 4 domains by school were tested using an analysis of variance (ANOVA), and the distribution of pharmacy schools vs undergraduates were plotted for each domain. Differences between gender at each school were tested by using *t* tests to compare the average number of Signature Themes within a domain. The occurrence of 3 or more Signature Themes within a single domain for an individual was defined as a dominant domain. The number of students across schools having 3 or more Signature Themes within a single domain (dominant domain) was tabulated.

RESULTS

Schools with available gender data had 64% to 67% females. The top 3 Signature Themes in each pharmacy school were similar but not in the same order, with each school reporting Harmony, Achiever, and Learner (Figure 1, Tables 1 and 2). Responsibility was among the top 5 Signature Themes in all schools, except Michigan's. Relator was among the top 5 in three schools, but it did not appear in the top 5 for the combined "all pharmacy schools" data. Empathy was the fifth most common theme across the "all pharmacy schools" data, but it did not appear in the top 5 for any individual school except Minnesota.

Signature Themes of student pharmacists were compared to the undergraduate population (Figure 1, Tables 1 and 2). Achiever and Responsibility were the two Signature Themes in the top 5 that were in common for student pharmacists and the undergraduate population. When student pharmacists' Signature Themes were compared with those of the undergraduate population, student pharmacists had more Consistency, Discipline, and Analytical themes, whereas Adaptability and Restorative were more

Student pharmacists are along the line. All other points are undergraduates.

Figure 1. Ordered signature theme plots including domain for student pharmacists and undergraduate population.

frequent among undergraduates (Figure 1). Strategic was also more common among undergraduates than among student pharmacists. The least prevalent Signature Themes among student pharmacists were Activator, Command, and Self-Assurance. Command and Self-Assurance were also among the lowest in the undergraduate population.

The number of Signature Themes in each domain between the pharmacy schools and the undergraduate population is displayed in Figure 2. The global ANOVA tests for the domains were not significant across the schools. The variance was not reported on the StrengthsFinder website, so confidence intervals for the means could not be computed, but the confidence intervals would likely be small because they are based on 1.5 million people. Compared to undergraduates, pharmacy students had more Executing traits and fewer Influencing traits. The Relationship Building and Strategic Thinking domains were almost equally represented in both groups.

Males and females exhibited differences in the number of Signature Themes for each of the four domains (Table 3). For example, women at Michigan had more Signature Themes than men at Michigan in the Executing domain. When data were pooled across all schools, women had more Signature Themes than men in Executing and Relationship Building, and men had more Signature Themes than women in Influencing and Strategic Thinking.

The prevalence of three or more Signature Themes within a single (dominant) domain is shown in Table 4.

Table 1. Most Frequently Reported “Top 5” Signature Themes and % of Sample

School/Theme	Count (%)	School/Theme	Count (%)
Undergraduates		All Pharmacy	
Achiever	441 143 (28.0)	Achiever	508 (40.8)
Adaptability	390 179 (24.7)	Harmony	453 (36.4)
Responsibility	384 251 (24.4)	Learner	442 (35.5)
Restorative	367 178 (23.3)	Responsibility	339 (27.3)
Relator	362 135 (23.0)	Empathy	309 (24.8)
Michigan		Minnesota	
Harmony	61 (40.7)	Achiever	226 (37.6)
Achiever	51 (34.0)	Harmony	225 (37.4)
Learner	49 (32.7)	Learner	209 (34.8)
Relator	40 (26.7)	Responsibility	171 (28.5)
Restorative	39 (26.0)	Empathy	168 (28.0)
Nebraska		Ohio State	
Achiever	54 (46.6)	Achiever	108 (46.6)
Harmony	45 (38.8)	Learner	96 (41.4)
Learner	39 (33.6)	Harmony	73 (31.5)
Responsibility	36 (31.0)	Responsibility	58 (25.0)
Relator	30 (25.9)	Relator	56 (24.1)
Purdue			
Achiever	69 (47.6)		
Learner	49 (33.8)		
Harmony	49 (33.8)		
Responsibility	42 (29.0)		
Consistency	37 (25.5)		

More than 20% of student pharmacists had Executing and Relationship Building as dominant domains, while more than 40% of student pharmacists did not have a dominant domain. The distribution of the dominant domains was similar across the schools ($p=0.24$ including all data; $p=0.14$ excluding those without a dominant domain).

The distribution of Signature Themes for each school is depicted in Appendix 1. This plot shows the order of prevalence of the Top 5 Signature Themes as well as their domain.

DISCUSSION

Leadership is important for all student pharmacists to develop.¹⁵ The 2008-2009 American Association of Colleges of Pharmacy (AACP) Argus Commission Report recommended that schools of pharmacy stimulate leadership development by threading leadership education throughout the curriculum and co-curricular activities.¹⁶ Moreover, leadership is one of the 2013 CAPE Outcomes.⁴ Leadership development must focus on understanding and developing one's inner self. In his book *On Becoming a Leader*, Warren Bennis devotes an entire chapter to “knowing yourself,” where he discusses the importance of personal growth, accepting responsibility, and reflecting on experience.¹⁷ Further, knowing “who I

am as a leader” is an important leadership competency in pharmacy curricula.¹⁸

Knowing one's strengths can help students build their foundation for leadership. Strengths are based on a person's talents, knowledge, and skills. StrengthsFinder is a tool to help individuals identify their natural talents. According to research conducted by Gallup, employees who use their strengths are more likely to be engaged and are more productive.¹ One of the “game changers” identified in the 2012-2013 AACP Argus Commission Report¹⁹ was “Motivation 3.0,”²⁰ which consisted of autonomy, mastery, and purpose. Mastery and purpose are directly related to knowledge of one's strengths. StrengthsFinder has been used for more than 10 years in pharmacy curricula at the University of Minnesota, initially as part of an elective course and later as part of a required course.^{7,21-22} The tool is also used to develop leadership in pharmacy residents.^{11,22}

The results of this study show that student pharmacists at five public schools of pharmacy have remarkably consistent Signature Theme profiles. It is particularly noteworthy that the top 3 Signature Themes were the same for each school (Harmony, Achiever, and Learner) (Table 1). It is unknown whether this consistency extends across all schools of pharmacy or if this is simply reflective of the

Table 2. Least Frequently Reported Top 5 Signature Themes and % of Sample

School/Theme	Count (%)	School/Theme	Count (%)
Undergraduates		All Pharmacy	
Discipline	123 422 (7.8)	Significance	75 (6.0)
Focus	121 719 (7.7)	Connectedness	71 (5.7)
Command	99 048 (6.3)	Activator	48 (3.9)
Significance	87 738 (5.6)	Command	45 (3.6)
Self-assurance	59 254 (3.8)	Self-assurance	28 (2.3)
Michigan		Minnesota	
Connectedness	6 (4.0)	Woo	33 (5.5)
Arranger	6 (4.0)	Ideation	32 (5.3)
Command	5 (3.3)	Activator	25 (4.2)
Activator	5 (3.3)	Command	21 (3.5)
Self-assurance	1 (0.7)	Self-assurance	14 (2.3)
Nebraska		Ohio State	
Self-assurance	6 (5.2)	Connectedness	13 (5.6)
Command	6 (5.2)	Activator	11 (4.7)
Significance	5 (4.3)	Significance	9 (3.9)
Connectedness	4 (3.4)	Command	9 (3.9)
Activator	2 (1.7)	Self-assurance	4 (1.7)
Purdue			
Context	8 (5.5)		
Connectedness	7 (4.8)		
Activator	5 (3.4)		
Command	4 (2.8)		
Self-assurance	3 (2.1)		

geographic region and/or the general recruitment pools of the schools represented in this cohort.

While several Signature Themes were frequently identified in the top 5 in both student pharmacists and undergraduate students (eg, Achiever, Responsibility, and

Figure 2. Leadership domain distributions with 95% confidence interval for pharmacy schools.

Relator), certain Signature Themes were more frequently identified in one group or the other. Specifically, student pharmacists were more likely than undergraduates to have Harmony, Consistency, Discipline, Analytical, and Focus, but less likely than undergraduates to have Adaptability, Restorative, Strategic, Belief, and Woo (Figure 1). These differences could indicate that individuals with certain Signature Themes are more likely to pursue a career in pharmacy. Alternatively, it's possible that an individual's Signature Theme profile does not influence their career choice, but rather is a factor that leads to a greater likelihood of being accepted into a doctor of pharmacy program. Signature Themes such as Discipline, Analytical, and Focus (more frequently identified in student pharmacists) may support achievement in academically rigorous prepharmacy coursework and contribute to community involvement—both of which are generally required for admittance to pharmacy schools.

The high prevalence of themes in the Executing domain suggests that student pharmacists are highly motivated and know how to get things done. The high prevalence of themes in the Relationship Building domain suggests that many student pharmacists value relationships and relate well to patients and other team members. The high prevalence of Signature Themes in

Table 3. Differences by Gender of the Average Number of Signature Themes in a Domain*

	Male Mean	Female Mean	Difference	p value
All Schools				
Executing	1.46	1.81	-0.35	0.00
Influencing	0.66	0.45	0.21	0.00
Relationship	1.39	1.70	-0.31	0.00
Strategic	1.49	1.04	0.45	0.00
Michigan				
Executing	1.22	1.84	-0.62	0.00
Influencing	0.57	0.37	0.21	0.01
Relationship	1.69	1.82	-0.14	0.52
Strategic	1.52	0.97	0.55	0.01
Minnesota				
Executing	1.49	1.72	-0.24	0.01
Influencing	0.70	0.46	0.24	0.00
Relationship	1.32	1.74	-0.43	0.00
Strategic	1.50	1.07	0.43	0.00
Nebraska				
Executing	1.26	2.07	-0.81	0.00
Influencing	0.62	0.46	0.16	0.26
Relationship	1.60	1.51	0.08	0.70
Strategic	1.52	0.96	0.57	0.00
Purdue				
Executing	1.79	1.95	-0.16	0.39
Influencing	0.66	0.48	0.18	0.21
Relationship	1.17	1.54	-0.37	0.04
Strategic	1.38	1.03	0.35	0.07

*Means represent the number of each student's Top 5 Signature Themes associated with each domain, as defined by Rath and Conchie.¹⁴ Gender was not available for The Ohio State University

these domains is an asset as pharmacists become more integral members of the healthcare team.

Information on the prevalence of individual Signature Themes may help to guide curriculum development. For instance, the high prevalence of Harmony suggests that many student pharmacists may not be comfortable confronting others. As a result, schools may consider teaching students how to communicate critical information to physicians and other health professionals (eg, TeamSTEPPS, which is an evidence-based teamwork system to improve communication and support patient

safety²³). The low prevalence of themes in the Influencing domain suggests student pharmacists may not naturally gravitate to selling an idea to others. Current initiatives in practice focusing on pharmacists gaining provider status suggest that Signature Themes in this domain might be of greater importance for future graduates. Understanding Signature Theme profiles of pharmacy students in general can help faculty members build in valuable skills training to ensure students are prepared to address the needs of patients, the profession, and the health care system.

To date, there is no research associating specific Signature Themes with educational outcomes, such as examination performance or residency placement. Yet, these results have important implications for educators and student services professionals. Pharmacy school educators are revising their curricula to address ACPE Standards 2016,²⁴ which include CAPE 2013 Outcomes (Standards 1-4).⁴ Knowledge of one's strengths is important for self-awareness, leadership development, and formation of effective teams. Student pharmacists who discover their strengths have the opportunity to develop them during pharmacy school. Faculty members could create opportunities in the curriculum or co-curriculum to facilitate this development.

The common Signature Themes provide insight about students who are attracted or admitted to pharmacy school; however, educators must be careful to not select students based on their Signature Theme profile because there is no research demonstrating that specific Signature Themes are associated with career advancement, or other positive outcomes in pharmacy. Instead, interviewers may want to ask applicants about their strengths as an indicator of their self-awareness. Faculty members and student services professionals can also use Strengths-Finder to assist student pharmacists in their professional development and career planning. A students' Signature Theme profile can be used to reinforce values of uniqueness and diversity. One strategy would be to recommend specific courses, activities, or readings to assist students based on their specific Signature Themes and Leadership Domain(s). As student pharmacists get closer to graduation, advisors can recommend specific career opportunities and job responsibilities that may be well aligned with

Table 4. Students with 3 Themes Within a Domain, n (%)

Domain	All	Michigan	Minnesota	Nebraska	Ohio State	Purdue
Executing	275 (22.1)	28 (18.7)	132 (22.0)	30 (25.9)	45 (19.4)	40 (27.6)
Influencing	40 (3.2)	2 (1.3)	20 (3.3)	1 (0.9)	12 (5.2)	5 (3.4)
Relationship	261 (21.0)	41 (27.3)	130 (21.6)	22 (19.0)	44 (19.0)	24 (16.6)
Strategic	146 (11.7)	18 (12.0)	73 (12.1)	8 (6.9)	33 (14.2)	14 (9.7)
No Dominant	522 (42.0)	61 (40.7)	246 (40.9)	55 (47.4)	98 (42.2)	62 (42.8)

a student's Signature Themes. By helping student pharmacists understand their unique talents and the relationship of talents to career engagement, faculty members and advisors can help prepare them to select rewarding career paths.

These results were obtained from a relatively homogeneous cohort of student pharmacists. All were enrolled at five public, research-intensive schools located in the Midwestern United States. In addition, a large proportion of the data came from one school. For these reasons, the results cannot be extrapolated to the larger population of all student pharmacists.

Future research should include examining the Signature Themes and the related Leadership Domains in a broader student pharmacist population, as well as how students use knowledge of their themes in co-curricular activities and professional development. Examining the Signature Themes of pharmacists in various pharmacy careers could assist students in understanding pharmacy roles that might align with their talents. In addition, examining Signature Themes in other health professions could inform the discussion on interprofessional communication and team-based care. Finally, knowledge of faculty Signature Themes and domains would also enrich the teaching-learning environment and enable valuable connections between instructors and learners.

CONCLUSION

Signature Themes from Gallup's StrengthsFinder tool were consistent among student pharmacists across five Midwestern schools of pharmacy. The top 5 Signature Themes included Achiever, Harmony, Learner, Responsibility, and Empathy. Results suggest that student pharmacists are achievement-oriented, enjoy learning, and value relationships, but may avoid confrontation and find it difficult to sell an idea. Differences in leadership domains exist based on gender and student population. It remains unknown, however, if these results can be generalized to the larger student pharmacist population. With the increasing emphasis on self-awareness and leadership skills in CAPE 2013 Outcomes and the ACPE 2016 Standards, StrengthsFinder can help faculty members understand student pharmacists' talents and develop activities in the curricula to better prepare students for engagement and success in practice.

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Appendix 1. Ordered Signature Themes of “Top 5” Plots including Domain for 5 Participating Schools