

# Use of Mintzberg's Model of Managerial Roles to Evaluate Academic Administrators

Richard D. Muma, Barbara Smith, Patricia A. Somers

Quantitative and qualitative methods were used to measure the administrative activities of physician assistant (PA) department chairpersons as compared with Henry Mintzberg's model of managerial roles. The use of Mintzberg's model is unique in that it was developed from observations in the corporate setting but was applied here in an academic setting. Both PA department chairpersons ( $n = 77$ ) and PA faculty ( $n = 94$ ) identified Mintzberg's leader role as one that was used most by PA chairpersons and one that was viewed as most important as perceived by PA chairpersons and faculty. Both groups agreed that PA chairpersons were more concerned about functioning in the interpersonal realms of Mintzberg's managerial roles as opposed to the informational and decisional realms, and there was a great deal of unanimity about the perceived role use and importance of the roles in regard to the job of a PA chairperson. This finding was important according to Mintzberg's model because it is through leader role use that PA chairpersons can weld diverse elements into a cooperative enterprise (an important aspect of managing academic departments). Chairpersons and faculty were given the opportunity to identify other constructs not covered by Mintzberg's model in an effort to include other roles unique to PA education. Although a handful of roles were identified, when compared with Mintzberg's model, each one matched an existing role defined in the model. These data indicate that both chairpersons and faculty were in agreement with the way Mintzberg's model can describe PA chairperson roles.

The chairperson is an odd creature in an odd spot.<sup>1</sup> In many ways, the chairperson is a blend of the lower-level corporate manager and a more service-related position. Rooted in the faculty like no other administrator but tied to the administration like no other faculty member, he or she has both an excess and a deficiency of identity.<sup>1</sup> As a result, the roles that need to be played are many and the responsibilities can be challenging. Despite the intricacies of running an academic department, chairpersons have very little administrative experience in doing so.<sup>2</sup> Likewise, department chairperson in the health professions are recruited from clinical positions without any academic experience, much less administrative experience. Of particular interest in this study was that of the physician assistant (PA) department chairperson, commonly referred to as a PA chairperson.

There are critical shortages of PA faculty in general and PA chairpersons in particular, partly because the PA profession is relatively young and one of the fastest-growing professions in the United States, with a 100% increase in new PA programs over the past seven years.<sup>3</sup> This translates into chairperson shortages and turnover throughout the United States. It is assumed (among other things) that these shortages and turnover are due to a general lack of understanding of administrative roles. Determining administrative roles used by PA department chairpersons should be helpful for recruitment and retention purposes and may lead to development of programs that appropriately inform those who are interested in becoming a PA academic administrator or for those who already serve in this position.<sup>4</sup> Interventions of this kind may also lead to a stronger PA profession, both academically and professionally. This research focused on the managerial roles PA department chairpersons used and perceived as important as compared with Mintzberg's model.<sup>5</sup> Knowing the managerial nature of individuals in PA chairperson positions, including the way they conduct themselves as managers, may be a significant resource when assisting others in the understanding of this position. Although Mintzberg's model has been used primarily to describe corporate managers, in this study it served as a framework for understanding the work of the PA academic chairperson.

## Theoretical Approach

The conceptual framework selected for use was taken from Henry Mintzberg's well-tested and proven managerial model.<sup>5</sup> This approach takes an observational, descriptive stance on the work of managers. It answers the question "What do managers do?" rather than "What should managers do?" Mintzberg's model is divided into three managerial role categories: interpersonal, informational, and decisional (Figure 1).

The interpersonal roles ensure that information is provided, the informational roles link all managerial work together, and the decisional roles make significant use of the information. Mintzberg further points out that the many demands faced by managers force them to assume multiple roles, which are essentially an organized set of behaviors. Selection of Mintzberg's model served two purposes: a framework for describing the work of PA chairpersons and an interesting application of a theory primarily used in the business setting.

This study proposed to explore PA department chairperson roles from two different population perspectives: PA department chairpersons and PA department faculty. PA faculty were selected as a comparison group because they were more likely to be knowledgeable about PA chairperson roles. The basic research questions were as follows:

1. Which managerial roles do PA chairpersons use according to chairpersons and faculty?
2. What is the difference in use of managerial roles as reported by PA department chairpersons and PA department faculty?
3. Which managerial roles are important in the work of a PA department chairperson from PA chairperson and faculty viewpoints?
4. What is the difference of importance PA department chairpersons place on Mintzberg's managerial roles versus PA department faculty?
5. What is the difference in use and importance of managerial roles as reported by experienced and novice PA department chairpersons?

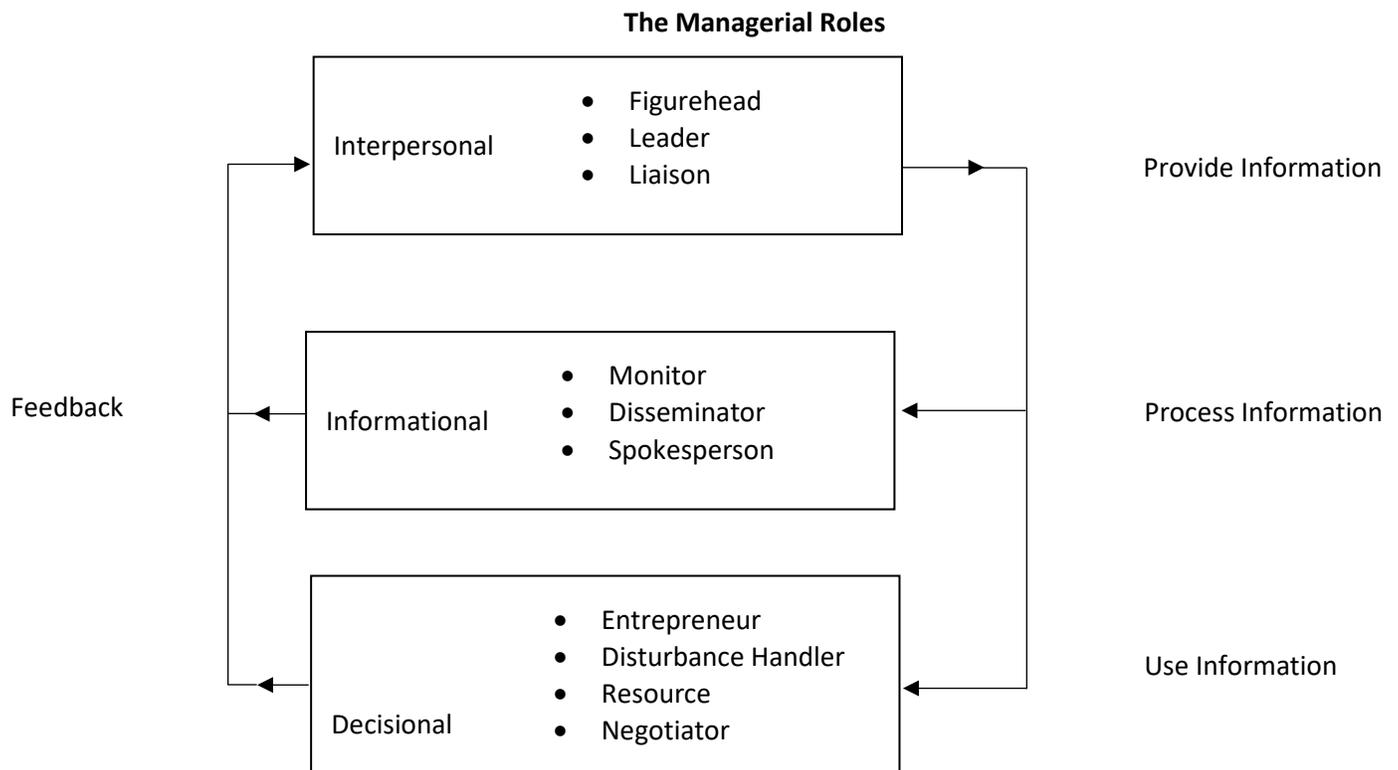


FIGURE 1. Mintzberg's model of managerial roles. Adapted from Mintzberg H: *The Nature of Managerial Work*. New York, NY: Harper & Row; 1973.

- A. First, indicate how you perceive your role as an administrator (not your role in teaching or scholarship/research). Indicate the degree of importance of each role to you in your current position as an administrator, with 1 being not important and 5 being very important.
- B. Second (in the last column), indicate the average amount of time you spend functioning in the following roles in your current job. Indicate in percentages (must add up to 100%).

Item No.	Role	Definition	A.					B. Percent of Time Spent in Role
			1	2	3	4	5	
1.	Figurehead	Symbolic head; nature of position obligates one to perform a number of routine duties of a legal or social nature						

FIGURE 2. An example of the directions and a statement from the survey.

## Methods

### *Subjects*

Subjects were surveyed and included full-time primary administrators of accredited, entry-level PA programs and assigned titles such as chairperson, director, assistant dean, or department head. Additional subjects included full-time faculty from accredited, entry-level PA programs and assigned titles of clinical and academic coordinator. There were 127 individuals who were listed as PA department chairpersons and 214 listed as PA department faculty as defined above. After the online survey was completed, six PA chairpersons were randomly selected for personal interviews to further evaluate the nature of the managerial role interactions they experience with other department chairpersons, deans, faculty, and students at their institution.

### *Survey instruments: design and use*

The first section of the department chairperson survey requested demographic information on the instructional unit and campus and personal information about the department chairperson. The second section requested respondents to identify their perceptions of importance and time spent on managerial roles in relation to their current position using a five-point Likert scale (1, not important; 5, very important) and indicating percentages of time, respectively. An example of the directions and a statement from the survey are shown in Figure 2. The first section of the faculty survey requested faculty to indicate how important Mintzberg's managerial roles are in relation to the PA chairperson position (generically, not their own chairperson) and the average amount of time a chairperson should spend functioning in Mintzberg's roles (generically, not their own chairperson) using a five-point Likert scale (1, not important; 5, very important) and indicating percentages of time, respectively. The second section requested demographic information about the respondent.

A factor analysis of the role constructs matching Mintzberg's model have been evaluated in the work done by Seagren et al. and with  $\alpha$  levels  $> 0.55$ .<sup>6</sup> A separate factor analysis was completed for this study (see Results).

### *Procedures*

This research study was descriptive, explorative, and cross-sectional in nature and used both quantitative and qualitative methods. It used quantitative online instruments to measure PA department chairperson administrative roles (defined by Mintzberg) as perceived by PA department chairpersons and

faculty in entry-level PA programs that are accredited by the Accreditation Review Commission on the Education of Physician Assistants.<sup>7</sup>

Additionally, qualitative data were collected from six department chairpersons, one from each consortium as defined by the Association of Physician Assistant Programs.<sup>3</sup> These six chairpersons were randomly selected to further evaluate the nature of the managerial role interactions they experienced with other department chairpersons, deans, faculty, and students at their institution. A mixed-method approach was selected for two main reasons: the survey data collection method served to quantify perceptions in regard to role use and importance for both chairpersons and faculty, and the telephone interviews provided another method to verify role use as reported by chairpersons on the quantitative survey. These two approaches were viewed as complementary in that, by their use, overlapping and different facets of managerial role use could possibly emerge.

#### *Data analysis*

SPSS 12.0 for Windows (SPSS Inc., Chicago, IL) was used for data analysis. The data were subject to descriptive and parametric statistics. The  $\alpha$  level was set at 0.05.

Frequency analyses were used to answer questions 1 and 3. Two sample *t* tests were used for questions 2 and 5. For question 5, based on frequency analysis, novice chairpersons were defined as those who had six or fewer years of chairperson experience, and those with seven or more years were defined as experienced chairpersons. A  $\chi^2$  statistic was used for questions 4 and 5. Telephone interview data were coded for commonalities and compared with Mintzberg's role categories and reported as frequencies. For the factor analysis, 10 items comprising the constructs of Mintzberg's model were used. Principal component analysis followed by varimax rotation extracted up to three factors. Cronbach's coefficient  $\alpha$  was computed for each factor.

#### **Results**

Seventy-seven department chairpersons completed the online survey, which corresponded to a 61% response rate. Likewise, 94 faculty returned a completed survey, corresponding to a 44% response rate. Therefore, 171 subjects were included for analysis, which represented 50% of the target population. Overall, both groups were homogeneous in terms of age, years of experience, ethnicity, and degree level (Table 1).

#### *Role use*

The ratio data provided evidence that clearly identified use of each role as defined by Mintzberg among chairpersons (including novice and experienced chairpersons), which was further verified by the faculty comparison group. Similarly, chairperson-reported role interactions (qualitative data) with their coworkers, students, faculty, and community partners gathered from the telephone interviews demonstrated the same pattern. Overall, both data sets illustrated more use of interpersonal roles as opposed to informational and decisional roles. Hence, the quantitative and qualitative data together appeared to support one another in this regard (Tables 2–4 and Figure 3).

#### *Role importance*

Chairpersons indicated a high level of importance of interpersonal roles, which was also further verified by the faculty comparison group. Informational and decisional roles appeared to be less applicable in the work of a PA chairperson (Table 5). However, no significant relationships were found between the overall importance ratings of the 10 roles among chairpersons and faculty, except that of the entrepreneur role between experienced and novice chairpersons (Table 6). Closer examination of the data revealed "leader" as the overriding construct that was viewed as the most important in terms of perception and use for all groups, both quantitatively and qualitatively. When evaluating these data as a

whole, PA chairpersons were more concerned about functioning in the interpersonal realm of Mintzberg's managerial roles as opposed to the informational and decisional realms. That is, they were more concerned with providing information as opposed to processing and using information (Figure 4).

*Other constructs identified by respondents*

Respondents to both surveys had an opportunity to provide additional roles they believed were important in the work of a department chairperson but not included in the constructs of Mintzberg's theory. The few that were identified were coded for the three major managerial role categories (i.e., interpersonal, informational, and decisional) and further compared with Mintzberg's theory constructs to see if there were similarities (Table 7).

<b>Table 1. Demographic Characteristics: Chairpersons and Faculty</b>		
	<b>% Chairpersons (n = 77)</b>	<b>% Faculty (n = 94)</b>
<b>Gender</b>		
Female	47.0	57.0
Male	53.0	43.0
<b>Ethnicity</b>		
Black	6.5	4.3
Asian	1.3	0.0
Native American	0.0	1.1
Hispanic/Latino	2.6	3.2
White	88.3	88.3
Multiethnic	0.0	1.1
Other	1.3	2.0
<b>Highest degree</b>		
Baccalaureate	2.7	11.7
Master's	65.3	75.5
Doctorate	30.7	10.6
Other	1.3	2.2

Seven discrete roles were further identified by seven chairpersons (9%). Four discrete roles were identified by four faculty (4%). Hence, there was no duplication among chairpersons and faculty when they reported this information. These extra roles were different descriptions of Mintzberg's roles (e.g., leader of students [leader], managing day-to-day operations [monitor], fiscal management [resource allocator]) or other areas of chairperson responsibility in teaching (e.g., clinical coordinator and student recruitment), which were not requested on the survey. Overall, the paucity of information reported indirectly indicates that chairpersons and faculty were satisfied with the way Mintzberg's model may describe the administrative portion of the job of a PA chairperson. Furthermore, all of the roles identified matched one of the main role categories as identified by Mintzberg; therefore, no new constructs were identified.

*Factor analysis*

Factor analysis was completed separately for the chairpersons and for the faculty. Results of the factor analyses (Tables 8 and 9) indicated that three dimensions accounted for 68.8% of the variance for chairpersons and 60.0% for faculty. These dimensions encompassed the same constructs as identified by Mintzberg for chairpersons and to a lesser degree for faculty.

<b>Table 2. Managerial Role Use by Chairperson and Faculty*</b>							
	Chairpersons (%)		Faculty (%)		t value		
	Actual Use (n = 77)		Perceived Use (n = 94)				
<b>Interpersonal</b>							
Figurehead	9.12	(9.12)	} 39.15	10.01	(7.96)	} 36.27	-0.648
Leader	21.11	(12.29)		18.10	(9.53)		1.748
Liaison	8.92	(5.98)		8.16	(4.32)		0.919
<b>Informational</b>							
Monitor	7.57	(3.55)	} 23.87	8.56	(4.51)	} 25.82	-1.504
Disseminator	7.60	(3.56)		8.77	(4.30)		-1.825
Spokesperson	8.70	(4.74)		8.49	(3.98)		0.310
<b>Decisional</b>							
Disturbance handler	8.91	(5.23)	} 34.22	9.20	(4.06)	} 37.91	-0.386
Entrepreneur	9.34	(6.55)		8.81	(5.30)		0.550
Resource allocator	10.49	(6.44)		11.03	(5.57)		-0.566
Negotiator	5.48	(3.69)		8.87	(4.86)		-4.724†

Note. Values are expressed as means (SD).  
\*Percentages do not equal 100% due to optional response of "other."  
†p < 0.001.

<b>Table 3. Managerial Role Use by Chairpersons*</b>							
	Novice Chairpersons (%)		Experienced Chairpersons (%)		t value		
	(n = 77)		(n = 94)				
<b>Interpersonal</b>							
Figurehead	9.31	(8.68)	} 41.98	8.90	(9.74)	} 35.71	0.179
Leader	23.26	(13.69)		18.50	(9.94)		1.641
Liaison	9.41	(6.62)		8.31	(5.12)		0.767
<b>Informational</b>							
Monitor	7.53	(3.47)	} 23.87	7.61	(3.70)	} 23.88	-0.100
Disseminator	7.49	(3.27)		7.74	(3.94)		-0.295
Spokesperson	8.85	(4.54)		8.53	(5.05)		0.276
<b>Decisional</b>							
Disturbance handler	8.87	(5.42)	} 31.73	8.97	(5.07)	} 37.36	-0.076
Entrepreneur	7.71	(4.76)		11.39	(7.88)		-2.416†
Resource allocator	10.08	(6.74)		11.00	(6.09)		-0.593
Negotiator	5.07	(3.50)		6.00	(3.91)		-1.019

Note. Values are expressed as means (SD).  
\*Percentages do not equal 100% due to optional response of "other."  
†p < 0.05.

## Discussion

Overall, the data provided evidence of use of each role, congruence in perception about role importance among chairpersons and faculty, and agreement that Mintzberg’s model can describe PA chairperson roles. A well-tested business model, such as Mintzberg’s, appeared to be applicable in an academic setting. A key finding was the identification of the leader role as one that is used most by PA chairpersons and one that is viewed as most important as perceived by PA chairpersons and faculty. This finding was important according to Mintzberg, because it is through leader role use that the PA chairperson should be able to weld diverse elements into a cooperative enterprise.<sup>5</sup> This is one of the most important underlying constructs of Mintzberg’s model and is supported by Chliwniak, who reported that several scholars contend leaders provide an institution with new values and ethics grounded in cooperation, community, and relationships within the community.<sup>8</sup>

Roles	Interpersonal			Informational			Decisional		
	1	5	10	1	5	10	1	5	10
Interactions with Chairpersons	████			████			██		
Deans	██			████			██████		
Faculty	████			████			████		
Students	██████			██			██		
Community Partners	██████			██████			██		

*Note.* Number of interactions from raw qualitative data. Each time an interviewee used a particular term matching Mintzberg’s roles, his or her response was coded and classified according to Mintzberg’s model and reported as one item for this frequency table.

The leader role has been identified in other studies using Mintzberg’s managerial model.<sup>9-13</sup> For example, Pavett and Lau (who evaluated managers in the public and private sectors) found that, regardless of work setting, the leader role was most often used by managers.<sup>9</sup> They also concluded that the leader role did not appear to be career specific and could be applied to any manager in any industry.<sup>9</sup> The roles identified as “moderately important” or “least important” by chairpersons and faculty include the informational roles (monitor, disseminator, and spokesperson) and decisional roles (entrepreneur, disturbance handler, resource allocator, and negotiator). No studies using the similar variables among academic chairpersons could be found to validate these findings. However, Pavett and Lau’s work provided data that may be used for comparison purposes in this area.<sup>9</sup> They evaluated whether hierarchical level (i.e., lower level managers vs. executives in private sector service and manufacturing firms) made a difference in the rated importance of Mintzberg’s managerial roles. Because academic department chairpersons have been likened to lower-level corporate managers elsewhere in this study, Pavett and Lau’s work has some relevance here.<sup>9</sup> Pavett and Lau’s results indicate that hierarchical level does contribute to differences in the rated importance of Mintzberg’s managerial roles.<sup>9</sup> In their study, the disseminator, figurehead, negotiator, liaison, and spokesperson roles were found to be more important at the higher levels than at the lower levels. Lower-level managers rated interpersonal roles (specifically leadership) as more important for successful job performance. Because lower-level managers are closest to the actual supervision of nonmanagerial personnel, leadership behavior should be important at this level (e.g., department chairperson).

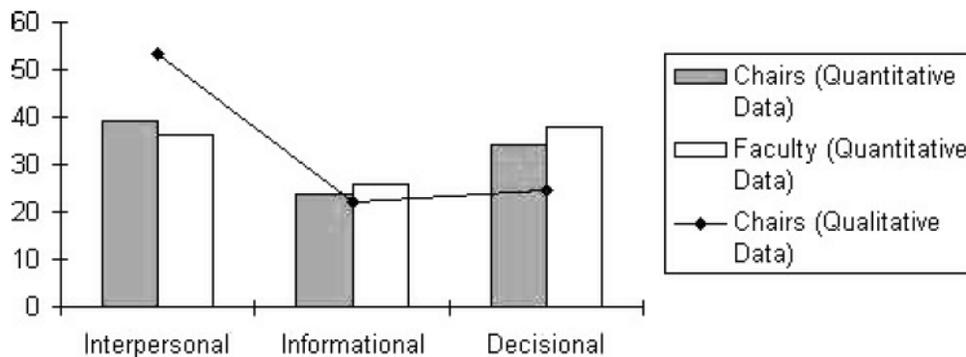


Figure 3. Percentage of time spent using Mintzberg's roles as perceived by department chairpersons and faculty by role category (combined percentages from Table 2 [quantitative data]; percentages from interactions in Table 4 [qualitative data]).

The decisional role category was the only one where the role constructs were statistically different between the chairperson and faculty groups (although only for two of the four roles). The negotiator role was reported less often by faculty as a role in which chairpersons should engage. The entrepreneur role was reported more often by experienced chairpersons when compared with novice chairpersons in terms of use and importance. Although reasons for these incongruent perceptions of managerial role use were not collected on either survey, one can make some basic assumptions as to why this occurred.

In regard to the negotiator role, one that Mintzberg describes as vital to the work of a manager,<sup>5</sup> it is often used behind the scenes to assure that deals materialize. Because of the nature of the negotiator role and its description, this role may be transparent to faculty and one that may never surface as an obvious role used by a chairperson. In regard to the entrepreneur role, Mintzberg views this role as one that focuses on all managerial work associated with systematic change in ongoing (and new) organizations in which managers spend much of their time scanning their organizations and looking for opportunities and for situations that may be considered problems.<sup>5</sup> That is, this role requires assimilation of important events, rather than analyzing gradual trends displayed in routine reports. Therefore, it was a role that was more likely to be used by more seasoned and experienced chairpersons.

The figurehead role warrants a brief note because this role was rated low by both chairpersons and faculty. The figurehead role, defined by Mintzberg as a symbolic head that obligates one to perform a number of routine duties of a legal or social nature, is more in line with higher-level managers, such as chief executives.<sup>9</sup> Research also suggests that managers with less than five years of experience do not place as much emphasis on the figurehead role compared with managers with more than five years of experience.<sup>13</sup> This role was likely perceived by PA chairpersons and faculty as incompatible with the position of a PA department chairperson, because PA chairpersons are involved in direct supervision of faculty and required by accreditation standards to be directly involved in the daily operations of the department.<sup>7</sup> No differences in importance of the figurehead role between novice and experienced PA chairpersons were noted.

Table 5. Importance Ratings by Percentage Chairpersons (n = 77) and Faculty (n = 94)							
	Not Applicable		Not Important		Very Important		X <sup>2</sup>
	0	1	2	3	4	5	
Figurehead							2.515
Chairperson	2.7	9.6	16.4	20.5	31.5	19.2	
Faculty	1.1	6.4	11.7	25.5	33.0	22.3	
Leader							8.521
Chairperson	2.7	5.3	2.7	1.3	16.0	72.0	
Faculty	6.4	4.3	0.0	6.4	23.4	59.6	
Liaison							0.804
Chairperson	0.0	5.3	8.0	14.7	44.0	28.0	
Faculty	0.0	4.3	8.5	17.0	38.3	31.9	
Monitor							5.962
Chairperson	0.0	4.1	6.8	16.2	41.9	31.1	
Faculty	3.2	1.1	6.4	24.5	40.4	24.5	
Disseminator							3.479
Chairperson	1.4	4.1	5.5	16.4	41.1	31.5	
Faculty	3.2	1.1	6.4	16.0	34.0	39.4	
Spokesperson							3.728
Chairperson	2.7	4.1	1.4	17.8	32.9	41.1	
Faculty	3.2	2.1	6.4	14.9	37.2	36.2	
Disturbance handler							2.334
Chairperson	8.1	5.4	1.4	6.8	32.4	45.9	
Faculty	9.6	3.2	0.0	9.6	34.0	43.6	
Entrepreneur							7.991
Chairperson	9.6	5.5	4.1	9.6	28.8	42.5	
Faculty	5.4	1.1	2.2	17.2	39.8	34.4	
Resource allocator							8.514
Chairperson	14.9	4.1	4.1	6.8	20.3	50.0	
Faculty	7.5	2.2	2.2	15.1	32.3	40.9	
Negotiator							10.196
Chairperson	19.7	8.5	4.2	16.9	16.9	33.8	
Faculty	9.6	3.2	4.3	9.6	27.7	45.7	

Table 6. Importance Ratings by Percentage: Novice and Experienced Chairpersons							
	Not Applicable		Not Important		Very Important		X <sup>2</sup>
	0	1	2	3	4	5	
Figurehead							3.681
Novice	2.6	10.5	13.2	28.9	26.3	18.4	
Experienced	2.9	8.8	17.6	11.8	38.2	20.6	
Leader							7.157
Novice	5.1	2.6	5.1	0.0	20.5	66.7	
Experienced	0.0	8.6	0.0	2.9	11.4	77.1	
Liaison							2.306
Novice	0.0	2.6	10.3	17.9	43.6	25.6	
Experienced	0.0	8.6	5.7	11.4	45.7	28.6	
Monitor							0.443
Novice	0.0	5.3	7.9	15.8	42.1	28.9	
Experienced	0.0	2.9	5.7	17.1	42.9	31.4	
Disseminator							3.964
Novice	0.0	2.6	7.7	12.8	41.0	35.9	
Experienced	3.0	6.1	3.0	21.2	42.4	24.2	
Spokesperson							2.462
Novice	2.6	2.6	2.6	17.9	38.5	35.9	
Experienced	3.0	6.1	0.0	18.2	27.3	45.5	
Disturbance handler							3.335
Novice	7.7	5.1	2.6	2.6	33.3	48.7	
Experienced	8.8	5.9	0.0	11.8	29.4	44.1	
Entrepreneur							13.986*
Novice	10.3	5.1	7.7	10.3	41.0	25.6	
Experienced	9.1	6.1	0.0	9.1	12.1	63.6	
Resource allocator							1.527
Novice	17.9	5.1	2.6	5.1	20.5	48.7	
Experienced	11.8	2.9	5.9	8.8	20.6	50.0	
Negotiator							4.410
Novice	21.1	7.9	5.3	21.1	7.9	36.8	
Experienced	18.8	9.4	3.1	12.5	25.0	31.3	

\*df = 5, p < 0.05.

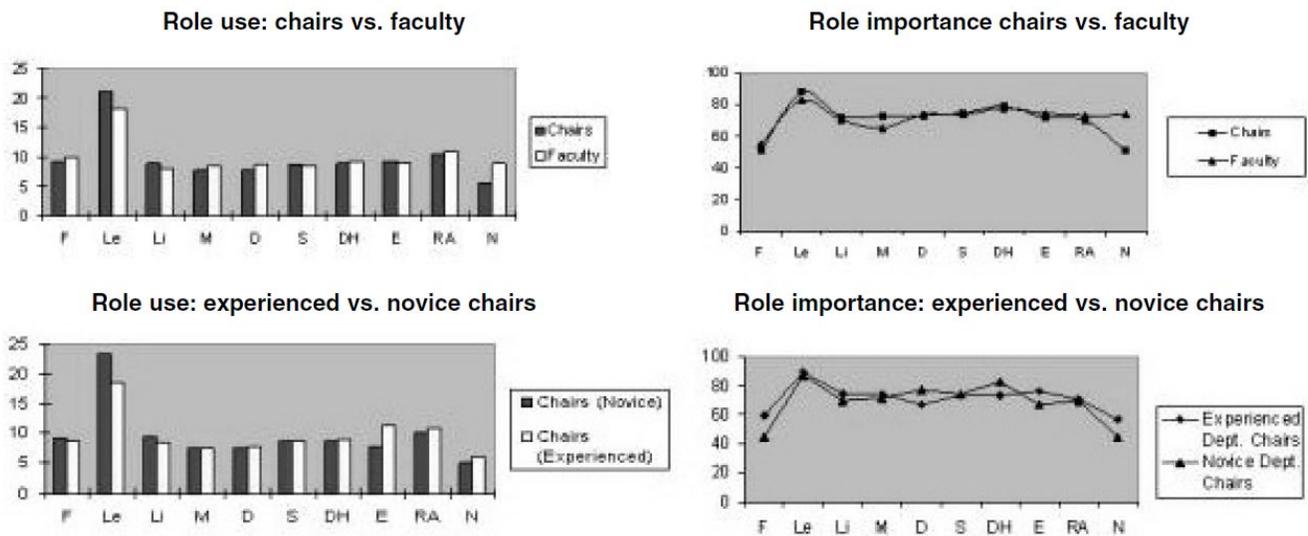


Figure 4. Role use versus importance: chairpersons, faculty, and chairperson by experience. F, figurehead; Le, leader; Li, liaison; M, monitor; D, disseminator; S, spokesperson; DH, disturbance handler; E, entrepreneur; RA, resource allocator; N, negotiator.

Taking the factor analysis data into consideration, it appeared that chairpersons and faculty were less congruent in their perception of how the constructs follow the main role categories. For chairpersons, items in factor 1 completely support all of Mintzberg's constructs of the decisional role category. Factor 2 supports two of the three constructs in the informational category. Reasons for this slight discrepancy may be that the role of liaison is viewed by the subjects as more informational in nature, rather than interpersonal as postulated by Mintzberg. Similarly, factor 3 supports two of three constructs in the interpersonal category. The spokesperson role may be viewed by chairperson subjects as more interpersonal in nature.

In regard to factor analysis for the faculty sample, faculty appeared to consider multiple roles in overlapping categories. This analysis supports the contention that faculty are farther removed from the "job" of the chairperson and therefore are less correct in their interpretation of what their chairperson does. One should remember that Mintzberg actually observed managers at their jobs. In neither case (chairpersons or faculty) were chairpersons observed as Mintzberg did. The survey only asked for the respondent's perception.

Activities Identified	Mintzberg's Role Category
Chairpersons	
Leaders of students	Interpersonal
Managing day-to-day operations	Informational
Meetings with students	Interpersonal
Fiscal management	Decisional
Clinical coordinator	Informational
Facilitator	Decisional
Program administration	Informational
Faculty	
Maintains/supports innovations	Decisional
Student recruitment	Decisional
Transmit information within department	Informational
Conductor	Informational

## Conclusions

These data must be interpreted with the caveat that they are based on a small sample size and a narrow cross section of respondents, and generalizations to department chairpersons and programs other than those of accredited Pas may be limited. However, a well-tested business model, such as Mintzberg's, appeared to be applicable in an academic setting. Further research among chairpersons in other academic disciplines will help to further evaluate the usefulness of Mintzberg's managerial role model in this regard. The end product is to identify the important aspects of academic managerial work for use in recruiting, retaining, and mentoring those who find themselves interested in or working in these positions.

### *Opportunities for further research*

The following are recommendations for future research:

1. Replicate this study methodology in other similar academic health profession disciplines to further evaluate the usefulness of Mintzberg's managerial role model, including differences between those with appointed and rotated chairperson assignments.
2. Conduct a longitudinal study in which novice chairpersons are identified as they assume the chairperson position and evaluate whether their perception in regard to managerial roles changes over time.
3. Evaluate faculty perception of chairperson duties from a standpoint of experienced versus novice faculty.
4. Develop a model for teaching leadership to novice and experienced PA chairpersons that might also be useful for chairpersons of all health professions.
5. Evaluate PA chairperson roles from the perspective of their supervisors (e.g., deans).
6. After completing these steps, build a normative model from chairperson, faculty, and supervisor data that may be used to evaluate candidates for PA chairperson positions.

Table 8. Factor Analysis: Chairpersons			
Mintzberg's Roles	Loading		
	Factor 1	Factor 2	Factor 3
Interpersonal			
Figurehead	0.072	0.067	0.928
Leader	0.360	0.391	0.613
Liaison	0.096	0.905	0.148
Informational			
Monitor	0.141	0.869	0.062
Disseminator	0.211	0.686	0.262
Spokesperson	0.387	0.390	0.478
Decisional			
Entrepreneur	0.861	0.122	0.048
Disturbance handler	0.673	0.358	0.123
Resource allocator	0.651	0.285	0.256
Negotiator	0.806	-0.037	0.172
$\alpha$	0.798	0.830	0.661
Variance	26.3%	25.8%	16.7%

Table 9. Factor Analysis: Faculty			
Mintzberg's Roles	Loading		
	Factor 1	Factor 2	Factor 3
Interpersonal			
Figurehead	0.361	0.268	0.510
Leader	0.643	0.084	-0.267
Liaison	0.427	0.461	0.377
Informational			
Monitor	0.468	0.611	0.023
Disseminator	0.509	0.358	-0.603
Spokesperson	0.643	0.237	0.015
Decisional			
Entrepreneur	0.712	-0.349	0.078
Disturbance handler	0.622	-0.339	0.406
Resource allocator	0.660	-0.466	-0.028
Negotiator	0.749	-0.267	-0.236
$\alpha$	0.796	-	0.195
Variance	25.5%	17.8%	16.2%

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