IDEA Technical Report No. 21

Updated Technical Manual for the IDEA Feedback System for Chairs

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INTRODUCTION

The purpose of this report is to describe findings from analyses conducted on data collected from the IDEA *Feedback System for Chairs* (FSC) from 2013 to 2016. The report begins with an explanation of the purpose of the system and the current structure of the *Chair Self-Assessment* (CSA) and *Faculty Perceptions of Chair* (FPC) instruments. This is followed by a description of the 2013 to 2016 database, results of statistical analyses, and empirical evidence that supports the reliability and validity of the instruments.

A unique feature of the IDEA FSC is a gap analysis that compares the academic department chair's self-ratings with faculty ratings of the chair's performance of relevant administrative responsibilities, personal characteristics, and administrative methods. The system is based on a model of reflective practice (see Figure 1), which is consistent with the view that chairs are more likely to improve if they receive feedback that motivates them. Although mere use of the feedback system does not guarantee improvement, meaningful change begins by collecting feedback tailored specifically to prioritized responsibilities. With the aid of recommendations made in the IDEA *Chair Report*, chairs interpret the results and identify strengths and areas for improvement. They can then learn more about how to become a better department chair by reading any of the hundreds of books and articles published on the topic or by participating in professional development. The chair is also encouraged to reflect on what is learned and discuss the report with a trusted colleague. The desired outcome of that discussion should be a specific plan for improvement.

Figure 1
Model of Reflective Practice
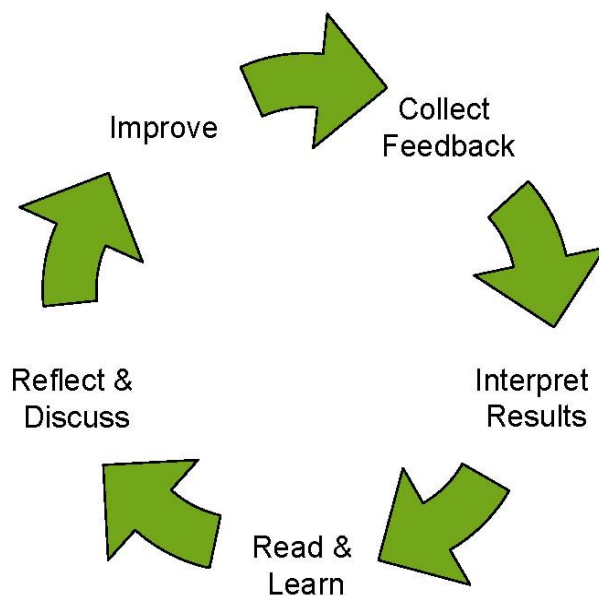
As stated in *IDEA Technical Report No. 14* (Benton, Gross, Pallett Song, & Webster, 2010, p. 2),

The IDEA Center discourages high-stakes use of its instruments. As with any effective

evaluation system, multiple sources of information should be collected, analyzed, and interpreted. Making a summative decision about a chair's employment status based solely on the results of the IDEA [FSC] would run counter to its intent. The IDEA system is, therefore, not intended to be used as the sole source of input for either formative or summative evaluation. However, its unique focus on feedback about the performance of relevant responsibilities and associated personal characteristics and administrative methods makes it an extremely useful tool for developmental purposes.

Background

The IDEA FSC descends from the IDEA *Feedback for Department Chairs System* (FDCS), which was preceded by the *Departmental Evaluation of Chairperson Activities for Development* (DECAD) program developed at Kansas State University in the 1970s (McCarthy, 1972; Hoyt 1976). See Benton et al. (2010) for a description of how the DECAD, FDCS, and the FSC were developed.

The Current Feedback System for Chairs

Construction of the current instruments in the FSC was guided, in part, by statistical analyses performed on the 2003 to 2007 database (see Benton et al. (2010) for a description). The FSC features two instruments and a report. On the CSA, chairs use the scale of 1 = *Low Priority,* 2 = *Moderate Priority,* and 3 = *High Priority* to indicate the level of priority within their unit for each of 21 responsibilities. They can then choose to rate themselves on their performance of those responsibilities over the past year, using the scale of 1 = *Poor*, 2 = *Fair*, 3 = *In Between*, 4 = *Good*, and 5 = *Outstanding*. They may also rate themselves on 11 personal characteristics and 21 administrative methods by responding with 1 = *Definite Weakness*, 2 = *More a Weakness Than a Strength*, 3 = *In Between*, 4 = *More a Strength Than a Weakness*, or 5 = *Definite Strength*.

A key element of the FSC is an optional gap analysis made possible by faculty and chairs responding to the same survey items. The FPC instrument contains the 21 administrative responsibilities, 11 personal characteristics, and 21 administrative responsibilities along with the scales the chairs use for self-ratings. Faculty are given the additional option of *Omit Response*. Lastly, faculty members respond to two questions on the FPC that assess their overall summary judgments of the chair, using the scale 1 = *Strongly Disagree* to 5 = *Strongly Agree*.

On the *Chair Report*, the average (mean) faculty rating for each item is then subtracted from the respective chair's self-rating. The difference between ratings represents the "gap" between self- and faculty-perceptions and is used to focus improvement efforts on administrative responsibilities, personal characteristics, and administrative methods where a positive gap exists (i.e., when the self-rating is higher than the average faculty rating).

The *Chair Report* also presents average faculty ratings and percentage of positive

ratings on responsibilities the chair assigns as a moderate or high priority[1]. Faculty ratings are also reported for personal characteristics and administrative methods highly correlated with successful performance of each relevant responsibility. For summative purposes, mean faculty ratings are given for two summary judgment items. Finally, faculty written comments about the chair and department are included.

DESCRIPTION OF THE 2013 TO 2016 DATABASE

Although the FSC instruments were revised in 2010, the updated system was not implemented until 2013. From 2013 to 2016, 16,443 faculty members rated a total of 1,219 chairs at 54 different institutions. Several exclusion criteria were used to create the final sample used for the analyses found in this report. First, we excluded chair ratings based on the number of faculty raters. Previous analyses revealed that reliability is unacceptably low if there are fewer than eight raters (Hoyt et al., 1999). However, the current database showed acceptable levels of reliability for chair ratings with five or more (see Appendix A). Thus, we excluded chair ratings with fewer than five raters ($n = 116$). Second, if the department chair had multiple ratings from 2013 to 2016, only one rating was retained by random selection to ensure independence among observations (370 cases excluded). Third, a faculty member's data were excluded if he/she responded to no more than 50% of the items on the FPC ($n = 54$). The final sample consisted of 11,169 faculty members rating 762 different chairs from 54 institutions.

Descriptive Information about the Departments and Institutions

Tables 1, 2, and 3 provide characteristics of the academic departments and their institutions. As shown in Table 1, the number of faculty who were sent surveys ranged from 5 to 356 with an average of about 20. The mean percentage faculty response rate was 79% (0.79 x 100). Table 2 shows the percentage of institutions representing various regional accreditors. The largest percentage represented the North Central Association of Colleges & Schools region, whereas the institutions from Northwest Commission on Colleges & Universities were least represented. As shown in Table 3, the majority of institutions (69%) were public.

Table 1
Descriptive Statistics for Department Size and Faculty Response Rate ($N = 762$)

Variable	Minimum	Maximum	Median	IQR	*M*	*SD*
Faculty surveyed	5	356	16	12	19.62	18.87
Response rate	0.22	1.00			0.79	0.14

Note. IQR = Interquartile range

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[1] See https://prod.iol3.org/r/sample/chair/1 for an example *Chair Report*.

Table 2
Number and Percent of Institutions Representing Various Regional Accreditors

Region	*n*	*%*
Middle States Assoc. of Colleges & Schools	9	16.6
North Central Assoc. of Colleges & Schools	21	38.8
Northwest Commission on Colleges & Universities	2	3.7
Southern Assoc. of Colleges & Schools	17	31.5
Western Assoc. of Schools & Colleges	5	9.3

Note. *N* = 54.

Table 3
Number and Percent of Public and Private Institutions

Institution type	*n*	*%*
Public	37	68.5
Private	17	31.5

Note. *N* = 54.

Descriptive statistics about student enrollment, annual tuition, number of fulltime staff, and proportion of fulltime faculty are shown in Table 4. On average, institutions in our sample had a student enrollment of 15,206, an annual tuition of $15,634, 3,476 fulltime staff, and 71% of faculty in fulltime appointments.

Table 4
Descriptive Statistics of Institutional Characteristics (*N* = 54)

Variable	Minimum	Maximum	Median	*M*	*SD*
Student enrollment	705	58,322	11,928	15,206	12,587
Annual Tuition (in dollars)	3,543	45,300	9,714	15,634	11,999
Fulltime staff	134	27,810	1,865	3,476	4,675
Proportion of fulltime faculty	0	1.00	0.71	0.71	0.21

Table 5 shows the number and frequency of institutions by Carnegie classification. Most institutions were doctoral-granting institutions; associates-degree institutions were least represented.

Table 5
Number and Percent of Institutions by Carnegie Classification

Degree	*n*	*%*
Associate	2	3.7
Baccalaureate	5	9.3
Masters	19	35.2
Doctoral	28	51.9

Note. *N* = 54.

Characteristics of the Chairs and Faculty

Table 6 presents statistics on the Carnegie classification of chairs' institutions. Most chairs were in an institution that awarded graduate degrees, with approximately 62% awarding the doctorate and 31% master's degrees. Fewer chairs (6.5%) came from institutions offering only undergraduate degrees (i.e., associate or baccalaureate degrees).

Table 6
Number and Percent of Chairs by Institution Carnegie Classification

Degree	n	%
Associate	10	1.3
Baccalaureate	40	5.2
Doctoral	470	61.7
Masters	233	30.6
No Response	9	1.2

Note. *N* = 762.

As shown in Table 7, two thirds of chairs (66%) had been in their position for no more than five years. Table 8 shows that about half of chairs (52%) were appointed by an internal institutional search either within or external to the department. Most chairs (93%) reported that 50% or fewer of the courses within their department were taught by adjunct faculty (see Table 9). As shown in Table 10, slightly more than half of chairs (57%) did not know if adjunct faculty were included in the survey process.

Table 7
Number and Percent of Chairs Reporting Various Years of Service, Counting the Current Year

Number of years	n	%
One or less	115	15.1
Two to three	228	30.0
Four or five	158	20.7
Greater than five	258	33.8
No response	3	0.4

Note. *N* = 762.

Table 8
Number and Percent of Chairs Hired by Type of Search

Appointment method	n	%
Internal search within the department	339	44.5
Internal search within the institution but external to the department	57	7.5
External search to the institution	283	37.1
Other	82	10.8
No Response	1	0.1

Note. *N* = 762.

Table 9
Ranges of Percent of Courses in Department Taught by Adjunct/Part-time/Contingent Faculty

Percent of courses	n	%
None	65	8.5
1- 5%	100	13.1
6-10%	135	17.7
11-25%	196	25.6
26-50%	199	26.0
≥ 51	52	6.8
No Response	15	0.4

Note. N = 762.

Table 10
Number and Percent of Adjunct/part-time/contingent Faculty Members Included in The Survey Process

Participation description	n	%
All adjunct faculty were invited to participate	103	13.5
Only some adjunct faculty were invited to participate	52	6.8
No adjunct faculty were invited to participate	128	16.8
I don't know	435	57.1
Not applicable, we don't have adjuncts in my department	40	5.2
No Response	4	0.5

Note. N = 762.

Group Comparisons in Chair Ratings of Administrative Priorities

We used the Crosstabs procedure in SPSS to make group comparisons of chair priority ratings on each of the 21 administrative responsibilities by the following grouping variables: Carnegie classification, institutional control (public vs. private institution), and chair years of service. With a Bonferroni adjustment, each chi-square was conducted at $\alpha = .05/21 = .0024$. When expected cell counts were less than 5, we conducted Fisher's exact test, which finds the exact probability value statistics to confirm chi-square statistics. Following significant chi-square tests, z-tests of column proportions ($\alpha = .05$) were conducted to identify differences in column proportions for each chair priority rating (i.e., low priority, moderate priority, and high priority).

Table 11 shows frequencies and percentages of chair priority ratings by Carnegie classification. Although descriptive statistics for associate degree institutions appear in the table, we did not include this group in the Crosstab analysis due to its small sample size ($n = 10$). Cells within rows that had different subscripts differed significantly in percentage values. A higher percentage of chairs from doctoral-granting institutions assigned a high priority to securing external funding, recruiting promising faculty, stimulating research, fostering development of faculty talents, and rewarding faculty than chairs in masters-and baccalaureate-granting departments. In contrast, a higher percentage of chairs from masters than bachelors and doctoral institutions made acquainting new faculty a high priority. Finally, chairs from baccalaureate and masters-granting institutions placed a higher priority on attending to administrative tasks than chairs from doctoral-granting institutions.

We also found several differences in chair priority ratings by institutional control (see Table 12). A higher percentage of chairs from public institutions assigned a high priority to obtaining grants, recruiting promising faculty, stimulating research, and rewarding faculty than did chairs from private institutions. In contrast, a higher percentage of chairs from private institutions emphasized developing collegiality, acquainting new faculty, communicating administrative expectations, facilitating curriculum development, and assessing student learning.

We found only one difference in chair priority ratings by the number of years served. As shown in Table 13, a higher percentage of chairs who served less than two years rated "stimulating faculty enthusiasm" as a high priority than chairs with four or more years of experience.

Table 11

Frequencies and Percentages of Chair Ratings of Administrative Priorities by Carnegie Classification (N = 762)

Administrative responsibility	Priority	Carnegie classifications							
		Associates		Bachelors		Masters		Doctorate	
		n	%	n	%	n	*%*	n	%
1. Attending to essential administrative tasks	Low	0	0	0	0	1	0	11	2
	Moderate	4	40	6	$12_{a,b}$	42	18_b	126	28_a
	High	6	60	44	88_a	190	82_a	319	70_b
2. Fostering good teaching in the department	Low	0	0	1	2	2	1	21	5
	Moderate	2	20	20	40	84	36	203	44
	High	8	80	29	58	147	63	234	51
3. Assisting in securing funding from external sources	Low	7	70	32	64_a	86	37_b	85	19_c
	Moderate	3	30	15	30	108	46	204	45
	High	0	0	3	6_a	39	17_a	169	37_b
4. Leading in establishing and monitoring progress on annual or biannual department goals	Low	0	0	5	10	11	5	15	3
	Moderate	6	60	34	68_a	129	$55_{a,b}$	224	49_b
	High	4	40	11	22_a	93	$40_{a,b}$	218	48_b
5. Guiding the development of sound procedures for assessing faculty performance	Low	1	10	14	28_a	23	10_b	37	8_b
	Moderate	6	60	28	56	127	55	255	56
	High	3	30	8	16_a	83	36_b	167	36_b
6. Facilitating successful recruitment and selection of promising faculty	Low	1	10	3	6	18	8	23	5
	Moderate	7	70	27	54_a	78	33_b	116	25_b
	High	2	20	20	40_a	137	59_b	320	70_c
7. Communicating the department's needs to the dean and other appropriate administrators	Low	0	0	1	2	3	1	5	1
	Moderate	3	30	16	32	69	30	104	23
	High	7	70	33	66	161	69	350	76
8. Developing collegiality/cooperation among faculty members	Low	0	0	3	6	4	2	13	3
	Moderate	6	60	23	46	112	48	200	44
	High	4	40	24	48	117	50	243	53

Item	Level								
9. Stimulating research, scholarly activity, and/or creative endeavors in the department	Low	4	40	11	22a	21	9b	12	3c
	Moderate	5	50	32	64a	140	60a	201	44b
	High	1	10	7	14a	72	31b	246	54c
10. Guiding the development of a sound long-range plan to carry out departmental programs	Low	0	0	7	14a	11	5b	13	3b
	Moderate	4	40	28	56	110	47	188	41
	High	6	60	15	30a	112	48a,b	257	56b
11. Promoting a positive image of the department within the campus community	Low	0	0	1	2	8	3	20	5
	Moderate	7	70	29	58	90	39	191	42
	High	3	30	20	40	135	58	247	54
12. Fostering the development of each faculty member's special talents or interests	Low	0	0	6	12a	10	4b	17	4b
	Moderate	5	50	31	62a,b	131	56b	204	44a
	High	5	50	13	26a	92	39a	238	52b
13. Ensuring that new faculty and staff are acquainted with departmental procedures, priorities, and expectations	Low	0	0	2	4	8	3	28	6
	Moderate	5	50	35	70a	105	45b	249	54a,b
	High	5	50	13	26a	120	52b	181	40a
14. Clearly communicating expectations of the campus administration to the faculty	Low	0	0	3	6	9	4	15	3
	Moderate	6	60	27	54	100	43	222	48
	High	4	40	20	40	124	53	222	48
15. Stimulating or rejuvenating faculty vitality/enthusiasm	Low	0	0	8	16	18	8	27	6
	Moderate	8	80	20	50	136	58	251	55
	High	2	20	17	34	79	34	179	39
16. Facilitating curriculum development	Low	0	0	4	8	14	6	40	9
	Moderate	5	50	31	62	128	55	261	57
	High	5	50	15	30	90	39	158	34
17. Establishing trust between himself/herself and members of the faculty	Low	0	0	2	4	3	1	6	1
	Moderate	6	60	22	44	69	30	127	28
	High	4	40	26	52	161	69	325	71
18. Promoting a positive image of the department to off-campus constituencies	Low	2	20	6	12	19	8	27	6
	Moderate	6	60	27	54	100	43	213	47
	High	2	20	17	34	114	49	218	48
19. Rewarding faculty in accordance with their contributions to the department	Low	1	10	10	20a	24	110a,b	25	5b
	Moderate	8	80	30	60a,b	134	58b	210	46a
	High	1	10	10	20a	74	32a	224	49b
20. Ensuring the assessment of student learning outcomes is meaningful and ongoing	Low	0	0	5	10	18	8	38	8
	Moderate	5	50	30	60	122	53	266	58
	High	5	50	15	30	92	40	151	33
21. Actively supporting student recruitment and retention efforts	Low	0	0	3	6	16	7	45	10
	Moderate	7	70	23	46	91	39	217	47
	High	3	30	24	48	125	54	196	43

Note. Percentages with different subscripts differ, $p < .05$.

Table 12

Frequencies and Percentages of Chair Ratings of Administrative Priorities by Institutional Control (N = 762)

| | | Institutional control | | | |
| | | Public | | Private | |
Administrative responsibility	Priority	n	%	n	%
1. Attending to essential administrative tasks	Low	5	1_a	7	5_b
	Moderate	155	26_a	23	16_b
	High	444	74	115	79
2. Fostering good teaching in the department	Low	19	3	5	3
	Moderate	259	43	50	34
	High	328	54	90	62
3. Assisting in securing funding from external sources	Low	121	20_a	89	61_b
	Moderate	285	47_a	45	31_b
	High	200	33_a	11	8_b
4. Leading in establishing and monitoring progress on annual or biannual department goals	Low	21	3	10	7
	Moderate	322	53	71	49
	High	262	43	64	44
5. Guiding the development of sound procedures for assessing faculty performance	Low	51	8	24	17
	Moderate	341	56	75	52
	High	215	35	46	32
6. Facilitating successful recruitment and selection of promising faculty	Low	21	3_a	24	17_b
	Moderate	186	31	42	29
	High	400	66_a	79	54_b
7. Communicating the department's needs to the dean and other appropriate administrators	Low	3	0	6	1
	Moderate	159	26	33	26
	High	445	73	106	73
8. Developing collegiality/cooperation among faculty members	Low	18	3	2	1
	Moderate	294	49_a	47	33_b
	High	293	48_a	95	66_b
9. Stimulating research, scholarly activity, and/or creative endeavors in the department	Low	30	5_a	18	12_b
	Moderate	286	47_a	92	63_b
	High	291	48_a	35	24_b
10. Guiding the development of a sound long-range plan to carry out departmental programs	Low	18	3	13	9
	Moderate	275	45	55	38
	High	313	52	77	53
11. Promoting a positive image of the department within the campus community	Low	13	2_a	16	11_b
	Moderate	265	44	52	36
	High	328	54	77	53
12. Fostering the development of each faculty member's special talents or interests	Low	23	4	10	7
	Moderate	307	51	64	44
	High	277	46	71	49
13. Ensuring that new faculty and staff are acquainted with	Low	25	4_a	13	9_b

departmental procedures, priorities, and expectations	Moderate	339	56_a	55	38_b
	High	242	40_a	77	53_b
14. Clearly communicating expectations of the campus administration to the faculty	Low	17	3_a	10	7_b
	Moderate	304	50_a	51	35_b
	High	286	47_a	84	58_b
15. Stimulating or rejuvenating faculty vitality/enthusiasm	Low	32	5_a	21	14_b
	Moderate	357	59_a	63	43_b
	High	216	36	61	42
16. Facilitating curriculum development	Low	44	7	14	10
	Moderate	368	61_a	57	39_b
	High	194	32_a	74	51_b
17. Establishing trust between himself/herself and members of the faculty	Low	8	1	3	2
	Moderate	189	31	35	24
	High	409	67	107	74
18. Promoting a positive image of the department to off-campus constituencies	Low	36	6	18	12
	Moderate	287	47	59	41
	High	283	47	68	47
19. Rewarding faculty in accordance with their contributions to the department	Low	36	6_a	24	17_b
	Moderate	303	50	79	54
	High	267	44_a	42	29_b
20. Ensuring the assessment of student learning outcomes is meaningful and ongoing	Low	51	8	10	7
	Moderate	359	60_a	64	44_b
	High	192	32_a	71	49_b
21. Actively supporting student recruitment and retention efforts	Low	45	7	19	13
	Moderate	279	46	59	41
	High	282	47	66	46

Note. Percentages with different subscripts differ, $p < .05$.

Table 13

Frequencies and Percentages of Chair Ratings of Administrative Priorities by Years of Service (*N* =762)

Administrative responsibility	Priority	1 year		2-3 years		4-5 years		> 5 years	
		n	%	*n*	%	*n*	%	*n*	%
1. Attending to essential administrative tasks	Low	1	1	4	2	1	1	6	2
	Moderate	30	26	45	21	33	21	69	27
	High	84	73	170	78	121	78	181	71
2. Fostering good teaching in the department	Low	7	6	8	4	2	1	7	3
	Moderate	33	29	83	38	75	48	117	46
	High	75	65	128	58	79	51	113	52
3. Assisting in securing funding from external sources	Low	45	39	71	32	38	24	59	23
	Moderate	39	34	89	41	74	47	121	47
	High	31	27	59	27	44	28	77	30
4. Leading in establishing and monitoring progress on annual or biannual department goals	Low	8	7	8	4	4	3	9	4
	Moderate	54	47	110	50	82	53	148	58
	High	53	46	101	46	70	45	99	39
5. Guiding the development of sound procedures for assessing faculty performance	Low	10	9	27	12	15	10	22	9
	Moderate	56	49	106	48	93	60	159	62
	High	49	43	86	39	48	31	77	30
6. Facilitating successful recruitment and selection of promising faculty	Low	9	8	15	7	7	4	11	4
	Moderate	35	30	70	32	53	34	71	28
	High	71	62	134	61	96	62	176	68
7. Communicating the department's needs to the dean and other appropriate administrators	Low	2	2	1	0	1	1	5	2
	Moderate	26	23	57	26	39	25	71	28
	High	87	76	161	74	116	74	182	71
8. Developing collegiality/cooperation among faculty members	Low	3	3	6	3	3	2	8	3
	Moderate	44	38	87	40	82	53	133	52
	High	68	59	124	57	70	45	117	45
9. Stimulating research, scholarly activity, and/or creative endeavors in the department	Low	11	10	16	7	8	5	12	5
	Moderate	56	49	113	52	77	49	128	50
	High	48	42	90	41	71	46	118	46
10. Guiding the development of a sound long-range plan to carry out departmental programs	Low	10	9	11	5	3	2	5	2
	Moderate	44	38	86	39	76	49	123	48
	High	61	53	122	56	77	49	129	50
11. Promoting a positive image of the department within the campus community	Low	5	4	10	5	2	1	11	4
	Moderate	45	39	88	40	68	44	115	45
	High	65	57	121	55	86	55	131	51
12. Fostering the development of each faculty member's special talents or interests	Low	6	5	14	6	5	3	10	4
	Moderate	63	55	100	46	77	49	129	50
	High	46	40	105	48	74	47	119	46
13. Ensuring that new faculty and staff are	Low	9	8	14	6	6	4	9	3

acquainted with departmental procedures, priorities, and expectations	Moderate	56	49	111	51	81	52	148	57
	High	50	43	93	43	69	44	101	39
14. Clearly communicating expectations of the campus administration to the faculty	Low	6	5	7	3	4	3	10	4
	Moderate	38	33	101	46	76	49	142	55
	High	71	62	111	51	76	49	106	41
15. Stimulating or rejuvenating faculty vitality/enthusiasm	Low	8	7	18	8	9	6	19	7
	Moderate	46	40_a	116	$53_{a,b}$	98	63_b	161	63_b
	High	61	53_a	85	$39_{a,b}$	49	31_b	76	30_b
16. Facilitating curriculum development	Low	9	8	18	8	15	10	16	6
	Moderate	60	52	118	54	84	54	160	62
	High	46	40	83	38	56	36	82	32
17. Establishing trust between himself/herself and members of the faculty	Low	4	3	3	1	1	1	4	2
	Moderate	23	20	63	29	64	41	74	29
	High	88	77	153	70	91	58	179	70
18. Promoting a positive image of the department to off-campus constituencies	Low	10	9	22	10	9	6	13	5
	Moderate	50	43	94	43	71	46	129	50
	High	55	48	103	47	76	49	115	45
19. Rewarding faculty in accordance with their contributions to the department	Low	11	10	20	9	11	7	18	7
	Moderate	55	48	105	48	77	50	142	55
	High	49	43	94	43	67	43	98	38
20. Ensuring the assessment of student learning outcomes is meaningful and ongoing	Low	10	9	24	11	11	7	16	6
	Moderate	60	53	110	50	88	57	164	64
	High	44	39	84	39	55	36	77	30
21. Actively supporting student recruitment and retention efforts	Low	15	13	13	6	11	7	25	10
	Moderate	38	33	99	45	72	46	131	51
	High	61	54	107	49	72	46	102	40

Note. Percentages with different subscripts differ, $p < .05$.

Group Comparisons in Chair Self-Ratings of Performance

Administrative responsibilities

To examine subgroup differences in chair self-ratings of performance on administrative responsibilities, we conducted a series of two-way ANOVAs on each of the chair means. The independent variables were institutional control (public vs. private) and number of years the chair had served (1 year, 2-3 years, 4-5 years, > 5 years). All main effects and two-way interactions were examined. Because of the large number of ANOVAs performed, the Type I error rate was set at .0024 for the 21 responsibilities. We found no significant two-way interactions, but we did find a few main effects. With respect to institutional control, chairs from public institutions rated themselves ($M = 3.30$, $SD = 1.11$) higher than chairs at private institutions ($M = 2.60$, $SD = 1.20$) for the item "assisting in securing funding from external sources", $F (1, 574) = 24.35$, $p < .001$, $\eta^2 = .04$. We also found two differences by chair years of service. Chairs having served one year or less reported lower self-ratings in "recruiting

promising faculty" ($M = 3.83$, $SD = 0.93$) than chairs with three-to-four years of service ($M = 4.17$, $SD = 0.81$) and chairs with greater than five years of service ($M = 4.19$, $SD = 0.93$), $F(1, 574) = 5.52$, $p = .001$, $\eta^2 = .03$. Chairs with two-to-three years of service ($M = 3.60$, $SD = 0.90$) rated themselves lower than chairs with greater than five years of service ($M = 3.93$, $SD = 0.84$) for the item "stimulating research," $F(1, 574) = 6.87$, $p < .001$, $\eta^2 = .03$.

Personal characteristics and administrative methods

ANOVAs were also conducted on chair self-ratings of the 11 personal characteristics by institutional control and years of service. Type I error was set at .05/11 = .005. There were no significant two-way interactions or main effects. Similarly, we conducted the same procedures for chair self-ratings on the 21 administrative methods. Types I error was set at .05/21 = .0024. Again, we found no significant two-way interactions or main effects.

Next, we conducted a series of ANOVAs for chair self-ratings of performance on each of the 21 administrative responsibilities by Carnegie classification. We did not include associate-level institutions due to small sample size ($n = 10$). With a Bonferroni adjustment, each ANOVA was conducted at $\alpha = .05/21 = .0024$. As shown in Table 14, we found several differences in chair self-ratings of performance by Carnegie classification. Tukey post-hoc tests showed that chairs in doctoral institutions rated themselves higher on the following three administrative responsibilities than chairs at master's and baccalaureate institutions: securing external funding, stimulating research, and rewarding faculty. For the item "facilitating curriculum development" chairs at master's institutions rated themselves higher than chairs at doctoral and baccalaureate institutions.

Table 14
Descriptive Statistics and ANOVA Results for Chair Self-ratings of Performance on Administrative Responsibilities by Carnegie Classification

Admin. Responsibility	Associates ($n = 10$)		Bachelors ($n = 50$)		Masters ($n = 230$)		Doctoral ($n = 455$)		Total ($n = 743$)		Omnibus Statistics		
	M	SD	M	SD	M	SD	M	SD	M	SD	F^*	p	η^2
1. Attending to essential administrative tasks	4.10	0.74	4.22	.55	4.31	0.60	4.20	0.62	4.23	0.61	2.58	.076	.007
2. Fostering good teaching in the department	4.10	0.57	3.70	.76	3.90	0.70	3.82	0.73	3.84	0.73	1.85	.159	.005
3. Assisting in securing funding from external sources	2.83	1.47	2.63$_a$	1.22	2.93$_a$	1.20	3.37$_b$	1.09	3.20	1.16	14.78	< .001	.043
4. Leading in establishing and monitoring progress on annual or biannual department goals	3.70	0.68	3.36	.87	3.60	0.87	3.69	0.81	3.64	0.83	3.74	.024	.010
5. Guiding the development of sound procedures for assessing faculty performance	3.56	0.73	3.33	.93	3.60	0.85	3.66	0.83	3.62	0.85	3.09	.046	.009
6. Facilitating successful recruitment and selection of promising faculty	3.20	1.23	3.92	.91	4.00	0.88	4.13	0.92	4.06	0.92	2.33	.098	.006
7. Communicating the department's needs to the	4.30	0.48	4.41	0.64	4.31	0.69	4.32	0.69	4.32	0.69	0.41	.664	.001

dean and other appropriate administrators													
8. Developing collegiality/cooperation among faculty members	3.90	0.88	3.94	0.91	3.99	0.86	3.97	0.81	3.98	0.83	0.91	.913	.000
9. Stimulating research, scholarly activity, and/or creative endeavors in the department	2.88	1.36	3.22_a	1.00	3.54_a	0.86	3.85_b	0.87	3.70	0.90	16.94	< .001	.045
10. Guiding the development of a sound long-range plan to carry out departmental programs	3.60	0.70	3.53	0.89	3.64	0.94	3.78	0.84	3.72	0.88	2.94	.054	.008
11. Promoting a positive image of the department within the campus community	3.80	0.79	4.14	0.68	4.21	0.79	4.17	0.77	4.18	0.77	0.72	.718	.001
12. Fostering the development of each faculty member's special talents or interests	3.90	0.57	3.57	0.96	3.79	0.76	3.85	0.75	3.82	0.77	3.02	.050	.008
13. Ensuring that new faculty and staff are acquainted with departmental procedures, priorities, and expectations	3.80	0.92	3.60	0.88	3.94	0.87	3.85	0.85	3.86	0.86	3.22	.040	.009
14. Clearly communicating expectations of the campus administration to the faculty	3.90	0.74	3.96	0.72	4.09	0.72	4.01	0.74	4.03	0.74	1.18	.307	.003
15. Stimulating or rejuvenating faculty vitality/enthusiasm	3.50	0.71	3.66	0.91	3.57	0.89	3.62	0.81	3.60	0.84	0.28	.754	.001
16. Facilitating curriculum development	4.20	.63	3.55_a	0.98	3.97_b	0.87	3.76_a	0.87	3.82	0.88	6.49	.002	.018
17. Establishing trust between himself/herself and members of the faculty	4.20	0.63	4.00	0.83	4.22	0.75	4.12	0.77	4.15	0.77	2.23	.108	.006
18. Promoting a positive image of the department to off-campus constituencies	3.33	1.12	3.89	1.06	4.03	0.80	4.10	0.84	4.06	0.85	1.61	.200	.005
19. Rewarding faculty in accordance with their contributions to the department	3.00	0.94	3.21_a	0.90	3.48_a	0.92	3.75_b	0.93	3.63	0.94	10.58	< .001	.029
20. Ensuring the assessment of student learning outcomes is meaningful and ongoing	3.70	0.82	3.65	0.81	3.68	0.97	3.52	0.86	3.58	0.89	2.71	.067	.008
21. Actively supporting student recruitment and retention efforts	3.40	0.52	4.04	0.82	4.00	0.91	3.91	0.89	3.94	0.89	1.11	.329	.003

Note. One-way ANOVAs were conducted to test whether ratings of importance varied between bachelors, master's, and doctoral institutions. Post-hoc tests were conducted only following a significant omnibus F ($p <$ .0017 correction because of the numerous ANOVAs conducted). Means with different subscripts differ, $p < .05$. *
$df = 2, 730$

Group Comparisons in Faculty Ratings of the Chair's Performance

Administrative responsibilities

Comparisons were also made among subgroups of faculty in ratings of the chair's performance. For the 21 administrative responsibilities, raters used the same five-point scale their chair employed for self-ratings, but they were given the additional option of *Omit Response*. To examine the possibility of subgroup differences in ratings of administrative responsibilities, we conducted a series of two-way ANOVAs on each of the faculty aggregated means. The independent variables were institutional control (public vs. private) and chair experience (1 year, 2-3 years, 4-5 years, > 5 years). With the Bonferroni adjustment applied to Type I error, respectively, for the administrative responsibilities, personal characteristics, and administrative methods, we found no significant two-way interactions or main effects.

Next, we examined whether faculty ratings of administrative responsibilities differed by Carnegie classification. To check whether department size might have been a confounding variable in the comparisons made by Carnegie classification, we performed an ANOVA ($\alpha = .05$) on the number of faculty in each department. Departments from doctoral institutions ($M = 22.63$, $SD = 22.64$) tended to have more faculty members ($M = 11.70$, $SD = 5.42$) than those from bachelors and master's ($M = 16.03$, $SD = 8.66$) institutions, $F(2,739) = 11.64$, $p \leq .001$, $\eta^2 = .03$; however, the effect size was minimal.

We then conducted a series of one-way ANCOVAs on the average faculty ratings of chair administrative performance by Carnegie classification and included department size as a covariate. Table 15 presents unadjusted means and standard deviations. There were several statistically significant differences by Carnegie classification (see Table 16 for adjusted means and standard errors). Bonferroni post-hoc tests revealed a consistent pattern, showing higher average ratings for chairs in master's than doctoral institutions on 12 of 21 responsibilities. The greatest differences were seen in the following items: actively supporting student recruitment and retention efforts, attending to essential administrative tasks, and guiding the development of sound procedures for assessing faculty performance.

Table 15
Descriptive Statistics for Faculty Ratings of Administrative Responsibilities by Carnegie Classification

Administrative Responsibility	Associates (n = 10)		Bachelors (n = 50)		Masters (n = 230)		Doctoral (n = 455)		Total (n = 743)	
	M	SD	M	SD	M	SD	M	SD	M	SD
1. Attending to essential administrative tasks	4.57	0.27	4.29	0.50	4.34	0.53	4.17	0.59	4.23	0.57
2. Fostering good teaching in the department	4.46	0.25	4.15	0.58	4.18	0.53	4.01	0.59	4.08	0.58
3. Assisting in securing funding from external sources	4.14	0.64	3.68	0.69	3.72	0.77	3.69	0.71	3.70	0.73
4. Leading in establishing and monitoring progress on annual or biannual department goals	4.37	0.37	4.04	0.60	4.13	0.58	3.95	0.66	4.01	0.63
5. Guiding the development of sound procedures for assessing faculty performance	4.33	0.35	3.89	0.59	4.03	0.59	3.80	0.69	3.88	0.66
6. Facilitating successful recruitment and selection	4.29	0.28	4.11	0.58	4.12	0.65	3.97	0.65	4.03	0.65

of promising faculty									
7. Communicating the department's needs to the dean and other appropriate administrators	4.50	0.23	4.19	0.59	4.25	0.55	4.11	0.60	4.17	0.58
8. Developing collegiality/cooperation among faculty members	4.34	0.37	3.96	0.78	4.04	0.70	3.84	0.75	3.91	0.74
9. Stimulating research, scholarly activity, and/or creative endeavors in the department	4.16	0.60	3.83	0.70	3.95	0.61	3.86	0.66	3.89	0.65
10. Guiding the development of a sound long-range plan to carry out departmental programs	4.30	0.35	3.97	0.62	4.00	0.64	3.81	0.71	3.89	0.68
11. Promoting a positive image of the department within the campus community	4.55	0.28	4.19	0.64	4.30	0.55	4.17	0.64	4.22	0.61
12. Fostering the development of each faculty member's special talents or interests	4.20	0.44	3.99	0.66	4.00	0.62	3.81	0.68	3.89	0.66
13. Ensuring that new faculty and staff are acquainted with departmental procedures, priorities, and expectations	4.30	0.36	4.04	0.67	4.13	0.58	3.95	0.62	4.01	0.61
14. Clearly communicating expectations of the campus administration to the faculty	4.42	0.33	4.05	0.60	4.23	0.54	4.02	0.59	4.09	0.58
15. Stimulating or rejuvenating faculty vitality/enthusiasm	4.10	0.43	3.72	0.78	3.79	0.72	3.59	0.75	3.66	0.75
16. Facilitating curriculum development	4.40	0.32	4.03	0.62	4.07	0.58	3.88	0.62	3.95	0.61
17. Establishing trust between himself/herself and members of the faculty	4.39	0.44	3.94	0.82	4.04	0.76	3.86	0.80	3.93	0.79
18. Promoting a positive image of the department to off-campus constituencies	4.54	0.26	4.19	0.64	4.32	0.55	4.21	0.61	4.24	0.60
19. Rewarding faculty in accordance with their contributions to the department	4.04	0.54	3.70	0.70	3.83	0.65	3.72	0.66	3.76	0.66
20. Ensuring the assessment of student learning outcomes is meaningful and ongoing	4.42	0.29	4.08	0.57	4.12	0.53	3.92	0.61	4.00	0.59
21. Actively supporting student recruitment and retention efforts	4.36	0.27	4.26	0.48	4.28	0.54	4.06	0.60	4.15	0.58

Table 16

Adjusted Means and ANCOVA Results for Faculty Ratings of Administrative Responsibilities by Carnegie Classification

	Bachelors ($n = 50$)		Masters ($n = 230$)		Doctoral ($n = 455$)		Omnibus Statistics		
Administrative Responsibility	M	SE	M	SE	M	SE	F*	p	η^2
1. Attending to essential administrative tasks	4.28	0.09	4.36[a]	0.04	4.16[b]	0.03	10.29	< .001	.027
2. Fostering good teaching in the department	4.16	0.09	4.19[a]	0.04	4.01[b]	0.03	8.43	< .001	.022
3. Assisting in securing funding from external sources	3.76	0.12	3.73	0.05	3.67	0.03	0.66	.516	.002
4. Leading in establishing and monitoring progress on annual or biannual department goals	4.03	0.10	4.14[a]	0.04	3.94[b]	0.03	8.09	< .001	.021
5. Guiding the development of sound procedures for assessing faculty performance	3.93	0.10	4.03[a]	0.04	3.80[b]	0.03	10.28	< .001	.027
6. Facilitating successful recruitment and selection of promising faculty	4.13	0.10	4.13	0.04	3.96	0.03	6.28	.002	.017
7. Communicating the department's needs to the dean and other appropriate administrators	4.19	0.09	4.26	0.04	4.11	0.03	5.26	.005	.014
8. Developing collegiality/cooperation among faculty members	3.95	0.12	4.05[a]	0.05	3.84[b]	0.03	6.74	.001	.018
9. Stimulating research, scholarly activity, and/or	3.84	0.10	3.97	0.04	3.85	0.03	2.94	.054	.008

	M	SD	M	SE	M	SE	F	p	
creative endeavors in the department									
10. Guiding the development of a sound long-range plan to carry out departmental programs	3.99	0.11	4.02_a	0.05	3.81_b	0.03	8.51	< .001	.023
11. Promoting a positive image of the department within the campus community	4.21	0.10	4.31	0.04	4.16	0.03	4.54	.011	.012
12. Fostering the development of each faculty member's special talents or interests	3.98	0.11	4.01_a	0.04	3.81_b	0.03	7.33	.001	.019
13. Ensuring that new faculty and staff are acquainted with departmental procedures, priorities, and expectations	4.06	0.10	4.13_a	0.04	3.95_b	0.03	7.71	.001	.020
14. Clearly communicating expectations of the campus administration to the faculty	4.06	0.09	4.22_a	0.04	4.03_b	0.03	9.50	< .001	.025
15. Stimulating or rejuvenating faculty vitality/enthusiasm	3.73	0.12	3.80	0.05	3.58	0.03	6.41	.002	.017
16. Facilitating curriculum development	4.00	0.10	4.08_a	0.04	3.88_b	0.03	9.31	< .001	.025
17. Establishing trust between himself/herself and members of the faculty	3.93	0.13	4.04	0.05	3.86	0.04	4.54	.011	.012
18. Promoting a positive image of the department to off-campus constituencies	4.22	0.10	4.32	0.04	4.20	0.03	3.15	.043	.008
19. Rewarding faculty in accordance with their contributions to the department	3.68	0.11	3.84	0.04	3.72	0.03	2.61	.074	.007
20. Ensuring the assessment of student learning outcomes is meaningful and ongoing	4.05	0.09	4.14_a	0.04	3.91_b	0.03	12.10	< .001	.032
21. Actively supporting student recruitment and retention efforts	4.22	0.09	4.30_a	0.04	4.06_b	0.03	14.39	< .001	.037

Note. One-way ANCOVAs were conducted to test whether ratings of importance varied between bachelors, master's, and doctoral institutions. Post-hoc tests were conducted only following a significant omnibus F ($p <$ .0017 correction because of the numerous ANCOVAs conducted). Means with different subscripts differ, $p < .05$.
* $df = 2, 739$

Personal characteristics and administrative methods

To examine subgroup differences in ratings of personal characteristics, we conducted a series of two-way ANOVAs on each of the faculty aggregated means. The independent variables were again institutional control and number of years the chair had served. For each of the 11 personal characteristics, Type I error rate was set at $.05/11 = .005$. As before, faculty rated the chair with the same five-point scale the chair used to complete self-ratings with the additional option of *Omit Response*. There were no significant two-way interactions or main effects. Similarly, we performed the same analyses on the 21 administrative methods, using a reduced α of $.05/21 = .0023$. As with ratings of personal characteristics, faculty responded with the same five-point scale chairs used along with the additional *Omit Response* option. Again, we found no significant two-way interactions or main effects. Table 17 presents means and standard deviations.

Table 17

Descriptive Statistics for Faculty Ratings of Personal Characteristics by Carnegie Classification

Personal Characteristics	Associates (n = 10)		Bachelors (n = 50)		Masters (n = 230)		Doctoral (n = 455)		Total (n = 743)	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
22. Problem solving ability	4.45	0.31	4.17	0.59	4.21	0.59	4.09	0.61	4.14	0.61
23. Demonstrates caring	4.57	0.32	4.15	0.73	4.29	0.59	4.10	0.68	4.17	0.66
24. Practical judgment	4.48	0.27	4.16	0.62	4.25	0.59	4.10	0.63	4.15	0.61
25. Trustworthy	4.55	0.33	4.20	0.72	4.26	0.64	4.11	0.70	4.17	0.68
26. Flexibility/adaptability	4.39	0.38	4.17	0.69	4.17	0.64	4.02	0.66	4.08	0.66
27. Fairness	4.46	0.30	4.14	0.70	4.20	0.59	4.05	0.66	4.11	0.64
28. Organizational skills	4.29	0.44	4.09	0.69	4.20	0.59	4.05	0.67	4.10	0.64
29. Consistency	4.47	0.26	4.11	0.62	4.21	0.57	4.03	0.65	4.10	0.63
30. Enterprising	4.30	0.42	4.11	0.61	4.12	0.60	3.99	0.63	4.04	0.62
31. Institution-centered	4.64	0.24	4.30	0.48	4.35	0.47	4.20	0.52	4.26	0.51
32. Clarity	4.36	0.33	4.08	0.62	4.12	0.61	3.95	0.66	4.02	0.64

Next, we conducted ANCOVAs on the average faculty ratings of 11 personal characteristics by Carnegie classification with department size as the covariate. There were statistically significant differences by Carnegie classification on seven of 11 items (see Table 18). Bonferroni post-hoc tests revealed chairs from master's institutions were rated higher than chairs from doctoral institutions. The greatest differences were found in the following items: institution-centered, consistency, and demonstrates caring.

Table 18

Adjusted Marginal Means and ANCOVA Results for Faculty Ratings of Personal Characteristics by Carnegie Classification

Personal Characteristics	Bachelors (n = 50)		Masters (n = 233)		Doctoral (n = 460)		Omnibus Statistics		
	M	*SE*	*M*	*SE*	*M*	*SE*	*F**	*p*	η^2
22. Problem solving ability	4.16	0.10	4.22	0.04	4.08	0.03	3.96	.019	.011
23. Demonstrates caring	4.16[a]	0.10	4.26$_a$	0.04	4.09$_b$	0.03	7.42	.001	.020
24. Practical judgment	4.16	0.10	4.26$_a$	0.04	4.10$_b$	0.03	6.00	.003	.016
25. Trustworthy	4.16	0.11	4.27	0.05	4.11	0.03	4.54	.011	.012
26. Flexibility/adaptability	4.15	0.10	4.18	0.04	4.02	0.03	5.17	.006	.014
27. Fairness	4.12	0.10	4.22$_a$	0.04	4.04$_b$	0.03	6.17	.002	.016
28. Organizational skills	4.07	0.10	4.22$_a$	0.04	4.04$_b$	0.03	6.52	.002	.017
29. Consistency	4.08	0.10	4.23$_a$	0.04	4.03$_b$	0.03	7.87	< .001	.021
30. Enterprising	4.11	0.10	4.14	0.04	3.98	0.03	5.17	.006	.014
31. Institution-centered	4.30	0.08	4.37$_a$	0.03	4.20$_b$	0.02	8.80	< .001	.023
32. Clarity	4.05	0.10	4.13$_a$	0.04	3.95$_b$	0.03	6.58	.001	.018

Note. One-way ANCOVAs were conducted to test whether ratings of importance varied between bachelors, master's, and doctoral institutions. Post-hoc tests were conducted only following a significant omnibus *F* (*p* < .005 correction because of the numerous ANCOVAs conducted). Means with different subscripts differ, *p* <.05. * *df* = 2, 73

We conducted the same procedures on the 21 administrative methods. Table 19 presents means and standard deviations. We found numerous statistically significant differences by Carnegie classification (see Table 20). Bonferroni post-hoc tests revealed a consistent pattern of differences: Chairs in institutions awarding masters degrees were rated higher on 17 of 21 administrative methods than those awarding doctoral degrees. The greatest differences were

observed in the following items: facilitating positive relationships, allocating responsibilities, putting suggestions into action, making sure his/her part is understood, and letting faculty know expectations.

Table 19

Descriptive Statistics for Faculty Ratings of Administrative Methods by Carnegie Classification

Administrative Method	Associates (n = 10)		Bachelors (n = 50)		Masters (n = 230)		Doctoral (n = 455)		Total (n = 743)	
	M	SD	M	SD	M	SD	M	SD	M	SD
33. Allocates responsibilities	4.32	0.35	4.00	0.61	4.06	0.60	3.87	0.61	3.94	0.61
34. Resolves conflicts	4.18	0.47	3.90	0.80	3.97	0.72	3.77	0.73	3.84	0.73
35. Assists faculty goals	4.24	0.40	3.96	0.60	4.01	0.64	3.87	0.63	3.92	0.63
36. Makes sound suggestions	4.39	0.27	4.12	0.57	4.11	0.61	3.94	0.65	4.01	0.64
37. Advocates dept. to admin	4.52	0.25	4.25	0.56	4.25	0.58	4.14	0.61	4.18	0.60
38. Acts as though morale vital	4.28	0.42	3.93	0.77	4.05	0.66	3.82	0.76	3.91	0.73
39. Tries out new ideas	4.21	0.33	4.09	0.56	4.10	0.59	3.93	0.63	4.00	0.62
40. Sees that fac. are working	4.23	0.34	3.91	0.55	3.99	0.56	3.82	0.59	3.88	0.58
41. Looks out for fac. welfare	4.38	0.33	4.04	0.70	4.14	0.61	3.93	0.66	4.01	0.65
42. Lets fac. know expectations	4.38	0.34	4.09	0.58	4.19	0.52	4.00	0.59	4.07	0.57
43. Promotes inclusiveness and diversity	4.53	0.28	4.20	0.67	4.32	0.51	4.16	0.57	4.21	0.56
44. Coordinates fac. work	4.32	0.32	4.06	0.60	4.05	0.59	3.81	0.62	3.91	0.62
45. Explains the basis for decisions	4.29	0.41	4.11	0.59	4.15	0.64	3.98	0.66	4.04	0.65
46. Lets members know good job	4.30	0.42	4.12	0.64	4.23	0.56	4.09	0.59	4.14	0.58
47. Makes sure his/her part is understood	4.45	0.33	4.07	0.66	4.17	0.56	3.96	0.63	4.04	0.62
48. Acts as though accomplishments vital	4.36	0.42	4.18	0.55	4.29	0.52	4.17	0.58	4.21	0.56
49. Maintains standards of performance	4.37	0.32	4.12	0.55	4.19	0.54	4.01	0.63	4.08	0.60
50. Puts suggestions into action	4.30	0.35	4.09	0.56	4.12	0.59	3.92	0.63	4.00	0.62
51. Facilitates positive relationships	4.52	0.26	4.38	0.49	4.29	0.57	4.10	0.63	4.18	0.61
52. Encourages teamwork	4.41	0.34	4.14	0.63	4.17	0.59	3.98	0.64	4.05	0.63
53. Provides feedback	4.30	0.39	4.10	0.50	4.15	0.58	3.98	0.61	4.05	0.60

Table 20

Adjusted Marginal Means and ANCOVA Results for Faculty Ratings of Administrative Methods by Carnegie Classification

Administrative Method	Bachelors (n = 50)		Masters (n = 233)		Doctoral (n = 460)		Omnibus Statistics		
	M	SE	M	SE	M	SE	F*	p	η^2
33. Allocates responsibilities	3.96	0.10	4.08$_a$	0.04	3.86$_b$	0.03	10.07	< .001	.027
34. Resolves conflicts	3.86	0.12	3.98$_a$	0.05	3.77$_b$	0.03	6.91	.001	.018
35. Assists faculty goals	3.98	0.10	4.01	0.04	3.87	0.03	3.97	.019	.011
36. Makes sound suggestions	4.10	0.10	4.13$_a$	0.04	3.93$_b$	0.03	8.23	< .001	.022
37. Advocates dept. to admin	4.24	0.10	4.27	0.04	4.13	0.03	4.31	.014	.012
38. Acts as though morale vital	3.94	0.12	4.06$_a$	0.05	3.82$_b$	0.03	8.53	< .001	.023
39. Tries out new ideas	4.07	0.10	4.12$_a$	0.04	3.93$_b$	0.03	8.06	< .001	.021
40. Sees that fac. are working	3.89	0.10	4.00$_a$	0.04	3.82$_b$	0.03	7.72	< .001	.020
41. Looks out for fac. welfare	4.04	0.10	4.15$_a$	0.04	3.93$_b$	0.03	8.73	< .001	.023
42. Lets fac. know expectations	4.07	0.09	4.19$_a$	0.04	4.00$_b$	0.03	9.39	< .001	.025
43. Promotes inclusiveness and diversity	4.19	0.09	4.32$_a$	0.04	4.16$_b$	0.03	6.89	.001	.018
44. Coordinates fac. work	4.03	0.10	4.08$_a$	0.04	3.81$_b$	0.03	15.51	< .001	.040
45. Explains the basis for decisions	4.07	0.10	4.17$_a$	0.04	3.98$_b$	0.03	6.81	.001	.018
46. Lets members know good job	4.13	0.09	4.23	0.04	4.09	0.03	4.52	.011	.012
47. Makes sure his/her part is understood	4.06	0.10	4.18$_a$	0.04	3.96$_b$	0.03	10.05	< .001	.026
48. Acts as though accomplishments vital	4.19	0.09	4.30	0.04	4.16	0.03	5.48	.004	.015
49. Maintains standards of performance	4.11	0.10	4.21$_a$	0.04	4.01$_b$	0.03	8.57	< .001	.023
50. Puts suggestions into action	4.05	0.10	4.14$_a$	0.04	3.92$_b$	0.03	10.17	< .001	.027
51. Facilitates positive relationships	4.39	0.10	4.31$_a$	0.04	4.10$_b$	0.03	11.65	< .001	.031
52. Encourages teamwork	4.14	0.10	4.18$_a$	0.04	3.97$_b$	0.03	8.75	< .001	.023
53. Provides feedback	4.15	0.10	4.16$_a$	0.04	3.98$_b$	0.03	7.59	.001	.020

Note. One-way ANCOVAs were conducted to test whether ratings of importance varied between bachelors, master's, and doctoral institutions. Post-hoc tests were conducted only following a significant omnibus F ($p < .0017$ correction because of the numerous ANCOVAs conducted). Means with different subscripts differ, $p < .05$. * $df = 2$, 739

Summary judgments

We also conducted a one-way MANCOVA for faculty ratings of the two summary judgment items ("I have confidence in the chair's ability to provide future leadership to the department"; "Overall, this chair has provided excellent leadership") by Carnegie classification (Table 21 presents means and standard deviations). Response options ranged from 1 = *Strongly Disagree* to 5 = *Strongly Agree*. The multivariate test was significant, $F(2, 738) = 3.38$, $p = .001$, $\eta^2 = .01$, as well as both univariate tests (see Table 22). Bonferroni post-hoc tests revealed that chairs in institutions awarding masters degrees were rated higher than those awarding doctoral degrees on both summary judgment items.

Table 21

Descriptive Statistics for Faculty Ratings of Summary Judgment Items by Carnegie Classification

	Associates (*n* = 10)		Bachelors (*n* = 50)		Masters (*n* = 230)		Doctoral (*n* = 455)		Total (*n* = 743)	
Administrative Method	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
54. Confidence in leadership	4.53	0.34	4.17	0.63	4.23	0.64	4.04	0.72	4.11	0.69
55. Excellent Leadership	4.51	0.33	4.11	0.66	4.19	0.64	4.00	0.72	4.07	0.70

Table 22

Adjusted Means and MANCOVA Results for Faculty Ratings of Summary Judgment Items by Carnegie Classification

	Bachelors (*n* = 50)		Masters (*n* = 233)		Doctoral (*n* = 460)		Omnibus Statistics		
Administrative Method	*M*	*SE*	*M*	*SE*	*M*	*SE*	*F**	*p*	η^2
54. Confidence in leadership	4.18	0.11	4.24$_a$	0.05	4.04$_b$	0.03	6.66	.001	.018
55. Excellent Leadership	4.12	0.11	4.19$_a$	0.05	3.99$_b$	0.03	6.50	.002	.017

Note. One-way MANCOVA was conducted to test whether ratings of importance varied between bachelors, master's, and doctoral institutions. Post-hoc tests were conducted only following a significant omnibus *F* (*p* < .05 correction because of the numerous ANOVAs conducted). Means with different subscripts differ, *p* < .05. * *df* = 2, 738

Summary

Respondents represented a diverse group of departments that varied in size, region of the country, Carnegie classification, and institutional control. The chairs were a fairly experienced group of administrators, the majority of whom had some courses being taught by adjuncts. Although most participants served institutions offering either the master's or doctoral degree, individuals from associate and bachelors institutions were also included in the sample.

There were several statistically significant differences in chair prioritization of administrative responsibilities. Differences were found between public and private institutions and among Carnegie classifications. Possible explanations for the observed differences in priorities are the contrasting missions of public and private institutions and the variance in research and teaching loads associated with Carnegie classifications (e.g., doctoral institutions typically are more research intensive). For example, responsibilities related to external funding and stimulating research were of greater importance to chairs at doctoral institutions than chairs at master's or bachelor's institutions. Such differences support the validity of having chairs rate the importance of administrative responsibilities.

Similarly, we found differences in faculty ratings of chair performance by Carnegie classification. Chairs from master's institutions were rated higher than those at the doctoral level on more than half the responsibilities and most of the personal characteristics and administrative methods. One explanation might be that chairs in research-intensive institutions have a greater number of responsibilities to manage and more faculty members to serve than chairs at less research-oriented institutions. Descriptively, a greater proportion of chairs from doctoral institutions rated 13 of 21 administrative responsibilities as either a high or medium priority than

chairs at either master's or bachelor's institutions. Tests of statistical significance showed that chairs from doctoral institutions assigned higher priorities to five responsibilities and had significantly larger departments than those from masters and baccalaureate institutions. Trying to juggle so many priorities and serve so many faculty may have lowered their performance ratings relative to chairs without responsibilities associated with a strong research orientation (e.g. securing external funding, stimulating research).

VALIDITY

Validity concerns evidence that supports the interpretation and use of scores obtained from an assessment. Evidence presented in this section, therefore, addresses whether the IDEA FSC can be used for its intended purpose. The IDEA system is primarily intended for formative or developmental purposes. Consequently, it is designed to measure (a) faculty perceptions of the chair's effectiveness and (b) the congruence between the chair's self-ratings and faculty ratings of chair performance (i.e., gap analysis). The *Chair Report* presents this information along with descriptions of supporting personal characteristics and administrative methods associated with high performance of each responsibility. If institutions choose to use the report for summative purposes, IDEA strongly recommends that additional indicators of effectiveness the institution deems appropriate also be considered.

Evidence of Content Validity

Evidence for content validity, which concerns the development of the wording and format of items in a survey, can be found in *IDEA Technical Report No. 14*.

Validity Evidence Based on Internal Structure

Evidence for internal structure indicates the degree to which relationships among responses to items conform to an intended structure. In this section, we report on the internal structure of chair priority ratings of administrative responsibilities, chair self-ratings of performance, as well as faculty ratings of the chair's performance of administrative responsibilities, personal characteristics, and administrative methods. Then, we provide evidence that faculty ratings of chair characteristics and administrative methods are related to ratings of (a) summary judgments, and (b) administrative responsibilities in predictable patterns.

Exploratory Factor Analysis of Chair Priority Ratings

In a previous exploratory factor analysis, Benton et al. (2010) found a five-factor solution in 474 chair priority ratings of the 20 responsibilities on the *Chair Information Form*: Personnel Management/Development, Developing Positive Climate, Administrative Support, Program Leadership, and Building Image/Reputation. In the current CSA, one of the 20 responsibilities was removed and two new ones were added, bringing the total number to 21. To examine the underlying structure of chair ratings on those 21 responsibilities, we performed principle components analysis (PCA) (not forcing the number of factors extracted) on chair priority ratings. Table 23 presents component matrix coefficients along with factor eigenvalues and percent of variance explained following the varimax rotation. The factor structure for the five-

factor solution was very similar to that reported by Benton et al. (2010), except that Item 5 loaded on a different factor and two new items (20 and 21) loaded on separate factors. The first factor, Program Leadership, contained five items (2, 5, 13, 16, 20) that concern assessment, curriculum, and teaching. The second factor, which contained six items (3, 4, 6, 9, 10, 19), related to Personnel Management, refer to fostering research, external funding, and recruitment/retention of quality faculty. Four items (8, 12, 15, 17) pertained to a third factor, Developing Positive Climate, by encouraging collegiality, trust, and faculty development. A fourth factor contained three items (11, 18, 21) connected to Building Image/Reputation both on and off campus. Lastly, a factor made up of three items (1, 7, 14), was associated with Administrative Support, which concerned communicating department needs and administrative expectations.

Table 23

Component Matrix Coefficients for Chair Priority Ratings of Administrative Responsibilities Following Varimax Rotation (*N* = 762).

CSA Item	Factors				
	1	2	3	4	5
20. Ensuring the assessment of student learning outcomes is meaningful and ongoing	**.726**	.067	.036	.264	.065
16. Facilitating curriculum development	**.715**	.044	.069	.111	.071
2. Fostering good teaching in the department	**.664**	.029	.313	-.008	.015
13. Ensuring that new faculty and staff are acquainted with departmental procedures, priorities, and expectations	**.486**	.178	.318	.06	.427
5. Guiding the development of sound procedures for assessing faculty performance	**.435**	.339	.174	.041	.345
3. Assisting in securing funding from external sources	-.014	**.708**	.002	.202	-.164
9. Stimulating research, scholarly activity, and/or creative endeavors in the department	.002	**.681**	.245	.089	-.005
6. Facilitating successful recruitment and selection of promising faculty	.111	**.556**	.217	-.219	.329
19. Rewarding faculty in accordance with their contributions to the department	.174	**.495**	.367	.170	.232
10. Guiding the development of a sound long-range plan to carry out departmental programs	.305	**.450**	-.168	.436	.094
4. Leading in establishing and monitoring progress on annual or biannual department goals	.341	**.412**	-.096	.400	.211
8. Developing collegiality/cooperation among faculty members	.145	.021	**.754**	.154	.094
17. Establishing trust between himself/herself and members of the faculty	.102	.089	**.677**	.067	.282
12. Fostering the development of each faculty member's special talents or interests	.215	.408	**.532**	.131	-.022
15. Stimulating or rejuvenating faculty vitality/enthusiasm	.143	.295	**.531**	.368	-.052

11. Promoting a positive image of the department within the campus community	.066	.055	.260	**.714**	.194
18. Promoting a positive image of the department to off-campus constituencies	.143	.162	.216	**.681**	.053
21. Supporting student recruitment and retention	.440	.012	.135	**.462**	.146
7. Communicating the department's needs to the dean and other appropriate administrators	-.109	.252	.027	.256	**.683**
1. Attending to essential administrative tasks (e.g., class scheduling, staffing, finances/budgeting, facilities)	.181	-.254	.086	.008	**.660**
14. Clearly communicating expectations of the campus administration to the faculty	.311	.048	.192	.270	**.499**
Eigenvalues after rotation	2.615	2.467	2.285	2.067	1.857
Percent of variance explained	12.45	11.75	10.88	9.84	8.84

Note. Number of factors were unrestricted. Boldface indicates highest factor loadings. Factor 1 = Program Leadership/Support; Factor 2 = Personnel Management; Factor 3 = Developing Positive Climate; Factor 4 = Building Image/Reputation; Factor 5 = Administrative Support/Leadership.

Exploratory Factor Analysis of Chair Self-Ratings of Administrative Responsibilities

We also performed a PCA on the chair self-ratings of the 21 administrative responsibilities (not forcing the number of factors extracted). Table 24 presents component matrix coefficients along with factor eigenvalues and percent of variance explained following the varimax rotation. The factor structure for the five-factor solution was very similar to the chair priority ratings of administrative responsibilities except that four items loaded on a different factor. Items 4 and 10 loaded on the Program Leadership/Support factor for chair self-ratings of performance, whereas they loaded on the Personnel Management factor for chair priority ratings of administrative responsibilities. Item 13 loaded on the Program Leadership/Support factor for chair priority ratings of administrative responsibilities, but it loaded on the Developing Positive Climate factor for chair self-ratings of performance. Lastly, Item 7 loaded on the Administrative Support/Leadership factor for chair priority ratings, although it loaded on the Building Image/Reputation factor for chair self-ratings of performance.

Table 24
Component Matrix Coefficients for Chair Self-Ratings of Administrative Responsibilities Following Varimax Rotation (*N* = 602).

	Factors				
CSA Item	1	2	3	4	5
10. Guiding the development of a sound long-range plan to carry out departmental programs*	**.707**	.189	-.093	.258	.216
20. Ensuring the assessment of student learning outcomes is meaningful and ongoing	**.690**	.105	.393	.093	-.007
4. Leading in establishing and monitoring progress on annual or biannual department goals*	**.687**	.185	-.012	.263	.144
16. Facilitating curriculum development	**.642**	.101	.380	.053	.011
2. Fostering good teaching in the department	**.622**	.249	.301	.110	.143

5. Guiding the development of sound procedures for assessing faculty performance	**.551**	.135	.344	-.028	.278
8. Developing collegiality/cooperation among faculty members	.136	**.846**	.107	.128	.101
17. Establishing trust between himself/herself and members of the faculty	.146	**.768**	.194	.184	.061
15. Stimulating or rejuvenating faculty vitality/enthusiasm	.299	**.689**	.079	.119	.309
12. Fostering the development of each faculty member's special talents or interests	.368	**.475**	.107	.167	.374
1. Attends to admin. details	.113	.047	**.708**	.133	.121
13. Ensuring that new faculty and staff are acquainted with departmental procedures, priorities, and expectations*	.311	.166	**.587**	.089	.328
14. Clearly communicating expectations of the campus administration to the faculty	.263	.325	**.531**	.215	-.005
18. Promoting a positive image of the department to off-campus constituencies	.178	.167	.118	**.777**	.144
11. Promoting a positive image of the department within the campus community	.140	.261	.226	**.752**	.044
21. Supporting student recruitment and retention	.316	.059	.428	**.459**	.079
7. Communicating the department's needs to the dean and other appropriate administrators*	.029	.207	.345	**.395**	.233
6. Facilitating successful recruitment and selection of promising faculty	-.049	.158	.288	.055	**.684**
9. Stimulating research, scholarly activity, and/or creative endeavors in the department	.402	.286	.002	.175	**.580**
3. Assisting in securing funding from external sources	.145	-.055	-.132	.533	**.565**
19. Rewarding faculty in accordance with their contributions to the department	.322	.164	.219	.123	**.543**
Eigenvalues after rotation	3.434	2.593	2.227	2.193	2.037
Percent of variance explained	16.35	12.35	10.61	10.45	9.70

Note. Number of factors were unrestricted. Boldface indicates highest factor loadings. Factor 1 = Program Leadership/Support; Factor 2 = Personnel Management; Factor 3 = Developing Positive Climate; Factor 4 = Building Image/Reputation; Factor 5 = Administrative Support/Leadership.
* Factor loading differed by Chair importance PCA and Chair self-performance PCA

Exploratory Factor Analysis of Chair Self-Ratings of Personal Characteristics

We also performed PCA (not forcing the number of factors extracted) on chair self-ratings of personal characteristics. As shown in Table 25, the unrestricted principal component analysis revealed a two-factor solution. One factor contained seven characteristics related to Faculty and Administrative Management and the other was comprised of four characteristics that support Faculty Relationships.

Table 25

Component Matrix Coefficients for Chair Self-Ratings of Personal Characteristics Following Varimax Rotation (*N* = 750).

	Factors	
CSA Item	1	2
28. Organizational skills	**.767**	-.088
29. Consistency	**.751**	.158
22. Problem solving ability	**.664**	.160
24. Practical judgment	**.633**	.308
32. Clarity	**.614**	.299
30. Enterprising	**.536**	.241
31. Institution-centered	**.446**	.331
23. Demonstrates caring	-.076	**.815**
26. Flexibility/adaptability	.219	**.647**
25. Trustworthy	.398	**.641**
27. Fairness	.482	**.532**
Eigenvalues after rotation	3.303	2.187
Percent of variance explained	30.02	19.88

Note. Number of factors were unrestricted. Boldface indicates highest factor loadings. Factor 1 = Faculty and Administrative Management; Factor 2 = Faculty Relationships

Exploratory Factor Analysis of Chair Self-Ratings of Administrative Methods

We also applied PCA to chair self-ratings of the 21 administrative methods. The component matrix coefficients and associated statistics presented in Table 26 support a two-factor solution. One factor contained 10 items related to Faculty and Administrative management, whereas the other factor was associated with 12 items related to Faculty Relationships. Item 39,"Tries out new ideas with the faculty," loaded on both factors.

Table 26

Component Matrix Coefficients for Chair Self-Ratings of Administrative Methods Following Varimax Rotation (*N* = 734).

	Factors	
CSA Item	1	2
42. Lets faculty know expectations	**.690**	.330
44. Coordinates faculty work	**.659**	.333
49. Maintains standards of performance	**.658**	.317
36. Makes sound suggestions	**.655**	.226
33. Allocates responsibilities	**.611**	.254
47. Makes sure his/her part is understood	**.606**	.419
45. Explains the basis for decisions	**.583**	.247
40. Sees that faculty are working	**.582**	.378
37. Advocates dept. to admin	**.564**	.086
39. Tries out new ideas	.460	.404
51. Facilitates positive relationships	.157	**.690**
41. Looks out for fac. welfare	.145	**.679**
38. Acts as though morale vital	.267	**.668**
52. Encourages teamwork	.295	**.657**
46. Lets members know good job	.305	**.601**
43. Promotes inclusiveness and diversity	.317	**.564**
34. Resolves conflicts	.319	**.532**
53. Provides feedback	.468	**.523**
35. Assists faculty goals	.384	**.518**
48. Acts as though accomplishments vital	.454	**.499**
50. Puts suggestions into action	.421	**.457**
Eigenvalues after rotation	4.978	4.767
Percent of variance explained	23.66	22.70

Note. Number of factors were unrestricted. Boldface indicates highest factor loadings. Factor 1 = Faculty and Administrative Management; Factor 2 = Faculty Relationships

Exploratory Factor Analysis of Faculty Ratings of Administrative Responsibilities

We also performed PCA (not forcing the number of factors extracted) on faculty ratings of the chair's performance of administrative responsibilities. As shown in Table 27, the unrestricted principal component analysis revealed a unidimensional solution (eigenvalue= 17.19), which we called Administrative Responsibilities and that explained 81% of the variance.

Table 27

Component Matrix Coefficients for Faculty Ratings of the Chair's Performance of Administrative Responsibilities Following Varimax Rotation ($N = 762$).

FPC Item	Coefficients
12. Fostering the development of each faculty member's special talents or interests	.948
15. Stimulating or rejuvenating faculty vitality/enthusiasm	.943
10. Guiding the development of a sound long-range plan to carry out departmental programs	.932
2. Fostering good teaching in the department	.931
5. Guiding the development of sound procedures for assessing faculty performance	.931
17. Establishing trust between himself/herself and members of the faculty	.927
4. Leading in establishing and monitoring progress on annual or biannual department goals	.926
8. Developing collegiality/cooperation among faculty members	.919
16. Facilitating curriculum development	.918
14. Clearly communicating expectations of the campus administration to the faculty	.911
20. Ensuring the assessment of student learning outcomes is meaningful and ongoing	.907
11. Promoting a positive image of the department within the campus community	.905
19. Rewarding faculty in accordance with their contributions to the department	.903
7. Communicating the department's needs to the dean and other appropriate administrators	.902
9. Stimulating research, scholarly activity, and/or creative endeavors in the department	.899
21. Actively supporting student recruitment and retention efforts	.888
13. Ensuring that new faculty and staff are acquainted with departmental procedures	.884
1. Attending to essential administrative tasks	.879
18. Promoting a positive image of the department to off-campus constituencies	.875
6. Facilitating successful recruitment and selection of promising faculty	.864
3. Assisting in securing funding from external sources	.793
Eigenvalue	17.19
Percent of variance explained	81.43

Note. Number of factors were unrestricted.

Exploratory Factor Analysis of Faculty Ratings of Personal Characteristics

We then entered faculty mean ratings of the 11 chair personal characteristics into a PCA. The component matrix coefficients and associated statistics presented in Table 28 showed support for a single dimension (eigenvalue = 9.09), Personal Characteristics, which explained 82.59% of the variance.

Table 28

Component Matrix Coefficients for Faculty Ratings of Personal Characteristics ($N = 762$)

FPC item	Coefficient
24. Practical judgment	.967
29. Consistency	.944
27. Fairness	.943
32. Clarity	.942
22. Problem solving ability	.935
25. Trustworthy	.935
26. Flexibility/adaptability	.930
23. Demonstrates caring	.881
31. Institution-centered	.869
30. Enterprising	.824
28. Organizational skills	.811
Eigenvalue	9.09
Percent of variance explained	82.59

Exploratory Factor Analysis of Faculty Ratings of Administrative Methods

We also applied PCA to aggregated faculty ratings of the 21 administrative methods. The component matrix coefficients and associated statistics presented in Table 29 showed support for a single dimension (eigenvalue = 17.99), Administrative Methods, which explained 85.65% of the variance.

Table 29
Component Matrix Coefficients for Faculty Ratings of 21 Administrative Methods (*N* = 762)

FPC Item	Coefficients
47. Makes sure his/her part in the department is understood by all members	.947
52. Encourages teamwork among members of the faculty	.946
38. Demonstrates that high faculty morale is vital to him/her	.944
53. Provides feedback to faculty on their major activities	.943
36. Makes sound suggestions for developing/changing departmental priorities	.942
44. Makes sure the work of the faculty is coordinated	.940
49. Maintains definite standards of performance	.939
50. Puts faculty suggestions into action	.939
45. Explains the basis for his/her decisions	.938
35. Assists faculty in developing their own goals and priorities	.937
42. Lets faculty members know what is expected of them	.931
41. Looks out for the personal welfare of individual faculty members	.924
33. Allocates faculty responsibilities in an effective and equitable manner	.923
34. Reduces, resolves, and/or prevents conflict among departmental faculty members	.923
40. Sees to it that faculty members are working up to capacity	.923
48. Acts as though visible department accomplishments were vital to him/her	.910
39. Tries out new ideas with the faculty	.903
46. Lets faculty members know when they have done a good job	.903
43. Promotes inclusiveness and diversity among students and faculty	.899
51. Facilitates positive relationships between faculty and the clerical/technical staff	.893
37. Effectively advocates for departmental interests to higher authorities	.883
Eigenvalues	17.99
Percent of variance explained	85.65

Relationships between Faculty Ratings of Chair Performance and Summary Judgments

An assumption underlying the IDEA system is that faculty ratings of the chair's performance of responsibilities, personal characteristics, and administrative methods are related to faculty perceptions of the chair's overall effectiveness. Faculty members respond to two questions on the FPC that assess their overall summary judgments: "I have confidence in the chair's ability to provide future leadership to the department" (Item 54), and "Overall, this chair has provided excellent leadership" (Item 55). Pearson *r* correlations between faculty ratings of FPC items (in numerical sequence) and the two summary judgments are presented in Table 30. All correlations were significant (*p* < .001) and ranged from .73 to .94. The mean value of the correlations for Items 54 and 55 with all other FPC items were .87 and .88, respectively.

Table 30

Pearson Correlations between Faculty Ratings of FPC Items and Overall Summary Judgments
(*N* = 762)

FPC Item	Pearson *r*	
	Item 54	Item 55
1. Attending to essential administrative tasks	.85	.86
2. Fostering good teaching in the department	.89	.90
3. Assisting in securing funding from external sources	.73	.74
4. Leading in establishing and monitoring progress on annual or biannual	.87	.88
5. Guiding the development of sound procedures for assessing faculty	.88	.89
6. Facilitating successful recruitment and selection of promising faculty	.82	.82
7. Communicating the department's needs to the dean and other appropriate	.86	.87
8. Developing collegiality/cooperation among faculty members	.90	.91
9. Stimulating research, scholarly activity, and/or creative endeavors in the	.84	.86
10. Guiding the development of a sound long-range plan to carry out	.89	.90
11. Promoting a positive image of the department within the campus	.88	.88
12. Fostering the development of each faculty member's special talents or	.91	.92
13. Ensuring that new faculty and staff are acquainted with departmental	.82	.83
14. Clearly communicating expectations of the campus administration to the	.86	.87
15. Stimulating or rejuvenating faculty vitality/enthusiasm	.91	.92
16. Facilitating curriculum development	.87	.87
17. Establishing trust between himself/herself and members of the faculty	.92	.93
18. Promoting a positive image of the department to off-campus constituencies	.83	.84
19. Rewarding faculty in accordance with their contributions to the department	.85	.86
20. Ensuring the assessment of student learning outcomes is meaningful and	.85	.86
21. Actively supporting student recruitment and retention efforts	.82	.83
22. Problem solving ability	.91	.91
23. Demonstrates caring	.83	.85
24. Practical judgment	.92	.94
25. Trustworthy	.89	.90
26. Flexibility/adaptability	.89	.89
27. Fairness	.89	.90
28. Organizational skills	.76	.77
29. Consistency	.88	.89
30. Enterprising	.81	.82
31. Institution-centered	.81	.83
32. Clarity	.89	.90
33. Allocates responsibilities	.88	.89
34. Resolves conflicts	.88	.89
35. Assists faculty goals	.89	.89
36. Makes sound suggestions	.93	.93
37. Advocates dept. to admin	.86	.87
38. Acts as though morale vital	.90	.91
39. Tries out new ideas	.85	.85
40. Sees that fac. are working	.86	.87
41. Looks out for fac. welfare	.88	.88
42. Lets fac. know expectations	.88	.89
43. Promotes inclusiveness and diversity	.85	.86

44. Coordinates fac. work	.90	.91
45. Explains the basis for decisions	.89	.91
46. Lets members know good job	.83	.84
47. Makes sure his/her part is understood	.89	.91
48. Acts as though accomplishments vital	.86	.87
49. Maintains standards of performance	.90	.91
50. Puts suggestions into action	.90	.90
51. Facilitates positive relationships	.85	.86
52. Encourages teamwork	.90	.91
53. Provides feedback	.89	.90

Note. Item 54 reads "I have confidence in the chair's ability to provide future leadership to the department"; Item 55" is "Overall, this chair has provided excellent leadership."

Some items were more highly correlated with the two summary judgments than others. Among administrative responsibilities, establishing trust, stimulating faculty enthusiasm, fostering faculty talents, and developing collegiality were most highly correlated. In contrast, assisting in securing external funding had the lowest correlations. With respect to personal characteristics, problem solving ability and practical judgment were most influential. Concerning administrative methods, six were also highly correlated ($\geq$.90) with the summary judgments: makes sound suggestions, acts as though faculty morale is vital, coordinates faculty work, maintains standards of performance, puts suggestions into action, and encourages teamwork.

Table 31 presents Pearson *r* correlation coefficients between mean scores on the three FPC scales (derived from the factor analyses) and the two overall summary judgments. Mean faculty ratings on the 21-item administrative responsibility scale, the 11-item personal characteristics scale, and the 21-item administrative methods scale were all highly correlated with the two summary judgment items (correlations ranged from .95 to .96).

Table 31
Pearson Correlations between Faculty Ratings of Responsibilities, Personal Characteristics, Administrative Methods, and Overall Summary Judgments (N = 762)

	Pearson *r*	
Administrative Responsibilities	Item 54	Item 55
21-item scale	.95	.96
Personal Characteristics		
11-item scale	.95	.96
Administrative Methods		
21-item scale	.95	.96

Note. Item 54 reads "I have confidence in the chair's ability to provide future leadership to the department"; Item 55 reads "Overall, this chair has provided excellent leadership."

In sum, the magnitudes of these correlations clearly show that faculty ratings of the chair's performance are related to their overall impressions of the department chair. As faculty ratings of the chair's performance on administrative responsibilities, personal characteristics, and administrative methods increase, faculty overall impressions of the chair's performance also tend to increase.

Correlations with Other Variables

Relationships between Faculty Ratings of Administrative Methods/Personal Characteristics and Administrative Responsibilities

Another source of evidence regarding internal structure is found in the relationships between faculty ratings of administrative methods/personal characteristics and administrative responsibilities. An assumption underlying the FSC is that relationships between faculty ratings of administrative methods/personal characteristics and administrative responsibilities are distinctive for each responsibility. The *Chair Report*, therefore, includes a diagnostic section that lists high, moderate, and low priority responsibilities with their respective personal characteristics and administrative methods associated with high performance. Those groupings are based on the analyses described in the following paragraphs.

We first correlated faculty ratings of the chair's personal characteristics and administrative methods with their ratings of the 21 responsibilities. For each responsibility, we controlled for the chair's priority rating by selecting for the analysis only those chairs who gave a rating of "moderate priority" or "high priority." As shown in Table 32, these correlations were positive and moderate-to-high in magnitude (Pearson *r*s ranged from .63 to .95), which supports the internal structure of the CSA and FPC.

Table 32
Correlations between Faculty Ratings of Administrative Responsibilities and Personal Characteristics/Methods When the Chair Rated Responsibility as a Moderate or High Priority

FPC Administrative Responsibility																				
Item	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**
n	746	735	542	728	685	716	752	738	712	729	730	726	721	733	704	702	748	705	698	693
22	.84	.85	.75	.85	.85	.80	.84	.84	.81	.87	.83	.85	.80	.84	.85	.85	.85	.80	.81	.83
23	.72	.79	.63	.70	.77	.72	.73	.88	.72	.74	.79	.86	.74	.75	.85	.75	.90	.76	.78	.71
24	.85	.85	.71	.83	.86	.79	.83	.88	.80	.85	.85	.88	.81	.85	.87	.84	.92	.81	.83	.81
25	.79	.82	.66	.77	.83	.77	.78	.91	.75	.79	.80	.87	.79	.80	.86	.79	.95	.76	.81	.76
26	.76	.82	.68	.76	.82	.76	.79	.89	.78	.80	.83	.89	.79	.80	.88	.81	.92	.79	.81	.76
27	.78	.83	.67	.77	.84	.78	.79	.91	.77	.80	.81	.89	.80	.81	.88	.81	.94	.78	.85	.77
28	.87	.73	.59	.79	.76	.64	.70	.68	.65	.76	.68	.69	.74	.77	.68	.71	.68	.64	.65	.75
29	.86	.84	.66	.82	.85	.75	.78	.86	.75	.82	.80	.85	.82	.84	.84	.81	.89	.75	.81	.81
30	.71	.77	.82	.82	.76	.76	.80	.75	.82	.83	.79	.79	.71	.73	.81	.79	.72	.81	.75	.77
31	.78	.79	.68	.80	.79	.74	.77	.78	.73	.80	.82	.79	.73	.78	.78	.77	.77	.81	.73	.80
32	.85	.83	.65	.82	.84	.74	.80	.86	.76	.84	.81	.85	.83	.87	.85	.83	.89	.76	.79	.81
33	.83	.84	.71	.82	.86	.79	.80	.88	.81	.83	.80	.88	.82	.85	.88	.84	.89	.78	.84	.80
34	.78	.84	.68	.79	.84	.78	.78	.92	.79	.81	.81	.89	.79	.81	.88	.83	.91	.77	.82	.78
35	.78	.87	.75	.84	.87	.79	.83	.87	.86	.85	.81	.93	.81	.83	.89	.85	.88	.79	.85	.81
36	.83	.86	.76	.89	.87	.81	.85	.87	.84	.92	.84	.88	.83	.85	.89	.88	.88	.81	.82	.84
37	.76	.80	.78	.83	.81	.78	.93	.79	.80	.85	.84	.83	.76	.81	.83	.80	.80	.82	.79	.77
38	.77	.86	.71	.81	.85	.79	.81	.93	.80	.83	.85	.91	.78	.81	.93	.84	.92	.81	.84	.81
39	.74	.83	.74	.83	.81	.78	.80	.82	.82	.84	.81	.86	.77	.80	.87	.86	.80	.79	.80	.79
40	.78	.85	.75	.84	.86	.79	.81	.84	.82	.86	.80	.88	.80	.81	.87	.85	.82	.77	.83	.84
41	.75	.83	.70	.76	.82	.77	.79	.90	.79	.79	.81	.90	.78	.79	.89	.80	.91	.78	.83	.78
42	.84	.86	.69	.85	.88	.77	.81	.85	.80	.84	.80	.87	.85	.87	.85	.85	.86	.76	.82	.83
43	.75	.82	.70	.78	.81	.76	.78	.86	.78	.80	.82	.87	.77	.80	.84	.78	.86	.81	.80	.77
44	.87	.88	.73	.87	.88	.80	.83	.86	.81	.88	.81	.88	.85	.87	.87	.87	.87	.79	.82	.86

45	.82	.85	.69	.82	.85	.78	.82	.88	.80	.84	.81	.88	.83	.87	.87	.84	.91	.76	.84	.80
46	.72	.82	.68	.76	.80	.74	.77	.84	.78	.76	.79	.86	.76	.78	.85	.78	.84	.77	.82	.76
47	.84	.87	.71	.85	.87	.76	.84	.87	.82	.86	.83	.88	.85	.89	.87	.86	.88	.80	.82	.83
48	.77	.83	.76	.83	.82	.78	.83	.82	.81	.83	.84	.84	.77	.81	.83	.81	.81	.82	.80	.81
49	.84	.88	.75	.88	.88	.79	.83	.85	.83	.88	.84	.87	.82	.85	.85	.85	.85	.81	.83	.86
50	.79	.84	.72	.82	.85	.80	.83	.87	.81	.84	.82	.90	.82	.83	.87	.84	.89	.79	.83	.81
51	.79	.81	.64	.76	.79	.72	.77	.84	.74	.77	.80	.84	.78	.79	.82	.78	.84	.75	.78	.75
52	.80	.87	.73	.82	.85	.79	.81	.92	.82	.84	.84	.90	.81	.83	.90	.85	.89	.80	.84	.83
53	.83	.87	.73	.86	.88	.79	.83	.85	.83	.85	.82	.89	.83	.86	.87	.84	.87	.80	.84	.82

Note. n varied for each column, depending on number of chairs rating responsibility as *Moderate Priority or High Priority*.

Administrative Responsibilities	
1. Attending to essential administrative tasks	12. Fostering development of faculty talents or interests
2. Fostering good teaching in the department	13. Ensuring new faculty are acquainted with procedures
3. Assisting in securing funding from external sources	14. Clearly communicating expectations of administration
4. Leading in establishing and monitoring progress on goals	15. Stimulating or rejuvenating faculty vitality/enthusiasm
5. Guiding the procedures for assessing faculty performance	16. Facilitating curriculum development
6. Facilitating recruitment and selection of promising faculty	17. Establishing trust between himself/herself and faculty
7. Communicating the department's needs to the dean	18. Promoting a positive image of department off-campus
8. Developing collegiality/cooperation among faculty	19. Rewarding faculty in accordance with their contributions
9. Stimulating research, scholarly activity	20. Ensuring the assessment of student learning outcomes
10. Guiding the development of a sound long-range plan	21. Actively supporting student recruitment and retention e
11. Promoting a positive image of the department within the campus community	

Personal Characteristics	
22. Problem solving ability	28. Organizational skills
23. Demonstrates caring	29. Consistency
24. Practical judgment	30. Enterprising
25. Trustworthy	31. Institution-centered
26. Flexibility/adaptability	32. Clarity
27. Fairness	

Administrative Methods	
33. Allocates responsibilities	44. Coordinates fac. work
34. Resolves conflicts	45. Explains the basis for decisions
35. Assists faculty goals	46. Lets members know good job
36. Makes sound suggestions	47. Makes sure his/her part is understood
37. Advocates dept. to admin	48. Acts as though accomplishments vital
38. Acts as though morale vital	49. Maintains standards of performance
39. Tries out new ideas	50. Puts suggestions into action
40. Sees that fac. are working	51. Facilitates positive relationships
41. Looks out for fac. welfare	52. Encourages teamwork
42. Lets fac. know expectations	53. Provides feedback
43. Promotes inclusiveness and diversity	

We then employed Bayesian Model Averaging (BMA) to investigate which chair personal characteristics and administrative methods were most important for explaining faculty ratings of each administrative responsibilities and the overall summary items. BMA is an ensemble technique that tests multiple models to obtain better predictive performance than what

could be obtained with a single model (Hoeting, Madigan, Raftery, & Volinsky, 1999). As stated previously, the analysis was limited to cases where chairs rated administrative responsibilities as a moderate or high priority. Separate analyses were, therefore, conducted on each administrative responsibility and the two summary items. The results of these analyses underlie the "Insights on Improvement" section of the *Chair Report*.

Tables of estimated probabilities and regression parameters (weighted coefficients) are presented in Appendix A for each administrative responsibility and the two summary judgements. Table 33 summarizes the significant explanatory variables (indicated by item number) included in the "best" full models for each administrative responsibility and the summary measures. The chair personal characteristic "flexibility/adaptability in dealing with individuals/situations" (Item 26) was the only explanatory variable that was not included in any model.

The personal characteristics and administrative methods significantly related to performance ratings of administrative responsibilities followed predictable patterns. For example, several administrative methods explained significant variance in faculty ratings of the chair's performance in fostering good teaching in the department: "Demonstrates that high faculty morale is vital to him/her," "Makes sure the work of the faculty is coordinated," "Maintains definite standards of performance," and "Provides feedback to faculty on their major activities." In contrast, two different methods were important for the responsibility of "Communicating the department's needs to the dean and other appropriate administrators": "Effectively advocates for departmental interests to higher authorities," and "Makes sure his/her part in the department is understood by all members." Other examples of logical relationships may be found in Table 33.

Table 33

Chair Personal Characteristics and Administrative Methods Significantly Related to Chair Performance of Moderate or High Priority Administrative Responsibilities

Administrative responsibility	Personal characteristic or administrative method
1. Attending to essential administrative tasks	25, 28, 33, 44, 51
2. Fostering good teaching in the department	38, 44, 49, 53
3. Assisting in securing funding from external sources	30, 35, 37
4. Leading in establishing and monitoring progress on annual or biannual department goals	28, 30, 31, 36, 49
5. Guiding the development of sound procedures for assessing faculty performance	28, 35, 49
6. Facilitating successful recruitment and selection of promising faculty	25,30,37
7. Communicating the department's needs to the dean and other appropriate administrators	37, 47
8. Developing collegiality/cooperation among faculty members	25, 34, 38, 52
9. Stimulating research, scholarly activity, and/or creative endeavors in the department	30, 35
10. Guiding the development of a sound plan to carry out departmental programs	30, 36, 37, 44
11. Promoting a positive image of the department within the campus community	24, 31, 37, 38, 48
12. Fostering the development of each faculty member's special talents or interests	33, 35, 41, 50
13. Ensuring that new faculty and staff are acquainted with departmental procedures	28, 42, 47
14. Clearly communicating expectations of the campus administration to the faculty	28, 31, 32, 33, 39, 45, 47
15. Stimulating or rejuvenating faculty vitality/enthusiasm	30, 33, 38, 39
16. Facilitating curriculum development	22, 36, 39, 44
17. Establishing trust between himself/herself and members of the faculty	23, 25, 32, 34, 36, 38
18. Promoting a positive image of the department to off-campus constituencies	30, 31, 37, 43
19. Rewarding faculty in accordance with their contributions to the department	27, 33, 35, 40, 46
20. Ensuring the assessment of student learning outcomes is meaningful and ongoing	28, 31, 40, 44
21. Actively supporting student recruitment and retention efforts	41
54. Confidence in leadership	22, 25, 36, 37, 38, 52
55. Excellent Leadership	22, 24, 25, 36, 37, 38

Personal Characteristics

22. Problem solving ability	28. Organizational skills
23. Demonstrates caring	29. Consistency

24. Practical judgment	30. Enterprising
25. Trustworthy	31. Institution-centered
26. Flexibility/adaptability	32. Clarity
27. Fairness	

Administrative Methods

33. Allocates responsibilities	44. Coordinates fac. work
34. Resolves conflicts	45. Explains the basis for decisions
35. Assists faculty goals	46. Lets members know good job
36. Makes sound suggestions	47. Makes sure his/her part is understood
37. Advocates dept. to admin	48. Acts as though accomplishments vital
38. Acts as though morale vital	49. Maintains standards of performance
39. Tries out new ideas	50. Puts suggestions into action
40. Sees that fac. are working	51. Facilitates positive relationships
41. Looks out for fac. welfare	52. Encourages teamwork
42. Lets fac. know expectations	53. Provides feedback
43. Promotes inclusiveness and diversity	

Summary

Several sources of validity evidence support the IDEA FCS. First, evidence for content validity can be found in a previous technical report (Benton et al., (2010). Second, principal components analysis of chair priority ratings revealed five dimensions underlying administrative responsibilities: Program Leadership, Personnel Management, Developing Positive Climate, Building Image/Reputation, and Administrative Support. Third, chair self-ratings of performance of administrative responsibilities, personal characteristics, and administrative methods were multidimensional. Fourth, faculty ratings of the chair's performance of administrative responsibilities, personal characteristics, and administrative methods were all represented by a single dimension. Fifth, faculty performance ratings for all FPC items were highly correlated with two summary judgments. Sixth, Bayesian Model Averaging analysis, controlling for the chair's priority ratings, revealed that the most important personal characteristics and administrative methods associated with faculty ratings of the chair's performance were distinctive for each responsibility.

Although validity evidence has been presented with respect to the IDEA FSC, the ultimate test of an instrument's validity is in its use. To make appropriate use of the system more achievable, the user is encouraged to read about <u>best practices in the Feedback System for Chairs</u>.

RELIABILITY AND STANDARD ERRORS OF MEASUREMENT

Reliability refers to consistency in scores across repeated administrations of an assessment instrument (AERA, APA, NCME, 2014). In this section, evidence for reliability of the FPC is shown in how consistently faculty members within the same department rate the chair's performance, and in the degree of stability in ratings of the same chairs on two different occasions. Evidence is also presented for the internal consistency of FPC subscales. Standard errors of measurement indicate that all scores contain some amount of unexplained variance, or error. Users should, therefore, recognize the imperfect nature of any measure when interpreting scores provided in the *Chair Report*.

Within-Group Interrater Reliability and Standard Errors of Measurement

Feedback is more helpful in decision making if faculty ratings within a department are fairly consistent. If they are inconsistent, the chair will be uncertain about what actions to take. To examine the consistency of faculty ratings within the same department, we applied the procedures described in James, Demaree, and Wolf (1984, p. 87) for computing the *within-group interrater reliability coefficient*. We began by selecting chairs for whom the number of raters equaled 12 or more. There were 397 chairs who met this criterion. Following that we estimated coefficients for chairs with 8, 16, and 20 respondents, using the Spearman-Brown prophecy formula. For each chair with more than 12 raters, 12 were randomly selected. We then applied the following single-item interrater agreement formula to compute the reliability coefficients for faculty ratings of chair administrative responsibilities, personal characteristics, and administrative methods at the department level:

$$r_{WG(l)} = 1 - (S_{xj}^2/\sigma_{EU}^2)$$

where $r_{WG(l)}$ is the within-group interrater reliability for a group of K judges on a single item X_j, and S_{xj}^2 is the observed variance of X_j. σ_{EU}^2 is the variance of X_j that would be expected if all judgments solely resulted from random measurement error. Values range from .00 to 1.00, with higher coefficients indicative of greater internal consistency.

The Spearman-Brown prophecy formula (show below) was then used to estimate the reliability of the ratings for administrators with 8, 16, and 20 raters:

$$r_{xx} = \frac{nr}{1 + (n-1)r}$$

Next, we computed the standard error of measurement on each item, applying the following formula:

$$SEM = s.d.[\sqrt{(1 - r_{xx})}]$$

where r_{xx} denotes the single-item reliability. *SEM* provides an estimate of the amount of error, at the 68th percent confidence interval, that would likely be associated with the obtained mean score on an individual item.[2]

Table 34 presents the reliability coefficients and SEM for each item on the FPC. The reliability coefficients when the number of raters = 12 were at or above .70, and all *SEM* were below 0.4 with the exception of one item: *Establishing trust between himself/herself and members of the faculty* (*SEM* = 0.44). Applying the Spearman-Brown formula, the estimated reliability coefficients for 8 raters exceeded .50 except for two items: *Assisting in securing funding from external sources* and *Establishing trust between himself/herself and members of the faculty.* All SEM were at or below .54 except for two items: *Assisting in securing funding from external source,* and *Establishing trust between himself/herself and members of the faculty.* When there were at least 16 faculty raters, the estimated reliability coefficient was .77 or higher and SEM .37 or less except for two items: *Assisting in securing funding from external source,* and *Establishing trust between himself/herself and members of the faculty.* Finally, the estimated reliability coefficients for 20 raters was .80 or higher and SEM .33 or less except for two items: *Assisting in securing funding from external source,* and *Establishing trust between himself/herself and members of the faculty.*

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[2] To obtain the 90th percent confidence interval, multiply SEM coefficients in Table 34 by 1.645.

Table 34

Within-group Interrater Reliability Coefficients for 12 Respondents (rwg16), Estimates of Reliabilities
for 8, 16, and 20 Respondents by Spearman-Brown Prophecy Formula (r8, r16, and r20), and
Standard Errors of Measurement for Items on the Faculty Perceptions of Chair Instrument ($N = 397$)

Item	M	SD	r_8	SEM_8	r_{12}	SEM_{12}	r_{16}	SEM_{16}	r_{20}	SEM_{20}
1. Attending to essential administrative tasks	4.23	0.57	.67	0.35	.84	0.23	.86	0.23	.88	0.21
2. Fostering good teaching in the department	4.08	0.57	.64	0.38	.84	0.23	.84	0.25	.87	0.23
3. Assisting in securing funding from external sources	3.70	0.73	.39	0.68	.74	0.37	.69	0.48	.74	0.45
4. Leading in establishing and monitoring progress on department goals	4.01	0.63	.60	0.42	.80	0.28	.82	0.28	.85	0.26
5. Guiding the development of sound procedures for assessing faculty	3.88	0.66	.56	0.47	.78	0.31	.80	0.32	.83	0.29
6. Facilitating successful recruitment and selection of promising faculty	4.03	0.65	.56	0.47	.79	0.30	.80	0.32	.83	0.29
7. Communicating the department's needs to the dean	4.17	0.58	.61	0.41	.83	0.24	.83	0.27	.86	0.25
8. Developing collegiality/cooperation among faculty members	3.92	0.74	.52	0.52	.73	0.38	.77	0.36	.81	0.33
9. Stimulating research, scholarly activity, and/or creative endeavors	3.89	0.64	.60	0.43	.79	0.29	.82	0.28	.85	0.26
10. Guiding the development of a plan to carry out programs	3.89	0.68	.56	0.47	.77	0.33	.80	0.31	.83	0.29
11. Promoting a positive image within the campus community	4.22	0.61	.59	0.43	.81	0.27	.82	0.29	.85	0.27
12. Fostering the development of each faculty member's special talents	3.89	0.66	.57	0.45	.78	0.31	.81	0.31	.84	0.28
13. Ensuring that new faculty and staff are acquainted with procedures	4.01	0.61	.54	0.50	.81	0.26	.79	0.34	.82	0.31
14. Clearly communicating expectations of the campus administration	4.09	0.58	.65	0.37	.83	0.24	.85	0.24	.87	0.22
15. Stimulating or rejuvenating faculty vitality/enthusiasm	3.67	0.74	.51	0.53	.72	0.39	.77	0.36	.81	0.33
16. Facilitating curriculum development	3.95	0.61	.60	0.42	.81	0.27	.82	0.28	.85	0.26
17. Establishing trust between himself/herself and members of the faculty	3.93	0.79	.45	0.60	.69	0.44	.73	0.42	.77	0.39
18. Promoting a positive image to off-campus constituencies	4.25	0.59	.51	0.53	.82	0.25	.77	0.37	.81	0.33
19. Rewarding faculty in accordance with their contributions	3.76	0.66	.56	0.47	.78	0.31	.80	0.32	.83	0.29
20. Ensuring the assessment of student learning outcomes is meaningful	4.00	0.59	.59	0.44	.83	0.24	.81	0.30	.85	0.27
21. Actively supporting student recruitment and retention efforts	4.14	0.58	.54	0.49	.83	0.24	.79	0.34	.82	0.31
22. Problem solving ability	4.14	0.60	.64	0.38	.82	0.26	.84	0.25	.87	0.23
23. Demonstrates caring	4.17	0.66	.57	0.46	.78	0.31	.80	0.31	.84	0.28
24. Practical judgment	4.16	0.61	.62	0.40	.81	0.27	.83	0.26	.86	0.24
25. Trustworthy	4.17	0.68	.56	0.47	.77	0.32	.80	0.32	.83	0.29
26. Flexibility/adaptability	4.09	0.66	.58	0.44	.78	0.30	.81	0.30	.84	0.27
27. Fairness	4.11	0.64	.61	0.42	.80	0.29	.82	0.28	.85	0.25

28. Organizational skills	4.10	0.64	.61	0.41	.79	0.29	.83	0.27	.86	0.25
29. Consistency	4.10	0.63	.61	0.42	.80	0.28	.82	0.28	.85	0.25
30. Enterprising	4.04	0.62	.59	0.43	.81	0.27	.82	0.29	.85	0.26
31. Institution-centered	4.26	0.50	.66	0.36	.87	0.18	.85	0.24	.88	0.21
32. Clarity	4.02	0.64	.60	0.42	.79	0.29	.82	0.28	.85	0.26
33. Allocates responsibilities	3.94	0.61	.61	0.41	.81	0.27	.83	0.27	.86	0.25
34. Resolves conflicts	3.85	0.73	.51	0.53	.73	0.38	.77	0.37	.80	0.34
35. Assists faculty goals	3.92	0.63	.59	0.43	.80	0.28	.82	0.29	.85	0.26
36. Makes sound suggestions	4.01	0.64	.61	0.41	.80	0.29	.83	0.28	.86	0.25
37. Advocates dept. to admin	4.19	0.59	.59	0.43	.82	0.25	.82	0.29	.85	0.26
38. Acts as though morale vital	3.91	0.73	.50	0.54	.73	0.38	.77	0.37	.80	0.34
39. Tries out new ideas	4.00	0.62	.63	0.39	.81	0.27	.83	0.26	.86	0.24
40. Sees that fac. are working	3.89	0.58	.62	0.40	.83	0.24	.83	0.27	.86	0.24
41. Looks out for fac. welfare	4.01	0.65	.53	0.51	.79	0.30	.78	0.35	.82	0.32
42. Lets fac. know expectations	4.07	0.57	.65	0.36	.84	0.23	.85	0.24	.88	0.22
43. Promotes inclusiveness and diversity	4.21	0.56	.62	0.40	.84	0.22	.83	0.27	.86	0.24
44. Coordinates fac. work	3.91	0.62	.61	0.41	.81	0.27	.83	0.28	.86	0.25
45. Explains the basis for decisions	4.05	0.65	.62	0.40	.79	0.30	.83	0.26	.86	0.24
46. Lets members know good job	4.14	0.58	.61	0.41	.83	0.24	.83	0.28	.86	0.25
47. Makes sure his/her part is understood	4.04	0.61	.62	0.40	.81	0.27	.83	0.27	.86	0.24
48. Acts as though accomplishments vital	4.21	0.56	.64	0.38	.85	0.22	.84	0.25	.87	0.23
49. Maintains standards of performance	4.08	0.60	.64	0.38	.82	0.25	.84	0.25	.87	0.23
50. Puts suggestions into action	4.00	0.62	.60	0.43	.81	0.27	.82	0.29	.85	0.26
51. Facilitates positive relationships	4.18	0.61	.58	0.45	.81	0.26	.81	0.30	.84	0.27
52. Encourages teamwork	4.05	0.63	.59	0.43	.80	0.28	.82	0.29	.85	0.26
53. Provides feedback	4.05	0.59	.63	0.39	.82	0.25	.84	0.26	.86	0.24
54. Confidence in leadership	4.12	0.69	.54	0.49	.76	0.34	.79	0.34	.82	0.31
55. Excellent leadership	4.07	0.69	.55	0.48	.76	0.34	.79	0.33	.83	0.30

Internal Consistency of Factor Scale Scores and Overall Scales

Another estimate of internal consistency is *Cronbach's coefficient alpha (α)* (Cronbach, 1951) or the *intraclass coefficient*, which is reflective of the average inter-correlation among items. Cronbach's α is a ratio of (a) the number of items in the subscale squared and then multiplied by the average covariance between items, and (b) the sum of all subscale item variances and covariances. Again, values range from .00 to 1.00. Although neither factor scores nor scale scores are provided in the *Chair Report*, we computed the intraclass coefficients to offer additional evidence of the internal consistency of the dimensions of the CSA and FPC.

Internal Consistency of CSA Factors Scales

First, we computed Cronbach α coefficients for the factor scales revealed in the principle components analysis (PCA) of chair priority ratings of administrative responsibilities (see Table 35). All but the "Administrative Support" scale had intraclass coefficients greater than or equal to .69.

Table 35

Cronbach α Coefficients for the Five Factors of Chair Priority Ratings of Administrative Responsibilities

Factor	Cronbach α
Program Leadership	.74
Personnel Management	.70
Developing Positive Climate	.71
Building Image/Reputation	.69
Administrative Support	.52

Next, we calculated intraclass coefficients for the factor scales found in the PCA chair self-ratings of administrative responsibilities (see Table 36). Three factor scales showed acceptable internal consistency: Cronbach's α ranged from .71 to .82, while two scales "Developing Positive Climate" and "Administrative Support" showed marginal internal consistency (Cronbach's α = .66).

Table 36

Cronbach α Coefficients for the Five Factor Scales of Chair Self-Ratings of Administrative Responsibilities

Factor	Cronbach α
Program Leadership	.82
Personnel Management	.81
Developing Positive Climate	.66
Building Image/Reputation	.71
Administrative Support	.66

We also tested the internal consistency of the two factor scales revealed in the PCAs of the chair self-ratings of personal characteristics (see Table 37) and administrative methods (see Table 38). The "Faculty Relationships" scale underlying personal characteristics showed

marginal internal consistency, whereas the "Faculty and Administrative Management" scale showed acceptable internal consistency. Both administrative methods scales showed high internal consistency.

Table 37

Cronbach α Coefficients for the Two Factor Scales of Chair Self-Ratings of Personal Characteristics

Factor	Cronbach α
Faculty and Administrative Management	.79
Faculty Relationships	.68

Table 38

Cronbach α Coefficients for the Two Factor Scales of Chair Self-Ratings of Administrative Methods

Factor	Cronbach α
Faculty and Administrative Management	.87
Faculty Relationships	.88

Internal Consistency of FPC Scales

We tested the internal consistency of the single dimension scales revealed in the PCAs of faculty ratings of chair performance of administrative responsibilities, personal characteristics, and administrative methods. Cronbach α coefficient for the single dimension faculty ratings of performance on the 21 administrative responsibilities was .99, which indicates very high internal consistency. Internal consistency was also very high for both the 11-item personal characteristics scale (Cronbach's α = .98) and the 21-item administrative methods scale (Cronbach's α = .99). The very high internal consistency indicates ratings on all items within each of the respective scales are closely related.

Estimates of Item Stability

Stability refers to the consistency of a measure across time, which provides additional evidence of reliability. We examined the stability of the faculty ratings for 234 chairs who participated in the IDEA FSC on at least two different occasions. If a given chair participated more than twice, the participation closest in time to that of the database preparation was used. The time between ratings varied. Table 39 shows the Pearson *r* "test-retest" correlations for all items on the FPC. Coefficients ranged from .57 to .75, with a median of .61, which indicated that there was moderate-to-strong stability between performance ratings of the same department chairs. Extremely high test-retest correlations are not necessarily to be expected, because some chairs may make more improvements than others, which would reduce the magnitude of the correlations.

Table 39

Pearson r *Correlations between Faculty Performance Ratings of the Same Chair on Two Different Occasions* (*N* = 234)

FPC Item	Pearson *r*
1. Attending to essential administrative tasks	.64
2. Fostering good teaching in the department	.66
3. Assisting in securing funding from external sources	.54
4. Leading in establishing and monitoring progress on department goals	.63
5. Guiding the development of sound procedures for assessing faculty	.65
6. Facilitating successful recruitment and selection of promising faculty	.56
7. Communicating the department's needs to the dean	.61
8. Developing collegiality/cooperation among faculty members	.68
9. Stimulating research, scholarly activity, and/or creative endeavors	.66
10. Guiding the development of a sound plan to carry out departmental programs	.62
11. Promoting a positive image of the department within the campus community	.63
12. Fostering the development of each faculty member's special talents	.67
13. Ensuring that new faculty and staff are acquainted with procedures	.57
14. Clearly communicating expectations of the campus administration	.60
15. Stimulating or rejuvenating faculty vitality/enthusiasm	.70
16. Facilitating curriculum development	.62
17. Establishing trust between himself/herself and members of the faculty	.67
18. Promoting a positive image of the department to off-campus constituencies	.57
19. Rewarding faculty in accordance with their contributions to the department	.57
20. Ensuring the assessment of student learning outcomes is meaningful	.63
21. Actively supporting student recruitment and retention efforts	.64
22. Problem solving ability	.62
23. Demonstrates caring	.67
24. Practical judgment	.65
25. Trustworthy	.63
26. Flexibility/adaptability	.62
27. Fairness	.65
28. Organizational skills	.75
29. Consistency	.68
30. Enterprising	.57
31. Institution-centered	.56
32. Clarity	.67
33. Allocates responsibilities	.68
34. Resolves conflicts	.71
35. Assists faculty goals	.68
36. Makes sound suggestions	.65
37. Advocates dept. to admin	.61
38. Acts as though morale vital	.70
39. Tries out new ideas	.62
40. Sees that fac. are working	.63
41. Looks out for fac. welfare	.65
42. Lets fac. know expectations	.62

43. Promotes inclusiveness and diversity	.58
44. Coordinates fac. work	.61
45. Explains the basis for decisions	.60
46. Lets members know good job	.61
47. Makes sure his/her part is understood	.61
48. Acts as though accomplishments vital	.56
49. Maintains standards of performance	.67
50. Puts suggestions into action	.61
51. Facilitates positive relationships	.60
52. Encourages teamwork	.64
53. Provides feedback	.57
54. Confidence in leadership	.64
55. Excellent leadership	.68

Summary

We presented three sources of evidence for the reliability of the FSC instruments. First, within-group interrater reliability was moderate to high at the department level for faculty ratings of the same chair on the same occasion. Similarly, standard error of measurement estimates supported the dependability of individual items. Second, intraclass reliability coefficients demonstrated acceptable internal consistency for the priority ratings of the five subscales of the CSA. Internal consistency was also acceptable for chair self-ratings of the 21-item administrative responsibilities, 11-item personal characteristics, and 21-item administrative methods subscales. Third, high internal consistency was shown for faculty ratings of the FPC scales. Finally, test-retest correlation coefficients revealed stability in faculty ratings of the same chair across time.

CRITERION-REFERENCE INTERPRETATIONS

Criterion-referenced interpretations are based on an individual's standing with respect to some standard. The IDEA *Chair Report* supplies criterion-referenced interpretations for the administrative responsibilities, personal characteristics and administrative methods. In addition, gap scores reflect the difference between chair self-ratings and faculty perceptions of the chair's performance. In the report, chairs are deemed to have achieved "positive" ratings on an administrative responsibility when at least 70% of the faculty rated the trait as either a "4" (*Good*) or "5" (*Outstanding*). For personal characteristic and administrative methods, "positive" ratings are also indicated when at least 70% of faculty have perceived the trait as "4" (*More a strength than a weakness*) or a "5" (*Definite strength*). The criterion of 70% is not arbitrary, but is instead informed by normative data. To paraphrase Angoff (1974), if you scratch a criterion, you will very likely find a norm. The "norms" for faculty ratings of performance were first derived from an analysis conducted by Benton et al. (2010) and were re-confirmed using the current sample. The percent of faculty rating the chair as "4" or "5" on each of the 21 responsibilities is shown in Table 40; the percentages for personal characteristics, administrative methods, and summary judgments are shown in Table 41. As shown at the bottom of the tables, the median percent of faculty responding "4" or "5" across all administrative responsibility items was 70.5%. Similarly, the median percent of faculty responding "4" or "5" across all personal characteristic and administrative methods items was

73.7%. So, the standard of 70% remains a reasonable expectation.

Gap scores between chair self-ratings and mean faculty ratings of performance provide another opportunity for criterion-referenced interpretations. Qualitative categories are used to position the chair relative to the faculty on each characteristic, using the following scale:

"Higher" = The chair's self-rating is at least one-half point (0.5) higher than the faculty average.
"Similar" = The chair's self-rating is within one-half-point (0.5) of the faculty average.
"Lower" = The chair's self-rating is at least one-half point (0.5) lower than the faculty average.

The one-half point criterion is based on the logic that any gap less than 0.5 on a five-point scale is not a meaningful difference. A gap of 0.5 or greater typically would mean the majority of faculty are giving the chair a rating different from his or her self-rating. Table 42 shows the means and standard deviations for all administrative responsibilities, personal characteristics, and administrative methods gap scores. All gap scores were within the $\pm$ 0.5 difference with one exception: On average, chairs tended to rate themselves at least 0.5 higher than did faculty on "Assisting in securing funding from external sources." All other gap scores were within the $\pm$ 0.5 difference.

Table 40

Percent of Faculty Rating Chair "Good" or "Outstanding" on Administrative Responsibilities
(Calculated Using Individual Faculty as the Unit of Analysis)

Item	Faculty level data: Raw % "Good" and "Outstanding"
1. Attending to essential administrative tasks	81.5
2. Fostering good teaching in the department	75.3
3. Assisting in securing funding from external sources	59.2
4. Leading in establishing and monitoring progress on department goals	73.1
5. Guiding the development of sound procedures for assessing faculty	68.1
6. Facilitating successful recruitment and selection of promising faculty	72.1
7. Communicating the department's needs to the dean	75.1
8. Developing collegiality/cooperation among faculty members	70.5
9. Stimulating research, scholarly activity, and/or creative endeavors	69.4
10. Guiding the development of a sound plan to carry out departmental programs	68.5
11. Promoting a positive image of the department within the campus community	79.2
12. Fostering the development of each faculty member's special talents	68.7
13. Ensuring that new faculty and staff are acquainted with procedures	68.7
14. Clearly communicating expectations of the campus administration	75.6
15. Stimulating or rejuvenating faculty vitality/enthusiasm	62.1
16. Facilitating curriculum development	69.0
17. Establishing trust between himself/herself and members of the faculty	71.0
18. Promoting a positive image of the department to off-campus constituencies	76.2
19. Rewarding faculty in accordance with their contributions to the department	62.2
20. Ensuring the assessment of student learning outcomes is meaningful	69.9
21. Actively supporting student recruitment and retention efforts	73.4
Mean %	70.90
Median %	70.50
SD	5.48

Note.   Percentages are calculated without number of missing values in the denominator (equivalent to "Valid Percent" in SPSS terminology).

Table 41

Percent of Faculty Rating Chair Positively on Personal Characteristics, Administrative Methods, and Summary Judgments (Calculated Using Individual Faculty as the Unit of Analysis)

Item	Faculty level data: Raw % "Good" and "Outstanding"
22. Problem solving ability	76.9
23. Demonstrates caring	77.6
24. Practical judgment	77.4
25. Trustworthy	77.5
26. Flexibility/adaptability	74.5
27. Fairness	75.6
28. Organizational skills	76.7
29. Consistency	75.8
30. Enterprising	70.9
31. Institution-centered	79.2
32. Clarity	73.1
33. Allocates responsibilities	68.6
34. Resolves conflicts	64.5
35. Assists faculty goals	68.3
36. Makes sound suggestions	72.0
37. Advocates dept. to admin	75.1
38. Acts as though morale vital	69.0
39. Tries out new ideas	69.7
40. Sees that fac. are working	66.1
41. Looks out for fac. welfare	70.9
42. Lets fac. know expectations	73.9
43. Promotes inclusiveness and diversity	77.1
44. Coordinates fac. work	67.0
45. Explains the basis for decisions	73.5
46. Lets members know good job	75.9
47. Makes sure his/her part is understood	72.6
48. Acts as though accomplishments vital	78.2
49. Maintains standards of performance	74.2
50. Puts suggestions into action	70.4
51. Facilitates positive relationships	76.2
52. Encourages teamwork	72.9
53. Provides feedback	72.2
54. Confidence in chair's leadership	75.2
55. Chair has provided excellent leadership	73.5
Mean %	73.30
Median %	73.70
SD	3.73

Note.   Percentages are calculated without number of missing values in the denominator (equivalent to "Valid Percent" in SPSS terminology).

Table 42

*Means and Standard Deviations for Gap Scores of Administrative Responsibilities, Personal Characteristics and Administrative Methods (*N *=762)*

Item	*M*	*SD*
1. Attending to essential administrative tasks	0.00	0.80
2. Fostering good teaching in the department	-0.23	0.90
3. Assisting in securing funding from external sources	-0.50	1.20
4. Leading in establishing and monitoring progress on department goals	-0.37	0.98
5. Guiding the development of sound procedures for assessing faculty	-0.25	1.05
6. Facilitating successful recruitment and selection of faculty	0.04	1.06
7. Communicating the department's needs to the dean	0.15	0.89
8. Developing collegiality/cooperation among faculty members	0.06	0.93
9. Stimulating research, scholarly activity, and/or creative endeavors	-0.18	1.06
10. Guiding the development of a sound plan to carry out programs	-0.17	1.07
11. Promoting a positive image of the department within the campus	-0.04	0.95
12. Fostering the development of each faculty member's special talents	-0.07	0.97
13. Ensuring that new faculty and staff are acquainted with procedures	-0.16	1.02
14. Clearly communicating expectations of the campus administration	-0.06	0.92
15. Stimulating or rejuvenating faculty vitality/enthusiasm	-0.06	1.01
16. Facilitating curriculum development	-0.13	1.02
17. Establishing trust between himself/herself and members of the faculty	0.21	0.88
18. Promoting a positive image of the department to off-campus constituencies	-0.18	0.98
19. Rewarding faculty in accordance with their contributions to the department	-0.12	1.11
20. Ensuring the assessment of student learning outcomes is meaningful	-0.42	1.03
21. Actively supporting student recruitment and retention efforts	-0.21	1.02
22. Problem solving ability	0.31	0.84
23. Demonstrates caring	0.11	0.90
24. Practical judgment	0.19	0.85
25. Trustworthy	0.46	0.82
26. Flexibility/adaptability	0.13	0.94
27. Fairness	0.40	0.86
28. Organizational skills	-0.15	1.01
29. Consistency	0.11	0.94
30. Enterprising	-0.31	1.07
31. Institution-centered	-0.26	0.97
32. Clarity	-0.14	0.93
33. Allocates responsibilities	0.07	0.88
34. Resolves conflicts	0.05	0.94
35. Assists faculty goals	-0.05	0.98
36. Makes sound suggestions	0.21	0.90
37. Advocates dept. to admin	0.11	0.90
38. Acts as though morale vital	0.18	0.96
39. Tries out new ideas	0.00	0.92
40. Sees that fac. are working	-0.30	0.96
41. Looks out for fac. welfare	0.15	0.94
42. Lets fac. know expectations	-0.06	0.90

43. Promotes inclusiveness and diversity	-0.10	0.99
44. Coordinates fac. work	-0.13	0.95
45. Explains the basis for decisions	0.10	0.92
46. Lets members know good job	0.09	0.89
47. Makes sure his/her part is understood	-0.20	0.97
48. Acts as though accomplishments vital	-0.04	0.91
49. Maintains standards of performance	-0.04	0.98
50. Puts suggestions into action	0.06	0.90
51. Facilitates positive relationships	-0.06	0.94
52. Encourages teamwork	0.07	0.92
53. Provides feedback	-0.04	0.96

SUMMARY

The IDEA FSC is built upon a foundation of well-established items dating from the early 1970s to the current version. The purpose of this report was to convey findings from analyses conducted on data collected from 2013 to 2016. Evidence was presented to support the validity and reliability of the CSA and FPC instruments.

Quantitative analyses were performed on aggregated data from 11,169 faculty members rating 762 different chairs from 54 institutions. The IDEA database represents a diverse group of users. Most departments in the database resided in an institution awarding either a master's degree or the doctorate. Most institutions were public, although approximately a third were private institutions. All accrediting regions of the country were represented, but the North Central, Southern, and Middle States were most prominent. Chair years of service varied, but more than half had been in their current position for at least four years.

Several kinds of validity evidence were presented. First, factor analysis provided evidence of multidimensionality in chair priority ratings of administrative responsibilities. In addition, chair self-ratings of performance on administrative responsibilities, personal characteristics, and administrative methods were multidimensional. In contrast, faculty ratings of the chair's performance were unidimensional. Second, Bayesian Model Averaging provided evidence of the relationships between faculty ratings of personal characteristics/administrative methods and responsibilities. Finally, evidence for the content validity of the items can be found in a previously published technical report (Benton et al., 2010).

The reliability of items in the revised FSC instruments was supported by substantial evidence. Estimates of within group interrater reliability were moderate to high, depending on number of raters, and standard errors of measurement were low enough to support the dependability of interpretations based on individual item scores. Subscales derived from the factor analysis of the CSA generally showed high internal consistency, as did the overall scales of the FPC. Finally, faculty ratings of the chair's performance showed good stability across time for chairs rated on at least two occasions.

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APPENDIX A

Within-group Interrater Reliability Coefficients on the Faculty Perceptions of Chair Instrument for Five or More Respondents and Eight or More Respondents

Within-group Interrater Reliability Coefficients on the Faculty Perceptions of Chair Instrument
for Five or More Respondents and Eight or More Respondents

Item	n = 762			n = 615		
	M	SD	r	M	SD	r
1. Attending to essential administrative tasks	3.88	0.66	.78	3.88	0.63	.80
2. Fostering good teaching in the department	4.03	0.65	.79	4.02	0.61	.81
3. Assisting in securing funding from external sources	4.23	0.57	.84	4.24	0.54	.85
4. Leading in establishing and monitoring progress on department goals	4.08	0.57	.84	4.08	0.55	.85
5. Guiding the development of sound procedures for assessing faculty	3.70	0.73	.74	3.71	0.70	.76
6. Facilitating successful recruitment and selection of promising faculty	4.01	0.63	.80	4.02	0.60	.82
7. Communicating the department's needs to the dean	4.17	0.58	.83	4.17	0.56	.84
8. Developing collegiality/cooperation among faculty members	3.92	0.74	.73	3.91	0.71	.75
9. Stimulating research, scholarly activity, and/or creative endeavors	3.89	0.64	.79	3.90	0.61	.81
10. Guiding the development of a plan to carry out programs	3.89	0.68	.77	3.90	0.65	.79
11. Promoting a positive image within the campus community	4.22	0.61	.81	4.21	0.60	.82
12. Fostering the development of each faculty member's special talents	3.89	0.66	.78	3.88	0.64	.80
13. Ensuring that new faculty and staff are acquainted with procedures	4.01	0.61	.81	4.01	0.58	.83
14. Clearly communicating expectations of the campus administration	4.09	0.58	.83	4.09	0.55	.85
15. Stimulating or rejuvenating faculty vitality/enthusiasm	3.67	0.74	.72	3.66	0.72	.74
16. Facilitating curriculum development	3.95	0.61	.81	3.94	0.59	.82
17. Establishing trust between himself/herself and members of the faculty	3.93	0.79	.69	3.92	0.76	.71
18. Promoting a positive image to off-campus constituencies	4.25	0.59	.82	4.24	0.58	.83
19. Rewarding faculty in accordance with their contributions	3.76	0.66	.78	3.76	0.62	.81
20. Ensuring the assessment of student learning outcomes is meaningful	4.00	0.59	.83	3.99	0.56	.84
21. Actively supporting student recruitment and retention efforts	4.14	0.58	.83	4.13	0.56	.84
22. Problem solving ability	4.14	0.60	.82	4.14	0.58	.83
23. Demonstrates caring	4.17	0.66	.78	4.17	0.65	.79
24. Practical judgment	4.16	0.61	.81	4.15	0.60	.82
25. Trustworthy	4.17	0.68	.77	4.17	0.65	.79
26. Flexibility/adaptability	4.09	0.66	.78	4.08	0.64	.80
27. Fairness	4.11	0.64	.80	4.10	0.62	.81
28. Organizational skills	4.10	0.64	.79	4.12	0.62	.81
29. Consistency	4.10	0.63	.80	4.09	0.60	.82
30. Enterprising	4.04	0.62	.81	4.03	0.58	.83
31. Institution-centered	4.26	0.50	.87	4.25	0.48	.88
32. Clarity	4.02	0.64	.79	4.02	0.62	.81
33. Allocates responsibilities	3.94	0.61	.81	3.93	0.58	.83
34. Resolves conflicts	3.85	0.73	.73	3.83	0.71	.75
35. Assists faculty goals	3.92	0.63	.80	3.92	0.60	.82
36. Makes sound suggestions	4.01	0.64	.80	4.00	0.62	.81
37. Advocates dept. to admin	4.19	0.59	.82	4.18	0.58	.83
38. Acts as though morale vital	3.91	0.73	.73	3.91	0.70	.75
39. Tries out new ideas	4.00	0.62	.81	3.99	0.59	.82
40. Sees that fac. are working	3.89	0.58	.83	3.87	0.56	.84
41. Looks out for fac. welfare	4.01	0.65	.79	4.00	0.64	.80
42. Lets fac. know expectations	4.07	0.57	.84	4.06	0.54	.85

43. Promotes inclusiveness and diversity	4.21	0.56	.84	4.21	0.54	.86
44. Coordinates fac. work	3.91	0.62	.81	3.90	0.59	.83
45. Explains the basis for decisions	4.05	0.65	.79	4.03	0.62	.81
46. Lets members know good job	4.14	0.58	.83	4.12	0.56	.85
47. Makes sure his/her part is understood	4.04	0.61	.81	4.02	0.59	.83
48. Acts as though accomplishments vital	4.21	0.56	.85	4.20	0.53	.86
49. Maintains standards of performance	4.08	0.60	.82	4.08	0.56	.84
50. Puts suggestions into action	4.00	0.62	.81	3.98	0.60	.82
51. Facilitates positive relationships	4.18	0.61	.81	4.17	0.61	.82
52. Encourages teamwork	4.05	0.63	.80	4.05	0.60	.82
53. Provides feedback	4.05	0.59	.82	4.04	0.57	.84
54. Confidence in leadership	4.12	0.69	.76	4.11	0.67	.77
55. Excellent leadership	4.07	0.69	.76	4.06	0.67	.77

APPENDIX B

Bayesian Model Averaging Results Tables

1. Attends to admin. details ($n = 744$)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25	0.925	0.167	0.067	2.493
Chair26				
Chair27				
Chair28	1.000	0.462	0.029	15.931
Chair29				
Chair30				
Chair31				
Chair32				
Chair33	1.000	0.214	0.039	5.487
Chair34				
Chair35				
Chair36				
Chair37				
Chair38				
Chair39				
Chair40				
Chair41				
Chair42				
Chair43				
Chair44	1.000	0.192	0.042	4.571
Chair45				
Chair46				
Chair47				
Chair48				
Chair49				
Chair50				
Chair51	1.000	0.133	0.030	4.433
Chair52				
Chair53				

2. Fosters good teaching (*n* = 733)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25				
Chair26				
Chair27				
Chair28				
Chair29				
Chair30				
Chair31				
Chair32				
Chair33				
Chair34				
Chair35				
Chair36				
Chair37				
Chair38	1.000	0.181	0.042	4.310
Chair39				
Chair40				
Chair41				
Chair42				
Chair43				
Chair44	1.000	0.207	0.042	4.929
Chair45				
Chair46				
Chair47				
Chair48				
Chair49	1.000	0.185	0.043	4.302
Chair50				
Chair51				
Chair52				
Chair53	0.989	0.149	0.043	3.465

3. Obtains grants ($n = 541$)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25				
Chair26				
Chair27				
Chair28				
Chair29				
Chair30	1.000	0.504	0.053	9.509
Chair31				
Chair32				
Chair33				
Chair34				
Chair35	0.986	0.199	0.061	3.262
Chair36				
Chair37	1.000	0.237	0.050	4.740
Chair38				
Chair39				
Chair40				
Chair41				
Chair42				
Chair43				
Chair44				
Chair45				
Chair46				
Chair47				
Chair48				
Chair49				
Chair50				
Chair51				
Chair52				
Chair53				

4. Monitors progress (*n* = 725)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25				
Chair26				
Chair27				
Chair28	1.000	0.206	0.032	6.437
Chair29				
Chair30	0.983	0.123	0.037	3.324
Chair31	0.999	0.103	0.028	3.679
Chair32				
Chair33				
Chair34				
Chair35				
Chair36	1.000	0.358	0.047	7.617
Chair37				
Chair38				
Chair39				
Chair40				
Chair41				
Chair42				
Chair43				
Chair44				
Chair45				
Chair46				
Chair47				
Chair48				
Chair49	0.908	0.124	0.057	2.175
Chair50				
Chair51				
Chair52				
Chair53				

5. Assesses faculty performance (*n* = 682)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25				
Chair26				
Chair27				
Chair28	1.000	0.121	0.030	4.033
Chair29				
Chair30				
Chair31				
Chair32				
Chair33				
Chair34				
Chair35	1.000	0.181	0.040	4.525
Chair36				
Chair37				
Chair38				
Chair39				
Chair40				
Chair41				
Chair42				
Chair43				
Chair44				
Chair45				
Chair46				
Chair47				
Chair48				
Chair49	1.000	0.242	0.045	5.378
Chair50				
Chair51				
Chair52				
Chair53				

6. Recruits promising faculty ($n = 713$)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25	0.988	0.194	0.054	3.593
Chair26				
Chair27				
Chair28				
Chair29				
Chair30	0.999	0.201	0.044	4.568
Chair31				
Chair32				
Chair33				
Chair34				
Chair35				
Chair36				
Chair37	1.000	0.190	0.044	4.318
Chair38				
Chair39				
Chair40				
Chair41				
Chair42				
Chair43				
Chair44				
Chair45				
Chair46				
Chair47				
Chair48				
Chair49				
Chair50				
Chair51				
Chair52				
Chair53				

7. Communicates dept. needs (*n* = 749)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25				
Chair26				
Chair27				
Chair28				
Chair29				
Chair30				
Chair31				
Chair32				
Chair33				
Chair34				
Chair35				
Chair36				
Chair37	1.000	0.668	0.030	22.267
Chair38				
Chair39				
Chair40				
Chair41				
Chair42				
Chair43				
Chair44				
Chair45				
Chair46				
Chair47	0.999	0.166	0.036	4.611
Chair48				
Chair49				
Chair50				
Chair51				
Chair52				
Chair53				

8. Develops collegiality (*n* = 735)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25	1.000	0.189	0.031	6.097
Chair26				
Chair27				
Chair28				
Chair29				
Chair30				
Chair31				
Chair32				
Chair33				
Chair34	1.000	0.315	0.027	11.667
Chair35				
Chair36				
Chair37				
Chair38	1.000	0.274	0.038	7.211
Chair39				
Chair40				
Chair41				
Chair42				
Chair43				
Chair44				
Chair45				
Chair46				
Chair47				
Chair48				
Chair49				
Chair50				
Chair51				
Chair52	1.000	0.173	0.030	5.767
Chair53				

9. Stimulates research (n = 709)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25				
Chair26				
Chair27				
Chair28				
Chair29				
Chair30	1.000	0.299	0.038	7.868
Chair31				
Chair32				
Chair33				
Chair34				
Chair35	1.000	0.374	0.041	9.122
Chair36				
Chair37				
Chair38				
Chair39				
Chair40				
Chair41				
Chair42				
Chair43				
Chair44				
Chair45				
Chair46				
Chair47				
Chair48				
Chair49				
Chair50				
Chair51				
Chair52				
Chair53				

10. Guides organizational plan ($n = 726$)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25				
Chair26				
Chair27				
Chair28				
Chair29				
Chair30	0.999	0.128	0.029	4.414
Chair31				
Chair32				
Chair33				
Chair34				
Chair35				
Chair36	1.000	0.445	0.044	10.114
Chair37	0.996	0.109	0.031	3.516
Chair38				
Chair39				
Chair40				
Chair41				
Chair42				
Chair43				
Chair44	0.992	0.153	0.045	3.400
Chair45				
Chair46				
Chair47				
Chair48				
Chair49				
Chair50				
Chair51				
Chair52				
Chair53				

11. Prom pos on-campus image (n = 727)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24	0.994	0.206	0.049	4.204
Chair25				
Chair26				
Chair27				
Chair28				
Chair29				
Chair30				
Chair31	1.000	0.166	0.031	5.355
Chair32				
Chair33				
Chair34				
Chair35				
Chair36				
Chair37	1.000	0.249	0.032	7.781
Chair38	1.000	0.213	0.048	4.438
Chair39				
Chair40				
Chair41				
Chair42				
Chair43				
Chair44				
Chair45				
Chair46				
Chair47				
Chair48	1.000	0.155	0.036	4.306
Chair49				
Chair50				
Chair51				
Chair52				
Chair53				

12. Fosters faculty talents ($n = 723$)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25				
Chair26				
Chair27				
Chair28				
Chair29				
Chair30				
Chair31				
Chair32				
Chair33	0.987	0.102	0.031	3.290
Chair34				
Chair35	1.000	0.327	0.030	10.900
Chair36				
Chair37				
Chair38				
Chair39				
Chair40				
Chair41	0.984	0.139	0.042	3.310
Chair42				
Chair43				
Chair44				
Chair45				
Chair46				
Chair47				
Chair48				
Chair49				
Chair50	1.000	0.133	0.029	4.586
Chair51				
Chair52				
Chair53				

13. Acquaints new faculty/staff ($n = 718$)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25				
Chair26				
Chair27				
Chair28	0.999	0.150	0.034	4.412
Chair29				
Chair30				
Chair31				
Chair32				
Chair33				
Chair34				
Chair35				
Chair36				
Chair37				
Chair38				
Chair39				
Chair40				
Chair41				
Chair42	0.999	0.217	0.049	4.429
Chair43				
Chair44				
Chair45				
Chair46				
Chair47	1.000	0.238	0.052	4.577
Chair48				
Chair49				
Chair50				
Chair51				
Chair52				
Chair53				

14. Comm. admin. expectations ($n = 730$)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25				
Chair26				
Chair27				
Chair28	1.000	0.123	0.027	4.556
Chair29				
Chair30				
Chair31	0.993	0.102	0.030	3.400
Chair32	0.992	0.153	0.045	3.400
Chair33	0.995	0.131	0.038	3.447
Chair34				
Chair35				
Chair36				
Chair37				
Chair38				
Chair39	0.957	0.115	0.043	2.674
Chair40				
Chair41				
Chair42				
Chair43				
Chair44				
Chair45	0.955	0.148	0.054	2.741
Chair46				
Chair47	1.000	0.291	0.045	6.467
Chair48				
Chair49				
Chair50				
Chair51				
Chair52				
Chair53				

15. Stimulates fac. enthusiasm ($n = 701$)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25				
Chair26				
Chair27				
Chair28				
Chair29				
Chair30	1.000	0.154	0.025	6.160
Chair31				
Chair32				
Chair33	1.000	0.137	0.028	4.893
Chair34				
Chair35				
Chair36				
Chair37				
Chair38	1.000	0.457	0.041	11.146
Chair39	1.000	0.112	0.028	4.000
Chair40				
Chair41				
Chair42				
Chair43				
Chair44				
Chair45				
Chair46				
Chair47				
Chair48				
Chair49				
Chair50				
Chair51				
Chair52				
Chair53				

16. Guides curriculum development ($n = 699$)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22	1.000	0.170	0.041	4.146
Chair23				
Chair24				
Chair25				
Chair26				
Chair27				
Chair28				
Chair29				
Chair30				
Chair31				
Chair32				
Chair33				
Chair34				
Chair35				
Chair36	1.000	0.207	0.051	4.059
Chair37				
Chair38				
Chair39	1.000	0.253	0.037	6.838
Chair40				
Chair41				
Chair42				
Chair43				
Chair44	1.000	0.247	0.045	5.489
Chair45				
Chair46				
Chair47				
Chair48				
Chair49				
Chair50				
Chair51				
Chair52				
Chair53				

17. Establishes trust ($n = 745$)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23	1.000	0.110	0.024	4.583
Chair24				
Chair25	1.000	0.374	0.031	12.065
Chair26				
Chair27				
Chair28				
Chair29				
Chair30				
Chair31				
Chair32	0.979	0.081	0.026	3.115
Chair33				
Chair34	1.000	0.134	0.021	6.381
Chair35				
Chair36	0.980	0.080	0.027	2.963
Chair37				
Chair38	1.000	0.124	0.026	4.769
Chair39				
Chair40				
Chair41				
Chair42				
Chair43				
Chair44				
Chair45				
Chair46				
Chair47				
Chair48				
Chair49				
Chair50				
Chair51				
Chair52				
Chair53				

18. Prom pos off-campus image (*n* = 702)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25				
Chair26				
Chair27				
Chair28				
Chair29				
Chair30	1.000	0.213	0.037	5.757
Chair31	1.000	0.169	0.036	4.694
Chair32				
Chair33				
Chair34				
Chair35				
Chair36				
Chair37	1.000	0.224	0.038	5.895
Chair38				
Chair39				
Chair40				
Chair41				
Chair42				
Chair43	1.000	0.227	0.039	5.821
Chair44				
Chair45				
Chair46				
Chair47				
Chair48				
Chair49				
Chair50				
Chair51				
Chair52				
Chair53				

19. Rewards fac. appropriately ($n = 696$)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25				
Chair26				
Chair27	1.000	0.287	0.058	4.948
Chair28				
Chair29				
Chair30				
Chair31				
Chair32				
Chair33	0.998	0.167	0.045	3.711
Chair34				
Chair35	0.971	0.150	0.050	3.000
Chair36				
Chair37				
Chair38				
Chair39				
Chair40	0.993	0.147	0.041	3.585
Chair41				
Chair42				
Chair43				
Chair44				
Chair45				
Chair46	1.000	0.166	0.038	4.368
Chair47				
Chair48				
Chair49				
Chair50				
Chair51				
Chair52				
Chair53				

20. Assessment of student learning ($n = 691$)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25				
Chair26				
Chair27				
Chair28	0.953	0.106	0.040	2.650
Chair29				
Chair30				
Chair31	1.000	0.145	0.035	4.143
Chair32				
Chair33				
Chair34				
Chair35				
Chair36				
Chair37				
Chair38				
Chair39				
Chair40	1.000	0.208	0.045	4.622
Chair41				
Chair42				
Chair43				
Chair44	1.000	0.264	0.052	5.077
Chair45				
Chair46				
Chair47				
Chair48				
Chair49				
Chair50				
Chair51				
Chair52				
Chair53				

21. Supporting stu. recruit. and retent. (*n* = 692)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22				
Chair23				
Chair24				
Chair25				
Chair26				
Chair27				
Chair28				
Chair29				
Chair30				
Chair31				
Chair32				
Chair33				
Chair34				
Chair35				
Chair36				
Chair37				
Chair38				
Chair39				
Chair40				
Chair41	1.000	0.960	0.008	120.000
Chair42				
Chair43				
Chair44				
Chair45				
Chair46				
Chair47				
Chair48				
Chair49				
Chair50				
Chair51				
Chair52				
Chair53				

54. Confidence in leadership ($n = 758$)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22	1.000	0.171	0.033	5.182
Chair23				
Chair24				
Chair25	1.000	0.185	0.029	6.379
Chair26				
Chair27				
Chair28				
Chair29				
Chair30				
Chair31				
Chair32				
Chair33				
Chair34				
Chair35				
Chair36	1.000	0.239	0.031	7.710
Chair37	1.000	0.100	0.023	4.348
Chair38	0.992	0.122	0.035	3.486
Chair39				
Chair40				
Chair41				
Chair42				
Chair43				
Chair44				
Chair45				
Chair46				
Chair47				
Chair48				
Chair49				
Chair50				
Chair51				
Chair52	0.963	0.100	0.034	2.941
Chair53				

55. Excellent leadership ($n = 758$)

TERM	Posterior effect probability	Posterior Mean	Posterior SD	t
Chair22	1.000	0.111	0.030	3.700
Chair23				
Chair24	1.000	0.148	0.033	4.485
Chair25	1.000	0.140	0.025	5.600
Chair26				
Chair27				
Chair28				
Chair29				
Chair30				
Chair31				
Chair32				
Chair33				
Chair34				
Chair35				
Chair36	1.000	0.162	0.029	5.586
Chair37	0.995	0.074	0.020	3.700
Chair38	1.000	0.150	0.027	5.556
Chair39				
Chair40				
Chair41				
Chair42				
Chair43				
Chair44				
Chair45				
Chair46				
Chair47				
Chair48				
Chair49				
Chair50				
Chair51				
Chair52				
Chair53				

APPENDIX C

Faculty Perceptions of Chair Inter-item Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1	-																										
2	.83	-																									
3	.64	.70	-																								
4	.85	.86	.74	-																							
5	.83	.87	.70	.89	-																						
6	.73	.78	.71	.78	.79	-																					
7	.78	.80	.75	.83	.81	.80	-																				
8	.78	.85	.67	.80	.85	.78	.80	-																			
9	.74	.82	.83	.82	.82	.78	.79	.81	-																		
10	.82	.86	.76	.92	.86	.80	.84	.82	.84	-																	
11	.77	.83	.69	.80	.80	.75	.83	.83	.77	.83	-																
12	.79	.88	.75	.85	.88	.82	.84	.91	.87	.86	.84	-															
13	.83	.81	.63	.82	.83	.74	.78	.81	.77	.81	.77	.83	-														
14	.86	.84	.65	.85	.85	.75	.83	.82	.77	.84	.82	.85	.86	-													
15	.78	.87	.74	.84	.86	.80	.83	.92	.86	.87	.86	.93	.81	.83	-												
16	.80	.88	.68	.86	.85	.77	.80	.83	.80	.87	.82	.86	.80	.83	.87	-											
17	.81	.85	.66	.81	.86	.77	.82	.94	.80	.83	.84	.91	.83	.85	.92	.84	-										
18	.73	.79	.69	.78	.76	.75	.80	.79	.76	.80	.91	.81	.73	.79	.82	.78	.80	-									
19	.75	.82	.72	.81	.85	.79	.82	.85	.83	.81	.78	.89	.78	.79	.87	.81	.85	.76	-								
20	.81	.89	.68	.86	.86	.75	.78	.80	.78	.85	.80	.83	.79	.82	.82	.89	.80	.77	.79	-							
21	.76	.84	.71	.82	.81	.76	.80	.78	.77	.81	.82	.82	.76	.79	.81	.82	.78	.80	.76	.85	-						
22	.84	.85	.73	.85	.85	.78	.84	.83	.82	.87	.83	.85	.80	.84	.85	.84	.85	.80	.82	.83	.80	-					
23	.71	.80	.59	.71	.77	.71	.73	.88	.73	.73	.79	.86	.74	.76	.86	.75	.90	.76	.78	.73	.72	.74	-				
24	.85	.85	.68	.84	.86	.77	.83	.88	.80	.85	.85	.88	.81	.86	.88	.83	.92	.82	.83	.82	.78	.93	.83	-			
25	.79	.82	.62	.78	.83	.75	.78	.90	.76	.79	.80	.87	.79	.80	.86	.79	.95	.77	.81	.77	.74	.83	.89	.90	-		
26	.76	.83	.65	.77	.81	.75	.79	.89	.78	.80	.83	.88	.78	.81	.88	.80	.92	.79	.82	.78	.78	.85	.89	.90	.89	-	
27	.78	.83	.64	.78	.83	.76	.79	.91	.78	.80	.81	.89	.79	.81	.88	.81	.94	.78	.86	.78	.75	.84	.89	.90	.95	.91	-
28	.87	.73	.58	.80	.76	.63	.70	.67	.65	.76	.68	.68	.74	.78	.69	.71	.69	.64	.66	.75	.68	.79	.57	.77	.67	.64	.67
29	.86	.84	.62	.83	.85	.74	.78	.86	.75	.82	.80	.84	.82	.85	.84	.81	.89	.76	.81	.82	.75	.86	.79	.91	.88	.84	.89
30	.70	.77	.80	.82	.75	.76	.80	.73	.82	.83	.79	.79	.71	.73	.81	.79	.72	.80	.75	.76	.79	.82	.66	.78	.67	.74	.71
31	.77	.79	.65	.81	.78	.73	.77	.78	.73	.80	.82	.78	.73	.79	.79	.77	.78	.81	.74	.80	.78	.78	.75	.81	.77	.76	.78
32	.85	.84	.63	.83	.84	.73	.80	.86	.76	.84	.81	.84	.83	.87	.86	.83	.89	.77	.80	.81	.76	.88	.78	.91	.86	.85	.86
33	.82	.83	.68	.82	.85	.78	.80	.88	.81	.83	.80	.88	.82	.85	.88	.83	.89	.78	.84	.81	.78	.85	.79	.88	.86	.85	.89
34	.78	.84	.66	.80	.84	.77	.78	.92	.79	.80	.80	.89	.79	.82	.89	.83	.91	.77	.83	.79	.78	.84	.82	.87	.87	.89	.89
35	.78	.87	.73	.84	.87	.79	.82	.87	.86	.85	.81	.93	.81	.84	.89	.85	.88	.79	.86	.82	.80	.84	.82	.86	.84	.86	.85
36	.83	.86	.73	.89	.86	.80	.85	.86	.84	.92	.84	.88	.82	.86	.89	.88	.89	.81	.83	.85	.80	.90	.78	.91	.84	.86	.86
37	.76	.80	.76	.83	.80	.78	.93	.78	.80	.84	.84	.83	.75	.81	.83	.79	.80	.82	.79	.78	.81	.85	.72	.83	.76	.79	.78
38	.76	.86	.69	.81	.85	.78	.81	.93	.81	.83	.85	.91	.78	.82	.93	.84	.93	.81	.85	.82	.80	.83	.90	.87	.88	.90	.90
39	.73	.84	.73	.83	.80	.77	.80	.81	.82	.84	.80	.86	.77	.80	.87	.85	.80	.78	.80	.80	.80	.82	.76	.80	.74	.81	.78
40	.78	.85	.72	.85	.86	.79	.81	.83	.82	.86	.80	.88	.80	.82	.87	.84	.83	.77	.83	.85	.80	.83	.74	.83	.79	.80	.81
41	.75	.83	.66	.77	.82	.76	.79	.90	.79	.79	.81	.90	.78	.80	.88	.80	.91	.78	.84	.79	.78	.79	.92	.86	.88	.90	.90
42	.84	.86	.67	.86	.88	.76	.81	.85	.80	.84	.80	.87	.85	.87	.85	.84	.86	.77	.83	.83	.79	.85	.77	.86	.83	.82	.85
43	.75	.82	.67	.79	.81	.76	.78	.85	.79	.79	.82	.86	.77	.81	.85	.78	.86	.82	.80	.78	.79	.79	.84	.84	.84	.85	.85
44	.87	.88	.70	.87	.88	.79	.82	.86	.81	.88	.81	.88	.85	.87	.87	.87	.87	.79	.83	.87	.81	.86	.78	.87	.84	.83	.85
45	.82	.85	.67	.83	.85	.77	.82	.88	.80	.84	.80	.88	.83	.87	.87	.83	.92	.76	.84	.81	.78	.86	.83	.90	.89	.87	.89
46	.72	.81	.66	.76	.79	.73	.77	.84	.79	.77	.79	.86	.77	.79	.85	.78	.84	.77	.82	.77	.77	.76	.85	.80	.81	.82	.83
47	.84	.87	.69	.86	.87	.76	.84	.87	.82	.86	.83	.88	.85	.89	.88	.85	.88	.80	.82	.84	.81	.85	.80	.88	.84	.84	.84
48	.77	.83	.73	.83	.81	.76	.83	.82	.81	.83	.84	.84	.77	.82	.84	.81	.81	.82	.80	.81	.82	.81	.79	.82	.78	.80	.80
49	.84	.88	.73	.88	.88	.79	.83	.85	.83	.88	.84	.86	.83	.85	.86	.85	.86	.81	.83	.86	.81	.88	.77	.88	.83	.82	.85
50	.79	.84	.70	.82	.84	.79	.83	.87	.81	.84	.82	.90	.81	.83	.88	.84	.89	.79	.84	.82	.81	.85	.82	.87	.86	.88	.88
51	.79	.81	.61	.77	.78	.71	.77	.84	.74	.77	.80	.84	.78	.80	.82	.77	.84	.75	.78	.77	.76	.81	.81	.84	.82	.84	.83
52	.79	.87	.70	.83	.85	.78	.81	.91	.82	.84	.84	.90	.81	.83	.90	.85	.89	.80	.84	.83	.81	.83	.85	.87	.86	.87	.88
53	.83	.87	.71	.86	.87	.79	.83	.85	.83	.85	.82	.89	.84	.87	.87	.84	.87	.80	.84	.83	.82	.84	.81	.86	.83	.84	.84
54	.85	.89	.73	.87	.88	.82	.86	.90	.84	.89	.88	.91	.82	.86	.91	.87	.92	.84	.85	.85	.82	.91	.84	.92	.89	.89	.90

	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
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31	.71	.79	.77	-																							
32	.82	.91	.74	.78	-																						
33	.70	.86	.75	.77	.86	-																					
34	.68	.85	.73	.75	.85	.88	-																				
35	.69	.82	.79	.77	.84	.85	.86	-																			
36	.77	.87	.83	.80	.89	.87	.86	.88	-																		
37	.69	.75	.82	.77	.79	.79	.78	.82	.86	-																	
38	.66	.85	.76	.79	.84	.87	.90	.89	.88	.81	-																
39	.66	.76	.85	.76	.78	.81	.80	.85	.87	.82	.85	-															
40	.71	.82	.81	.78	.82	.86	.84	.86	.87	.81	.85	.85	-														
41	.61	.82	.71	.77	.81	.84	.87	.88	.84	.79	.92	.81	.83	-													
42	.77	.87	.76	.78	.88	.86	.85	.87	.87	.80	.85	.81	.89	.84	-												
43	.64	.79	.73	.79	.79	.82	.84	.84	.82	.79	.85	.80	.80	.86	.81	-											
44	.80	.88	.79	.80	.89	.89	.86	.87	.90	.82	.86	.84	.89	.83	.89	.84	-										
45	.73	.89	.74	.77	.90	.88	.87	.87	.89	.81	.88	.82	.83	.86	.87	.82	.89	-									
46	.61	.79	.75	.76	.78	.80	.81	.84	.80	.76	.87	.81	.80	.87	.82	.81	.80	.84	-								
47	.74	.86	.78	.80	.88	.88	.85	.88	.89	.83	.87	.84	.86	.85	.90	.83	.90	.90	.85	-							
48	.69	.79	.83	.82	.80	.79	.80	.83	.84	.83	.85	.84	.83	.82	.83	.80	.83	.83	.87	.88	-						
49	.79	.88	.82	.82	.87	.87	.85	.86	.90	.83	.86	.84	.89	.82	.91	.81	.91	.88	.82	.89	.87	-					
50	.71	.85	.79	.78	.85	.86	.86	.87	.90	.83	.89	.86	.85	.87	.85	.83	.88	.89	.84	.87	.83	.87	-				
51	.67	.82	.69	.75	.82	.82	.84	.82	.83	.76	.84	.77	.78	.84	.81	.80	.83	.84	.80	.83	.80	.81	.84	-			
52	.68	.84	.77	.80	.84	.87	.89	.88	.87	.81	.91	.85	.86	.88	.87	.86	.89	.87	.85	.87	.85	.88	.88	.86	-		
53	.75	.84	.79	.80	.85	.85	.84	.88	.87	.83	.87	.84	.87	.86	.90	.83	.89	.88	.88	.90	.87	.89	.87	.83	.88	-	
54	.76	.88	.81	.81	.89	.88	.88	.89	.93	.86	.91	.85	.87	.88	.88	.86	.90	.89	.83	.89	.86	.90	.90	.85	.90	.89	-