

Memo

To: MSA Retention Study Group – Susan Hunter, Sharron Murphy, Larry Smiley, Julie Wagester, Jody Hassen

From: Jamie Slater

CC: Terry Rawls, Suzy Clendening

Date: September 18, 2006

Re: MSA Retention Study, Special Focus on Dropouts

Data tables in this section of the MSA Retention Study are focused upon dropouts from the program. These data provide a profile of the “typical” dropout, and attempt to identify any differences from the larger group of students. The data are drawn from the same source as the overall retention study – that is, a database of 154,000 course enrollments of MSA students between 19981 and 20051.

The students who are the subjects of this study are those who dropped out of the MSA program **after only one term’s enrollment** (n = 1,907). There are numerous students who dropped out after two or three terms. If it is judged important to study those groups as well, then further efforts can be undertaken.

Possible “Barrier” Courses

The legal-size document displays all courses taken by one-term dropouts, 1998 – 2003, with grade distributions. The “Dirty Dozen” document is a summary of that data for the twelve courses which account for the highest enrollments of one-term dropouts. Grade distributions of dropouts are compared to those of all students enrolled in the twelve courses.

The courses that may be connected to dropping out behavior include, in order: MSA620, MSA650, MSA 600, MGT 643, CPS 603, ECO 515, MSA 610, MSA 640, PSC 711, HPR 607, HPR 520, and IPC 560.

It is obvious that dropouts receive fewer grades of “A” in these courses, and more grades of “E”, “I”, and “W”. The differences in final grades are much smaller in the grade levels “A-” through “C-”.

Locations of Dropouts

The course enrollments of one-term dropouts were categorized by course location, and compared to the locations of all course enrollments. Percentage of total enrollments were calculated for both “dropout enrollments” and “all enrollments”. The difference in those percentages may allow the reader to easily identify any location that appears to produce more dropouts than its relative size would indicate.

Those differences appear to be quite small. It is not obvious that any single location produces unwarranted numbers of one-term dropouts.

Statistically Significant Differences Between Groups

The contingency table displays data on dropouts broken out by MSA concentration. The following conclusions may be drawn:

- **Public Administration** students dropped out after one term at a rate that was **higher** than that of students in other concentrations. Conversely, their persistence rate was **lower** than that of other groups.

- **Software Engineering** students dropped out after one term at a rate that was **lower** than that of students in other concentrations. Conversely, their persistence rate was **higher** than that of other groups.

MSA Dropouts After One Term: Course(s) Taken During First Term, with Grade Distribution, 19981 - 20051

Course Taken		Enrollments	A		A-		B		B-		B+		C		C-		C+		E		I		NULL	W	
			Freq	% of Enrolled	Freq	% of Enrolled	Freq	% of Enrolled	Freq	% of Enrolled	Freq	% of Enrolled	Freq	% of Enrolled	Freq	% of Enrolled	Freq	% of Enrolled	Freq	% of Enrolled	Freq	Freq	% of Enrolled		
MSA	620	460	211	45.9%	90	19.6%	31	6.7%	6	1.3%	27	5.9%	5	1.1%	2	0.4%	5	1.1%	17	3.7%	14	3.0%	5	47	10.2%
MSA	650	301	82	27.2%	40	13.3%	34	11.3%	5	1.7%	37	12.3%	4	1.3%	2	0.7%	6	2.0%	19	6.3%	17	5.6%	2	53	17.6%
MSA	600	177	56	31.6%	23	13.0%	15	8.5%	6	3.4%	17	9.6%					2	1.1%	7	4.0%	22	12.4%	2	27	15.3%
MGT	643	155	61	39.4%	26	16.8%	17	11.0%	5	3.2%	19	12.3%	5	3.2%	2	1.3%	2	1.3%	4	2.6%	2	1.3%		12	7.7%
CPS	603	123	54	43.9%	21	17.1%	11	8.9%	3	2.4%	12	9.8%	3	2.4%	1	0.8%	1	0.8%	4	3.3%	3	2.4%	1	9	7.3%
ECO	515	88	37	42.0%	16	18.2%	6	6.8%			11	12.5%					2	2.3%	2	2.3%	4	4.5%	1	9	10.2%
MSA	610	85	40	47.1%	8	9.4%	9	10.6%	3	3.5%	7	8.2%					1	1.2%	1	1.2%	7	8.2%	1	8	9.4%
MSA	640	83	28	33.7%	14	16.9%	8	9.6%	6	7.2%	8	9.6%	3	3.6%			5	6.0%	3	3.6%			1	7	8.4%
PSC	711	81	40	49.4%	11	13.6%	7	8.6%	4	4.9%	7	8.6%		0.0%					1	1.2%	2	2.5%	1	8	9.9%
HPR	607	70	26	37.1%	13	18.6%	10	14.3%			6	8.6%	1	1.4%					1	1.4%	7	10.0%		6	8.6%
HPR	520	66	17	25.8%	16	24.2%	6	9.1%	3	4.5%	10	15.2%	1	1.5%	2	3.0%			1	1.5%	3	4.5%		7	10.6%
IPC	560	58	17	29.3%	18	31.0%	3	5.2%	1	1.7%	13	22.4%									2	3.4%		4	6.9%
MSA	660	58	24	41.4%	7	12.1%	8	13.8%	4	6.9%	5	8.6%							4	6.9%			2	4	6.9%
MGT	649	58	34	58.6%	9	15.5%	3	5.2%			2	3.4%	2	3.4%					1	1.7%	2	3.4%		5	8.6%
MSA	635	46	16	34.8%	11	23.9%	4	8.7%			1	2.2%		0.0%	1	2.2%	1	2.2%	2	4.3%	4	8.7%	1	5	10.9%
IPC	665	45	22	48.9%	4	8.9%	7	15.6%	1	2.2%	3	6.7%	1	2.2%					2	4.4%	4	8.9%		1	2.2%
PSC	522	40	14	35.0%	6	15.0%	3	7.5%	1	2.5%	6	15.0%					1	2.5%			1	2.5%	1	7	17.5%
ACC	201	34	9	26.5%	3	8.8%	5	14.7%	2	5.9%		0.0%							6	17.6%	1	2.9%	1	7	20.6%
HPR	571	34	12	35.3%	4	11.8%	3	8.8%	1	2.9%	8	23.5%									3	8.8%		3	8.8%
JRN	670	32	13	40.6%	6	18.8%	2	6.3%	1	3.1%	3	9.4%	1	3.1%					3	9.4%	1	3.1%		2	6.3%
IPC	561	32	16	50.0%	3	9.4%	4	12.5%			1	3.1%							1	3.1%	2	6.3%	4	1	3.1%
PSY	536	31	13	41.9%	3	9.7%	2	6.5%	3	9.7%	5	16.1%	1	3.2%	1	3.2%			1	3.2%	2	6.5%			
MGT	645	30	8	26.7%	7	23.3%	2	6.7%	1	3.3%	6	20.0%	1	3.3%			1	3.3%	1	3.3%	2	6.7%		1	3.3%
PSC	514	30	16	53.3%	4	13.3%	3	10.0%			3	10.0%	1	3.3%										3	10.0%
MGT	646	30	16	53.3%	6	20.0%	1	3.3%	1	3.3%	2	6.7%												4	13.3%
IET	524	30	13	43.3%	7	23.3%	4	13.3%			3	10.0%												3	10.0%
MSA	634	28	7	25.0%	4	14.3%	1	3.6%	2	7.1%	3	10.7%	1	3.6%			1	3.6%			1	3.6%	1	7	25.0%
PSC	785	23	9	39.1%	5	21.7%	1	4.3%	1	4.3%	2	8.7%							2	8.7%	1	4.3%	2		
HPR	570	23	8	34.8%	5	21.7%	3	13.0%	1	4.3%	1	4.3%					1	4.3%	1	4.3%				3	13.0%
HPR	617	20	5	25.0%	5	25.0%	4	20.0%	1	5.0%	4	20.0%									1	5.0%			
HSC	607	19	6	31.6%			6	31.6%	1	5.3%	3	15.8%											1	2	10.5%
MGT	647	19	5	26.3%	4	21.1%	6	31.6%			1	5.3%							1	5.3%	2	10.5%			

Course Taken		Enroll-ments	A		A-		B		B-		B+		C		C-		C+		E		I		NULL	W	
			Freq	% of Enrolled	Freq	% of Enrolled	Freq	% of Enrolled	Freq	% of Enrolled	Freq	% of Enrolled	Freq	% of Enrolled	Freq	% of Enrolled	Freq	% of Enrolled	Freq	% of Enrolled	Freq	% of Enrolled	Freq	Freq	% of Enrolled
MKT	560	19	5	26.3%	3	15.8%	6	31.6%			3	15.8%								1	5.3%			1	5.3%
STA	282	18	4	22.2%			2	11.1%					2	11.1%	1	5.6%			2	11.1%				7	38.9%
BIS	630	17	8	47.1%	2	11.8%	1	5.9%	1	5.9%	2	11.8%												3	17.6%
IET	500	17	6	35.3%	1	5.9%	1	5.9%	1	5.9%	2	11.8%							1	5.9%				5	29.4%
ECO	201	16	2	12.5%			1	6.3%			1	6.3%	3	18.8%	2	12.5%			1	6.3%				4	25.0%
MGT	667	16	7	43.8%	1	6.3%	2	12.5%	1	6.3%										1	6.3%			4	25.0%
HSC	520	13	7	53.8%	3	23.1%	1	7.7%												2	15.4%				
HSC	571	12	2	16.7%	5	41.7%					2	16.7%								1	8.3%			2	16.7%
BIS	634	12	7	58.3%	3	25.0%			1	8.3%								1	8.3%						
MSA	685	11	1	9.1%			1	9.1%										1	9.1%	7	63.6%	1			
MTH	105	11	2	18.2%	2	18.2%											1	9.1%	2	18.2%				4	36.4%
HPR	700	11	1	9.1%	1	9.1%	1	9.1%	3	27.3%	1	9.1%	1	9.1%							2	18.2%		1	9.1%
BIS	601	10	4	40.0%	1	10.0%	1	10.0%			3	30.0%							1	10.0%					
CPS	510	10	2	20.0%	4	40.0%			1	10.0%	1	10.0%					2	20.0%							
HPR	544	9	2	22.2%	1	11.1%	1	11.1%	2	22.2%	1	11.1%							1	11.1%				1	11.1%
HSC	570	9	5	55.6%																			2	2	22.2%
HPR	545	9	4	44.4%	2	22.2%															1	11.1%		2	22.2%
HPR	680	9	3	33.3%	1	11.1%					3	33.3%	1	11.1%							1	11.1%			
ECO	614	8	1	12.5%			2	25.0%			1	12.5%	1	12.5%							3	37.5%			
PSC	610	8	3	37.5%	1	12.5%	2	25.0%			1	12.5%									1	12.5%			
PSC	511	8	3	37.5%			2	25.0%			1	12.5%			1	12.5%					1	12.5%			
PSY	636	7	3	42.9%			1	14.3%	1	14.3%	1	14.3%												1	14.3%
CPS	612	7	2	28.6%	2	28.6%					2	28.6%												1	14.3%
SOC	512	7	1	14.3%	2	28.6%																		4	57.1%
MSA	675	6	1	16.7%	3	50.0%	1	16.7%															1		
BIS	635	6	4	66.7%							1	16.7%							1	16.7%					
PSC	520	6	3	50.0%	1	16.7%					1	16.7%											1	16.7%	
HSC	617	6	2	33.3%	1	16.7%			1	16.7%	2	33.3%													
FIN	573	6	2	33.3%	2	33.3%	1	16.7%																1	16.7%
ANT	506	6	2	33.3%	1	16.7%					1	16.7%									1	16.7%		1	16.7%
PSC	551	5	1	20.0%															2	40.0%	2	40.0%			
ECO	603	5	2	40.0%					1	20.0%									1	20.0%	1	20.0%			
HSC	680	5	1	20.0%	2	40.0%	1	20.0%											1	20.0%					
PSC	712	5	1	20.0%	1	20.0%	2	40.0%			1	20.0%													
PSC	561	5	3	60.0%																	2	40.0%			

Barrier Courses

Top Twelve Courses Taken by One-Term Dropouts, Grade Distribution Compared to That of All Students, 19981 - 20051

FINAL GRADE	MSA 620		MSA 650		MSA 600		MGT 643		CPS 603		ECO 515	
	Dropouts	All Students	Dropouts	All Students	Dropouts	All Students	Dropouts	All Students	Dropouts	All Students	Dropouts	All Students
A	45.9%	57.2%	27.2%	48.0%	31.6%	48.1%	39.4%	49.6%	43.9%	55.1%	42.0%	57.6%
A-	19.6%	21.0%	13.3%	19.2%	13.0%	21.7%	16.8%	21.8%	17.1%	19.7%	18.2%	17.9%
B	6.7%	5.9%	11.3%	9.2%	8.5%	8.1%	11.0%	9.6%	8.9%	8.8%	6.8%	7.8%
B-	1.3%	1.7%	1.7%	2.5%	3.4%	2.5%	3.2%	2.5%	2.4%	1.5%	0.0%	1.7%
B+	5.9%	9.4%	12.3%	11.1%	9.6%	12.9%	12.3%	12.2%	9.8%	10.0%	12.5%	10.7%
C	1.1%	0.5%	1.3%	1.0%	0.0%	0.7%	3.2%	0.7%	2.4%	0.6%	0.0%	0.9%
C-	0.4%	0.1%	0.7%	0.2%	0.0%	0.2%	1.3%	0.1%	0.8%	0.1%	0.0%	0.1%
C+	1.1%	0.4%	2.0%	0.9%	1.1%	0.9%	1.3%	0.6%	0.8%	0.7%	2.3%	0.6%
E	3.7%	0.6%	6.3%	1.6%	4.0%	0.7%	2.6%	0.4%	3.3%	0.8%	2.3%	0.4%
I	3.0%	0.8%	5.6%	1.4%	12.4%	1.9%	1.3%	0.6%	2.4%	0.5%	4.5%	0.6%
W	10.2%	2.3%	17.6%	5.0%	15.3%	2.3%	7.7%	1.8%	7.3%	2.1%	10.2%	1.9%

FINAL GRADE	MSA 610		MSA 640		PSC 711		HPR 607		HPR 520		IPC 560	
	Dropouts	All Students	Dropouts	All Students	Dropouts	All Students	Dropouts	All Students	Dropouts	All Students	Dropouts	All Students
A	47.1%	53.5%	33.7%	42.4%	49.4%	62.5%	37.1%	52.8%	25.8%	49.6%	29.3%	55.6%
A-	9.4%	24.2%	16.9%	17.7%	13.6%	18.3%	18.6%	23.5%	24.2%	24.4%	31.0%	20.7%
B	10.6%	6.7%	9.6%	12.4%	8.6%	5.8%	14.3%	7.8%	9.1%	8.7%	5.2%	6.7%
B-	3.5%	2.0%	7.2%	5.5%	4.9%	1.9%	0.0%	2.0%	4.5%	2.0%	1.7%	1.9%
B+	8.2%	10.0%	9.6%	12.7%	8.6%	7.4%	8.6%	10.8%	15.2%	12.1%	22.4%	10.3%
C	0.0%	0.5%	3.6%	2.7%	0.0%	0.3%	1.4%	0.3%	1.5%	0.3%	0.0%	0.8%
C-	0.0%	0.1%	0.0%	0.5%	0.0%	0.1%	0.0%	0.1%	3.0%	0.1%	0.0%	0.0%
C+	1.2%	0.6%	6.0%	2.1%	0.0%	0.3%	0.0%	0.5%	0.0%	0.4%	0.0%	0.4%
E	1.2%	0.3%	3.6%	0.6%	1.2%	0.4%	1.4%	0.4%	1.5%	0.3%	0.0%	0.2%
I	8.2%	0.8%	0.0%	0.6%	2.5%	1.4%	10.0%	0.5%	4.5%	0.7%	3.4%	1.3%
W	9.4%	1.4%	8.4%	2.8%	9.9%	1.6%	8.6%	1.4%	10.6%	1.3%	6.9%	2.0%

**MSA Dropouts After One Term: Location of Course(s) Taken,
In Order of Highest Number of Enrollments of Dropouts, 1981 - 20051**

College Code	Location	Enrollments of 1-Term Dropouts	Percent of 2,908	All Enrollments, 19981 - 20051	Percent of 152,594	Percentage Point Difference
LJ	Online Graduate	163	5.6%	5335	3.5%	2.1
AG	Troy	159	5.5%	9209	6.0%	-0.5
AB	Dearborn	132	4.5%	6721	4.4%	0.1
EC	Fort Bragg	125	4.3%	3828	2.5%	1.8
EE	Fort McPherson	118	4.1%	6496	4.3%	-0.2
JC	Wright Patterson	120	4.1%	6617	4.3%	-0.2
JB	Columbus	117	4.0%	6493	4.3%	-0.3
AF	Southfield	93	3.2%	7114	4.7%	-1.5
KX	Hickam (Honolulu)	86	3.0%	3111	2.0%	1.0
MN	Flint	84	2.9%	3038	2.0%	0.9
ED	Fort Gordon	82	2.8%	2925	1.9%	0.9
FC	Fort Meade	81	2.8%	2176	1.4%	1.4
EK	Fort Polk	75	2.6%	3142	2.1%	0.5
MD	Lansing	69	2.4%	2602	1.7%	0.7
AH	Warren	66	2.3%	4390	2.9%	-0.6
DI	Fort Hamilton	68	2.3%	5193	3.4%	-1.1
FB	Andrews AFB	66	2.3%	2116	1.4%	0.9
KU	Schofield Center	66	2.3%	2457	1.6%	0.7
AJ	Livonia	62	2.1%	4011	2.6%	-0.5
AE	Clinton Twshp.	59	2.0%	4239	2.8%	-0.8
DM	McGuire AFB	58	2.0%	3477	2.3%	-0.3
FJ	Fort Belvoir	55	1.9%	2356	1.5%	0.4
FG	Pentagon	51	1.8%	2045	1.3%	0.5
AC	Metro Cohorts	48	1.7%	1909	1.3%	0.4
DG	Richmond	50	1.7%	4364	2.9%	-1.2
EI	Seymour Johnson	48	1.7%	2587	1.7%	
IH	Minot	50	1.7%	2649	1.7%	
ID	Fort Riley	44	1.5%	1422	0.9%	0.6
IP	Camp Pendleton	42	1.4%	1579	1.0%	0.4
MK	Grand Rapids	42	1.4%	1643	1.1%	0.3
MC	Saginaw	36	1.2%	1713	1.1%	0.1
FD	Fort Myer	31	1.1%	1711	1.1%	
IE	Grand Forks	32	1.1%	1439	0.9%	0.2
LG	Miscellaneous Web Courses	33	1.1%	1316	0.9%	0.2

College Code	Location	Enrollments of 1-Term Dropouts	Percent of 2,908	All Enrollments, 19981 - 20051	Percent of 152,594	Percentage Point Difference
EH	Atlanta Metro	28	1.0%	1665	1.1%	-0.1
IM	Fort Leavenworth	30	1.0%	3935	2.6%	-1.6
LC	Learning Package Undergraduate	28	1.0%	881	0.6%	0.4
EX	Fort Buchanan	26	0.9%	475	0.3%	0.6
II	Offutt	25	0.9%	1857	1.2%	-0.3
DB	Aberdeen	24	0.8%	1394	0.9%	-0.1
FF	Centreville	22	0.8%	1119	0.7%	0.1
IG	Kansas City	24	0.8%	1502	1.0%	-0.2
AK	Detroit – to Livonia	20	0.7%	1358	0.9%	-0.2
DN	Philadelphia - DPSC	17	0.6%	777	0.5%	0.1
JE	Med-Memphis	18	0.6%	1623	1.1%	-0.5
AD	Auburn Hills	13	0.4%	2074	1.4%	-1.0
EB	Atlanta Health Service	11	0.4%	579	0.4%	
EG	Jacksonville	13	0.4%	847	0.6%	-0.2
FH	Walter Reed – to East	10	0.3%	680	0.4%	-0.1
OD	Puerto Rico	9	0.3%	803	0.5%	-0.2
AA	Metro Detroit	5	0.2%	1919	1.3%	-1.1
DS	Maryview Medical Center	6	0.2%	778	0.5%	-0.3
ET	Mayport	5	0.2%	416	0.3%	-0.1
IJ	St. Joseph Missouri	7	0.2%	464	0.3%	-0.1
KT	Universidad Autonoma de Guadalajara	7	0.2%	870	0.6%	-0.4
MG	Traverse City	6	0.2%	456	0.3%	-0.1
OE	Mexico City	5	0.2%	249	0.2%	
DF	Richmond Hlth Srv	2	0.1%	81	0.1%	
DK	Chattanooga	2	0.1%	230	0.2%	-0.1
E5	Miami	3	0.1%	115	0.1%	
E6	Shreveport	4	0.1%	375	0.2%	-0.1
E7	Dalton	4	0.1%	126	0.1%	
EJ	Beaufort Naval Hospital	2	0.1%	129	0.1%	
EL	Alexandria	2	0.1%	187	0.1%	
EU	Atlanta Federal Center	3	0.1%	164	0.1%	
IN	Kansas City	4	0.1%	32	0.0%	0.1
JG	Shawnee State	2	0.1%	566	0.4%	-0.3
KC	Winnipeg (Red River College)	2	0.1%	158	0.1%	
KP	Kingston College	2	0.1%	1852	1.2%	-1.1
AL	Vehicle Design	1	0.0%	70	0.0%	
E3	Cherry Hospital	1	0.0%	195	0.1%	-0.1
EP	Brewton-Parker College	1	0.0%	142	0.1%	-0.1

College Code	Location	Enrollments of 1-Term Dropouts	Percent of 2,908	All Enrollments, 19981 - 20051	Percent of 152,594	Percentage Point Difference
LD	ICF's	1	0.0%	4	0.0%	
LE	Telecourse	1	0.0%	19	0.0%	
PB	TCL - The Connecting Link	1	0.0%	5	0.0%	
	Enrollments at Locations, 19981-20051	2908	100.0%	152594	100.0%	

Contingency Table: MSA Students Who Dropped Out After One Term and Who Persisted, by Concentration

		Persisted after 1 term	Dropped out after 1 term	Total
General Administration	Count	3,490	634	4,124
	Expected Count	3494.4	629.6	4124.0
	% of Concentration group	84.6%	15.4%	100.0%
	% of Dropout group	36.7%	37.0%	36.7%
Health Services Administration	Count	1,870	318	2,188
	Expected Count	1853.9	334.1	2188.0
	% of Concentration group	85.5%	14.5%	100.0%
	% of Dropout group	19.6%	18.5%	19.5%
Human Resource Administration	Count	2,239	406	2,645
	Expected Count	2241.2	403.8	2645.0
	% of Concentration group	84.7%	15.3%	100.0%
	% of Dropout group	23.5%	23.7%	23.5%
Public Administration	Count	578	141	719
	Expected Count	609.2	109.8	719.0
	% of Concentration group	80.4%	19.6%	100.0%
	% of Dropout group	6.1%	8.2%	6.4%
Information Resources Management	Count	1,127	191	1,318
	Expected Count	1116.8	201.2	1318.0
	% of Concentration group	85.5%	14.5%	100.0%
	% of Dropout group	11.8%	11.1%	11.7%
Software Engineering	Count	214	25	239
	Expected Count	202.5	36.5	239.0
	% of Concentration group	89.5%	10.5%	100.0%
	% of Dropout group	2.2%	1.5%	2.1%
Total	Count	9,518	1,715	11,233
	Expected Count	9518.0	1715.0	11233.0
	% of Concentration group	84.7%	15.3%	100.0%
	% of Dropout group	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	Degrees of Freedom	Asymptotic Significance (2-sided)
Pearson Chi-Square	16.326(a)	5	.006
Likelihood Ratio	16.077	5	.007
Linear-by-Linear Association	.089	1	.765
N of Valid Cases	11233		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 36.49.

MSA Dropouts After One Term, 19981 – 20051: A Profile

	One-Term Dropouts		All Other Students	
	Count	Percent of Total	Count	Percent of Total
GENDER:				
Female	1,017	53.3	5,904	55.1
Male	890	46.7	4,804	44.9
Total	1,907	100.0	10,708	100.0
RACE/ETHNICITY:				
White	893	53.8	4,664	51.2
African American	684	41.2	4,032	44.3
Hispanic	82	4.9	406	4.5
Total	1659	100.0	9,102	100.0
MILITARY STATUS:				
Active	98	83.8	947	74.0
Dependent	3	2.6	102	8.0
Reserve	6	5.1	60	4.7
Retired	6	5.1	116	9.1
VA	4	3.4	55	4.3
Total	117	100.0	1280	100.0
CONCENTRATION:				
General Administration	634	37.0	3,490	36.7
Health Services Administration	318	18.5	1,870	19.6
Human Resource Administration	406	23.7	2,239	23.5
Public Administration	141	8.2	578	6.1
Information Resource Management	191	11.1	1,127	11.8
Software Engineering Administration	25	1.5	214	2.2
Total	1715	100.0	9,518	100.0