Research Administrator Salary: Association with Education, Experience, Credentials and Gender

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Authors' Note

Abstract

The 2010 Research Administrators Stress Perception Survey (2010 RASPerS) collected data from 1,131 research administrators on salary, years experience, educational level, Certified Research Administrator (CRA) status, and gender. Using these data, comparisons were made to show how salary levels are associated with each of these variables. Using both descriptive

and inferential statistics, salary levels were examined by creating numeric values. These data show that graduate degrees, five or more years experience, and male gender are positively associated with higher research administrator salaries, while CRA credentials, associate and bachelor degrees, and two to five years work experience are not.

Keywords: research administrators, salary, education, experience, CRA, credentials, gender, equity

Introduction

Senior research administrators (RAs) serving as mentors to up-and-coming RAs are often asked: "What is more important when it comes to salary: a Masters degree or Certified Research Administrator (CRA) credentials?" The senior RA could give an opinion based upon his or her own experience or personal preferences, but no sound empirical data exist in peer-reviewed literature addressing RAs as an occupational group.

This paper reports on a study conducted to provide empirical data to the research administration community on the findings of the 2010 RASPerS concerning the association of salary level with educational achievement, years of experience, CRA credential status, and gender (Shambrook, 2010). To determine these associations, the following hypotheses were tested:

H_1. Higher education achievement will be positively associated with higher income levels.

H_2. Greater years of experience will be positively associated with higher income levels.

H_3. Attainment of the CRA credential will be positively associated with higher income levels.

H_4. Higher income levels will not be associated with gender.

Limitations

While the survey instrument allowed for participants to indicate "some college," no distinction was made between someone with three courses and someone with three years of college. Thus, it was not possible with existing data to determine if "some college" indicated more or less instruction than a two-year associates degree. Another limitation of the study was that no question asked whether the CRA credential was a requirement for employment in the participant's present job. Both of these factors may be of interest for future studies in this area.

Methods

The study protocol was given full board review and approval by the Institutional Review Board (IRB) of Walden University. The corresponding author was a doctoral candidate at Walden University at the time of the survey. The study population consisted of members of the National Council of University Research Administrators (NCURA), specifically chosen because research administrators are an occupational group comprised of individuals who are college educated, computer literate, and fully capable of reading and understanding their rights as study participants (Roberts & House, 2006). The study was

conducted as an internet-based, cross-sectional survey. An electronic consent form preceded the electronic survey. Study participants positively selected a radio button to indicate they had read and understood the form before they could access the survey.

An email invitation to participate in the 2010 RASPerS via SurveyMonkey© was sent to the entire NCURA membership of 6,840 during a 10-day period in February, 2010. There were 191 potential participants who had previously opted out of SurveyMonkey© email solicitations. Three hundred twenty-six email addresses were no longer valid. Thus, the final study population was 6,323. This meant that responses from at least 893 participants were needed to achieve a 99% confidence level with a confidence interval of four or less. As shown in the results below, over 1,100 responses were received for each factor being tested.

Five factors from the Demographic Information section of the 2010 RASPerS were used for this study. Salary served as the dependent variable. The independent variables were level of educational achievement, years of research administration experience, CRA credential status, and gender. Survey questions and possible responses are shown below:

1. What is your annual income as a research administrator?
    a. <$35,000
    b. $35,000 - $49,999
    c. $50,000 - $74,999
    d. $75,000 - $99,999
    e. >$100,000

2. What is the highest level of education you have completed?
    a. High School Diploma or G.E.D.
    b. Some college credit
    c. Associate degree
    d. Bachelors degree
    e. Masters degree
    f. Doctoral degree

3. How many full years have you worked in Research Administration?
    a. <1
    b. 1<5
    c. 5<10
    d. 10<20
    e. >20

4. Have you received your certification from the Research Administration Certification Council as a CRA?

    a. Yes

    b. No

5. What is your gender?

    a. Male

    b. Female

To calculate means, salary level was re-coded as shown in Table 1 so that averages of the salaries could be computed. The data were analyzed using both descriptive and inferential statistical methods. Descriptive methods included frequencies, percentages, standard deviations and means. Inferential methods included one-way analysis of variance (ANOVA), and were followed with post hoc tests where the independent variable contained more than two levels and the initial ANOVA was significant. The experiment-wide alpha level was 0.05.

Table 1: Participants (N = 1,131) Stratified by Income Level to Calculate of Means for Testing Statistical Significance of Association between Groups.

Income Level Stratification for Calculation of Means			
Stratification Level	**Frequency**	**Percent**	**Salary Level**
Valid 1.00	29	2.6	>$35K
2.00	202	17.9	$35-49.9K
3.00	454	40.1	$50-74.9K
4.00	243	21.5	$75-99.9K
5.00	203	17.9	>$100K
Total	1,131	100.0	

Results

Participant responses were 1,131 for salary, education, experience and credentials. Five participants did not indicate gender, thus gender data are analyzed with an N of 1,126. Table 2 shows the frequency and percentages for each factor group (education, experience, credentials or gender) in each income group. Percentages for each annual income group were: 2.56%, less than $35,000; 17.86%, at least $35,000, but less than $50,000; 40.14%, at least $50,000, but less than $75,000; 21.49%, at least $75,000, but less than $100,000; and 17.95% at least $100,000. The modal income group was $50,000 - $74,999, as shown in Table 2 and described by Shambrook & Roberts (2011). Descriptive information is given for each factor group below as each hypothesis is discussed.

Table 2: Frequency Distribution of Each Group Sorted by Income Level.

Number and percentage of each educational group in each income group						
Education	**< $35K**	**$35-49.9K**	**$50-74.9K**	**$75-99.9K**	**> $100K**	**Total**
HS or GED	0	1	4	1	1	7
% HS or GED	0.00%	14.29%	57.14%	14.29%	14.29%	0.62%
Some College	4	19	48	11	7	89
% Some College	4.49%	21.35%	53.93%	12.36%	7.87%	7.87%
Associates	2	13	11	3	2	31
% Associates	6.45%	41.94%	35.48%	9.68%	6.45%	2.74%
BA	17	109	189	94	60	469
% BA	3.62%	23.24%	40.30%	20.04%	12.79%	41.47%
MS	6	57	170	110	79	422
% MS	1.42%	13.51%	40.28%	26.07%	18.72%	37.31%
Doctoral	0	3	32	24	54	113
% Doctoral	0.00%	2.65%	28.32%	21.24%	47.79%	11.76%
Total N	29	202	454	243	203	1131
Total %	2.56%	17.86%	40.14%	21.49%	17.95%	100.0%
Number and percentage of each experience group in each income group						
Yrs RA Experience	**< $35K**	**$35-49.9K**	**$50-74.9K**	**$75-99.9K**	**> $100K**	**Total**
<1	1	12	9	2	2	26
%<1	3.85%	46.15%	34.62%	7.69%	7.69%	2.30%
1<5	17	107	120	26	14	284
% 1<5	5.99%	37.68%	42.25%	9.15%	4.93%	25.11%
5<10	6	54	140	60	38	298
% 5<10	2.01%	18.12%	46.98%	20.13%	12.75%	26.35%
10<20	4	28	139	99	80	350
% 10<20	1.14%	8.00%	39.71%	28.29%	22.86%	30.95%
> 20	1	1	46	56	69	173
% >20	0.58%	0.58%	26.59%	32.37%	39.88%	15.30%
Total N	29	202	454	243	203	1131
Total %	2.56%	17.86%	40.14%	21.49%	17.95%	100.0%
Number and percentage of each CRA credential status group in each income group						
CRA Credential	**< $35K**	**$35-49.9K**	**$50-74.9K**	**$75-99.9K**	**> $100K**	**Total**
CRA	3	23	66	37	32	161
% CRA	1.86%	14.29%	40.99%	22.98%	19.88%	14.24%
non-CRA	26	179	388	206	171	970
% non-CRA	2.68%	18.45%	40.00%	21.24%	17.63%	85.76%
Total N	29	202	454	243	203	1131
Total %	2.56%	17.86%	40.14%	21.49%	17.95%	100.0%
Number and percentage of each gender group in each income group						
Gender	**< $35K**	**$35-49.9K**	**$50-74.9K**	**$75-99.9K**	**> $100K**	**Total**
Male	2	27	77	51	65	222
% Male	0.90%	12.16%	34.68%	22.97%	29.28%	19.72%
Female	27	174	375	192	136	904
% Female	2.99%	19.25%	41.48%	21.24%	15.04%	80.28%
Total N	29	201	452	243	201	1126
Total %	2.58%	17.85%	40.14%	21.58%	17.85%	100.0%

Education

H₁. Higher education achievement will be positively associated with higher income levels.

Educational achievement for participants (N = 1,131) was reported as 7 (less than 1%) with a high school diploma or G.E.D.; 89 (7.87%) with some college; 31 (2.74%) with an associates degree; 469 (41.47%) with a bachelors degree; 422 (37.31%) with a masters degree; and 133 (11.76%) with a doctoral degree. The means were calculated for each educational achievement level. Table 3 shows the income level means for each educational achievement level group. Since the overall ANOVA were significant, post hoc tests were computed. Table 4 shows the level of significance indicated by the post hoc tests when comparing each group with other groups.

The high school or G.E.D. group appears to be an anomaly, as it did not show a difference to any group. This could be due to the small N (7) for this group, or to a higher level of experience. Upon further examination of the raw data, it was found that five of the seven respondents had over 20 years of experience; one had over 10. The respondent who had less than 10 years of experience earns less than $50,000 per year.

Tables 3 and 4 show that the means do not support a significant difference in income levels between participants with associates, some college or bachelors degrees. Participants with bachelors degrees have mean income levels slightly higher than those with some college or associates degrees, but the difference is not statistically significant. Income levels are significantly higher when comparing the masters degree groups and the lower level of achievement groups, with the exception of the high school and G.E.D. group. Those with doctoral degrees have significantly higher levels of income than those with masters degrees.

The results show that those with a masters or doctoral degree will have higher levels of income than those with lower levels of educational achievement. The exception to this is for those with lower levels of educational achievement and over 20 years of research administration experience. The results support H_1 -- higher educational achievement is associated with higher salaries with respect to masters and doctoral degrees, but does not support H_1 with respect to associates or bachelors degrees.

Table 3: Level of Education Frequency, Mean Stratified Income Level, and Standard Deviation for Each Group

Level of Education	Frequency (N=1,131)	Mean Income Level	Standard Deviation
HS/GED	7	3.286	0.9512
Some College	89	2.978	0.9167
Associates	31	2.677	0.9794
Bachelors	469	3.151	1.0338
Masters	422	3.472	0.9906
Doctoral	113	4.142	0.9245

Table 4: Post Hoc Comparisons for Educational Achievement Groups.

Tukey-Kramer Multiple Comparisons Test			
Comparisons of levels of education	**Difference**	**p Value**	**Significance**
HS/GED vs Some College	0.3082	p>0.05	None
HS/GED vs Associates	0.6083	p>0.05	None
HS/GED vs Bachelors	0.1343	p>0.05	None
HS/GED vs Masters	-0.1859	p>0.05	None
HS/GED vs Doctoral	-0.8559	p>0.05	None
Some College vs Associates	0.3001	p>0.05	None
Some College vs Bachelors	-0.1739	p>0.05	None
Some College vs Masters	0.4941	p<0.001	Significant
Some College vs Doctoral	-1.1640	p<0.001	Significant
Associates vs Bachelors	-0.4740	p>0.05	None
Associates vs Masters	-0.7942	p<0.001	Significant
Associates vs Doctoral	-1.4640	p<0.001	Significant
Bachelors vs Masters	0.3202	p<0.001	Significant
Bachelors vs Doctoral	0.9902	p<0.001	Significant
Masters vs Doctoral	0.6700	p<0.001	Significant

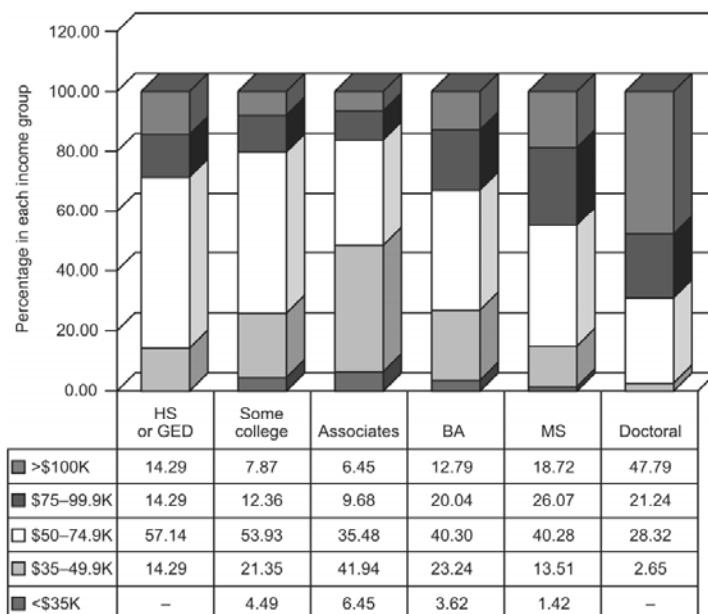|	HS or GED	Some college	Associates	BA	MS	Doctoral
>$100K	14.29	7.87	6.45	12.79	18.72	47.79
$75–99.9K	14.29	12.36	9.68	20.04	26.07	21.24
$50–74.9K	57.14	53.93	35.48	40.30	40.28	28.32
$35–49.9K	14.29	21.35	41.94	23.24	13.51	2.65
<$35K	–	4.49	6.45	3.62	1.42	–

Figure 1. Education.

Experience

H$_2$. Greater years of experience will be positively associated with higher income levels.

Years of experience for participants (N = 1,131) was reported as 26 (2.30%) with less than one year; 284 (25.11%) with at least one year but less than five years; 298 (26.35%) with at least five years but less than 10 years; 350 (30.95%) with at least 10 years but less than 20 years; and 173 (15.30%) with over 20 years of experience. The means calculated for each years-of-experience group are shown in Table 5. Since the overall ANOVA were significant, post hoc tests were computed. Table 6 shows the level of significance indicated by the post hoc tests when comparing each group with other groups.

Table 5 shows that the mean income level increases with increased years of experience. The ANOVA conducted in Table 6 shows no significance when comparing those with less than one year of experience with those with more than one, but less than five years of experience. The income level mean is greater for the group with more experience, but not significantly. There is a significant difference between the income levels of those with less than one year of experience and those with more than five years of experience. When comparing those with less than one year of experience with those with over 10 years of experience, the level is highly significant. For all other comparisons between groups, the difference in income level is highly significant, and there is a strong association between level of experience and level of salary.

Figure 2 shows the percentage of each years of experience group that is in each income group. Lower income category percentages decrease as years of experience increase and higher income category percentages increase as years of experience increase.

The results show that those with a higher level of experience have a higher level of salary. Thus, the data support H$_2$, in that greater years of experience will be positively associated with higher levels of income.

Table 5: Years of Experience Frequency, Mean Stratified Income Level, and Standard Deviation for Each Group.

Years of experience	Frequency (N=1,126)	Mean Income Level	Standard Deviation
<1	26	2.6923	0.97033
1<5	281	2.6940	0.90570
5<10	298	3.2349	0.95972
10<20	350	3.6371	0.95892
<20	171	4.0936	1.04634

Table 6: Post Hoc Comparisons for Years-of-Experience Groups.

Tukey-Kramer Multiple Comparisons Test			
Comparison of years of experience	**Difference**	**p Value**	**Significance**
<1 vs 1<5	-0.00170	>0.05	None
<1 vs 5<10	-0.54260	>0.05	Significant
<1 vs 10<20	-0.94480	<0.001	Significant
<1 vs >20	-1.40100	<0.001	Significant
1<5 vs 5<10	-0.54090	<0.001	Significant
1<5 vs 10<20	-0.94310	<0.001	Significant
1<5 vs >20	-1.40000	<0.001	Significant
5<10 vs 10<20	-0.40220	<0.001	Significant
5<10 vs >20	-0.85870	<0.001	Significant
10<20 vs >20	-0.45650	<0.001	Significant

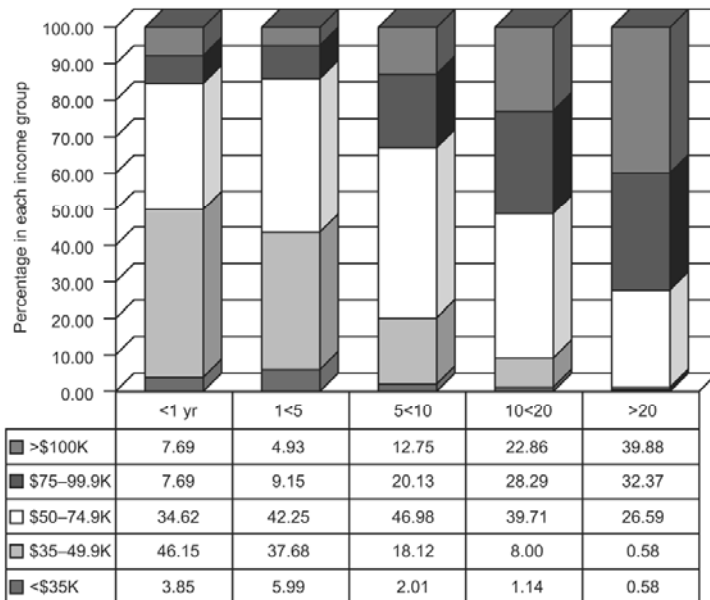|	<1 yr	1<5	5<10	10<20	>20
>$100K	7.69	4.93	12.75	22.86	39.88
$75–99.9K	7.69	9.15	20.13	28.29	32.37
$50–74.9K	34.62	42.25	46.98	39.71	26.59
$35–49.9K	46.15	37.68	18.12	8.00	0.58
<$35K	3.85	5.99	2.01	1.14	0.58

Figure 2. Experience.

Certified Research Administrator (CRA) Credential

H_3. Attainment of the CRA credential will be positively associated with higher income levels.

      CRA credential status was reported by participants (N = 1,131), with 970 (85.76%) reporting they did not have the CRA credential and 161 (14.24%) reported they did have the CRA credential. The income level means were calculated for each group and are shown in Table 7. The mean for those without the CRA is 3.33, and 3.45 for those with the CRA. While the mean for those with the CRA credential is slightly higher, the tests for between-subject effects, shown in Table 8, indicate there is no statistically significant difference in the income levels for those with and those without the CRA credential.

Table 7: CRA Credentials Frequency, Mean Stratified Income Level, and Standard Deviation.

Descriptive Statistics: Credentials				
Dependent Variable: Income Level				
Have you received your certification from the Research Administration Certification Council as a CRA?		Mean	Standard Deviation	N
Response	No	3.3268	1.05053	970
	Yes	3.4472	1.02409	161
	Total	3.3439	1.04721	1131

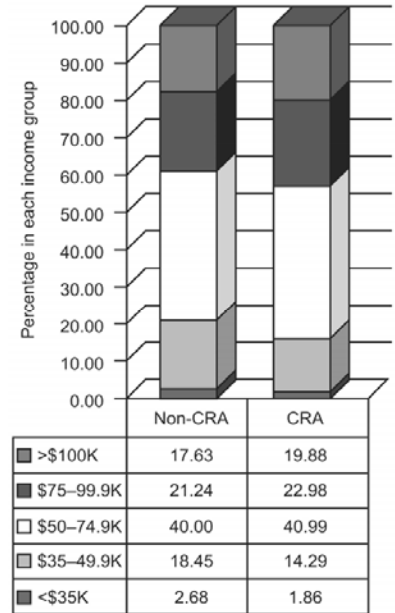|	Non-CRA	CRA
>$100K	17.63	19.88
$75–99.9K	21.24	22.98
$50–74.9K	40.00	40.99
$35–49.9K	18.45	14.29
<$35K	2.68	1.86

Figure 3. Credentials.

Table 8: Analysis of Variance for Between-Subject Effects for Credentials.

Tests of Between-Subjects Effects: Credentials					
Dependent Variable: Income Level					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.002[a]	1	2.002	1.827	.177
Intercept	6336.166	1	6336.166	5782.013	.000
Have you received your CRA?	2.002	1	2.002	1.827	.177
Error	1237.204	1129	1.096		
Total	13886.000	1131			
Corrected Total	1239.206	1130			
a. R Squared = .002 (Adjusted R Squared = .001)					

Figure 3 shows the percentage of each CRA credential status group that is in each income group. As shown in Figure 3, the two groups are very similar, with no remarkable difference between those with or without CRA credentials.

The results show that there is no statistically significant difference between the income levels of those with or without CRA credentials. Thus, the data do not support H_3, that CRA credentials will be associated with higher income levels.

Gender

H_4 Higher income levels will not be associated with gender.

Gender was reported by participants (N = 1,126), with 904 (80.28%) indicating female and 222 (19.72%) reporting male. The income level means were calculated for each gender group as shown in Table 9. The mean for females is 3.26 and the mean for males is 3.68. The income level mean for males is significantly higher than the income level for females.

Figure 4 shows the percentage of each gender group that is in each income group. As shown in Figure 4, males have higher percentages in the higher income level groups, while females have higher percentages in the lower income level groups. There is a statistical significance between the income levels and gender difference.

As the data indicate an association between salary level and educational level, it was important to ascertain if males were paid at higher levels because of a higher level of education than females. Data were cross-tabulated to show the median salary for males and females for each educational level. Males with the same level of educational achievement were paid at significantly higher levels of salary for associates, bachelors, masters, and doctoral levels. Females were paid higher than males in only the "some college" educational category. There were no males in the high school/G.E.D. category.

Thus, the data do not support H_4, that there would be no difference between genders with respect to income levels. Male participants have significantly higher salaries than their female counterparts.

Table 9: Gender Frequency, Mean Stratified Income Level, and Standard Deviation.

Descriptive Statistics: Gender				
Dependent Variable: Income Level				
What is your gender?		Mean	Standard Deviation	N
Response	Female	3.2611	1.02914	904
	Male	3.6757	1.05214	222
	Total	3.3428	1.04634	1126

Articles

Table 10: Analysis of Variance for Between-Subject Effects for Credentials.

Tests of Between-Subjects Effects: Gender					
Dependent Variable: Income Level					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	30.639[a]	1	30.639	28.673	.000
Intercept	8576.173	1	8576.173	8026.073	.000
What is your gender?	30.639	1	30.639	28.673	.000
Error	1201.038	1124	1.069		
Total	13814.000	1126			
Corrected Total	1231.677	1125			
a. R Squared = .025 (Adjusted R Squared = .024)					

Table 11: Comparison of Salary Means between Genders for Education and Experience Levels.

	Male	Female
Education	**N=224**	**N=907**
Some college	2.43	3.02
Bachelors	3.47	3.08
Masters	3.63	3.41
Doctoral	4.46	4.01
Experience	**N=225**	**N=908**
Less than one year	3.50	2.45
One to five years	2.79	2.67
Five to ten years	3.52	3.16
Ten to twenty years	4.04	3.54
Twenty or more years	4.44	4.00

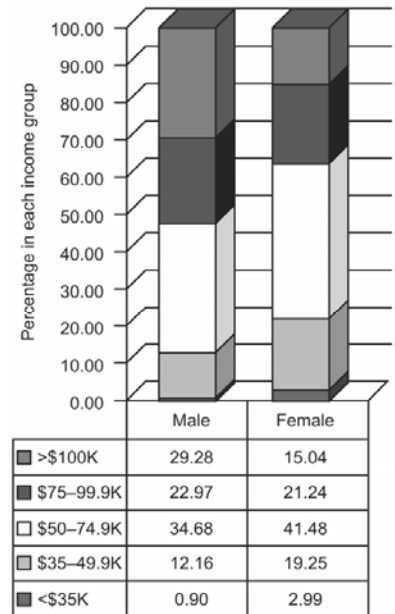|	Male	Female
>$100K	29.28	15.04
$75–99.9K	22.97	21.24
$50–74.9K	34.68	41.48
$35–49.9K	12.16	19.25
<$35K	0.90	2.99

Figure 4. Gender.

Conclusion

These data show that a masters or doctoral level graduate degree, more than five years of experience in research administration, and male gender are associated with higher salaries in research administration. While the CRA credential may increase credibility and confidence for those who attain it, these data do not indicate that it will result in a significant increase in salary. The data also do not support an increase in salary for those with a bachelors degree when compared to those with an associates degree or only some college credit without a degree. The survey data do not show whether the CRA or a bachelors degree was a requirement for employment. This may be a consideration for a new research administrator planning their career path.

Further study is recommended to determine current employment requirements in research administration. Further study of gender disparity with respect to income levels is also recommended. With a profession that is comprised of 80% women, is the level of inequity more or less than would be expected when compared with national norms? Further study may also be done in a broader population to determine if educational attainment has similar impact on research administrators at research institutes, funding agencies, hospitals or in other non-academic occupational environs. Do degree granting institutions place a higher reward on education than non-degree granting research institutions?

These data indicate that, within their profession, research administrators are rewarded with increased levels of income for career longevity and advanced academic achievement.

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