The Gender Inequity Misconception: How Texas Female Business School Faculty are Smashing the Glass Ceiling

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We used analysis of variance (ANOVA) with a 2x4x4 factorial design to test seven hypotheses for main effects and interaction effects. Moreover, we used Chi-Square to test the other two hypotheses. Of the nine, five were significant, with p< .001 in three cases. The dependent variable was 755 business school faculty's salaries from 12 institutions of higher learning. The independent variables were gender, rank and Carnegie classifications. Herzberg's (1964) theory suggests that salary, rank, and job security are extrinsic motivators and the presence of these hygiene factors is associated with lower levels of dissatisfaction, and when they are lacking dissatisfaction increases. Our findings contradict gender inequity problems reported in the literature. Moreover, we found women are earning equal pay to men in the 12 Texas business schools we compared across ranks and Carnegie classifications—and in one class they exceeded male salaries across all ranks. Therefore, we argue that gender inequity is a misconception when it comes to Texas business school faculty's salaries. Furthermore, we argue females are no more dissatisfied than males when salary is the gauge for dissatisfaction.

INTRODUCTION

Satisfaction and dissatisfaction are separate constructs but when important hygiene factors such as promotion through the ranks, job security of tenure, and equity in pay are not present more dissatisfaction occurs (Bell, Meier & Guyot, 2013). How much a person is paid (salary) is generally considered an external motivator, and thus should be a gauge for measuring the magnitude of their dissatisfaction. For salary to become a hygiene factor, there must be a minimum salary level of expectation established that is not met in order for one to become dissatisfied (Herzberg, Mausner, & Snyderman, 1959; Herzberg, 1964).

Inputs (performance) and outcomes (rewards) is established as equity theory (Adams, 1963) that explains a great deal about human behavior and how employees will react when they perceive inequity, just as Edward C. Tolman (1932) in his book *Purposive Behavior in Animals and Men* reported what happens to monkeys' behaviors when monkeys expected bananas for a reward and received monkey chow instead. The monkeys went literally bananas because they were deceived by the researcher. Bell (2011, p. 4,) stressed that "going bananas" has been a part of the managerial lexicon since then when describing a person's spontaneous reaction to a disappointing reward inconsistent with the perceived amount of effort. Perceptions of equity are just as important as the reward structure itself; frontline supervisors in the healthcare industry perceived job-related inputs such as planning and labor-management relations important to determining equity of rewards (Tombari, 1980).

Herzberg's motivation-hygiene theory has been recently used to justify salary as a hygiene factor where male and female business school faculty's salaries were found to not differ in a sample of 13 business schools in five States (Bell, Meier, & Guyot, 2013). The assumption these researchers made was that if pay was not equal for women, their dissatisfaction, thus, would be assumed higher than men. As with any profession there is no one factor that serves as the motivator or de-motivator that leads to job satisfaction or dissatisfaction. However prior research (Herzberg, 1964) has shown that salary is viewed as a de-motivator (hygiene factor) rather than a motivator. Herzberg revealed that the absence of a certain salary level can result in greater job dissatisfaction. This can be explained and supported by the research of Victor H. Vroom (1964) and Expectancy Theory; Vroom's theory expands on the concept of expectancy and its relationship to job satisfaction.

Salary Inequity Between Genders

Dickens (2011) found the number of years teaching as a measure for job satisfaction, and not salary. Connolley (2007) measured job satisfaction at public four year institutions in his study; his study identified relationships among tangible and intangible in regards to job satisfaction. In regards to gender and rank, Hashemi's (1985) research on job satisfaction among faculty members of large multi-purpose universities in the Dallas Fort Worth Metroplex (Texas) indicated that there is a significant relationship between rank, age, and years of service.

Business schools pay more for faculty when they are AACSB accredited too. Brink and Smith (2012) highlighted the choice of accreditation a business school seeks is largely determined by its willingness to allocate resources towards its accreditation efforts. Schools that are AACSB accredited are considered more hygienic than those not accredited because the theory holds that salary as a hygiene factor means these programs have faculty who are less dissatisfied than those working for programs that are not accredited; women, although underrepresented in business schools, earn more when they work for accredited schools of business than when they do not (Bell & Joyce, 2011). There is a growing body of literature on faculty salaries as a gauge for satisfaction (Bender & Heywood, 2006; Burke, Duncan, Krall, & Spencer, 2005; Comm & Mathaisel, 2003; Travis, Gross, & Johnson, 2009). Recruitment and retention of qualified business faculty might also be predicated on job satisfaction and pre-employment salary negotiations (Johnsrud & Heck, 1994; Seifert & Umbach, 2008; Smart, 1990; Weiler, 1985).

Olanrewaju (2002) revealed salary as being one of several hygiene factors in measuring job satisfaction in the Virginia Community College System. Olanrewaju research indicated that there is a significant difference between motivators and de-motivators, when viewed by demographics, such as age and gender, when measuring job satisfaction. Teaching field is already known to have salary bias and the more technical fields of accounting and finance typically pay thousands of dollars more than the other business fields, especially the supporting fields like business communication or business ethics or business law (Terpstra & Honoree, 2004).

Gara (1997) found that salary provides the least job satisfaction among business faculty. It also indicated that tenured faculty has a higher level of satisfaction than non-tenured; and male faculty expressed higher levels of satisfaction than female faculty, relative to supervision, working condition, and interpersonal relations. Chandra, Cooper, Cormick and Malone (2011) found that accounting faculty viewed salary, while an important hygiene factor, not to be a significant motivator. They showed that an

organization's success and its faculty's success depend on how it distributes its salaries. However, women in academe are repeatedly earning lower salaries.

Umbach (2007) studied gender equity in the academic labor market. He found that faculty in disciplines characterized by relatively low demand, high teaching loads, and low amounts of research funding earned less than do faculty in other disciplines. Additionally, after controlling for an array of individual and disciplinary characteristics, women faculty were found to earn less than their male peers. On the other hand, Hsieh (2006) indicated that women in high level positions in the federal government were underrepresented and varied among racial groups. Hsieh suggested that Gregory Lewis' 1998 study be used to provide additional support on the continuing existence of lower salaries among women and minorities. Gender inequity, therefore, has been well documented in academe and out. Males historically have enjoyed higher salaries for various reasons (Bowen, 2005; Fairweather, 2005; Hampton, et al, 2000; Neithardt, 2007; Travis, Gross, & Johnson, 2009).

Paying attention to external motivators is the best way for managers to address deep feelings of inequity among employees (Bell, 2011). Inequity is still a useful theory and has seen renewed interest among management researchers; Bell and Martin (2012) found that direct truthful interpersonal communication with an employee is the best solution for resolving a conflict that emerges from employees' perceptions of inequity. A number of factors are required to keep senior faculty in place, including equity in pay (Hurtado & DeAngelo, 2009). Nevertheless, perceptions and reality about salary inequity seems to have merged over time. In the past, women have been encouraged to seek justice outside the university, for equity in pay (Goltz (2005). One researcher compared married women to single women and found differences that advantage single women (Hammer, 1993). Bell and Joyce (2011) found that female faculty members in 13 Missouri business schools are earning $0.85 to every $1.00 male faculty members are earning, regardless of rank. Salary difference for women has historically been problematic in the inequities. Gender, race, ethnicity and marital status might also contribute to gender inequity (Renzulli, Grant, & Kathuria, 2006; Toutkoushian, Bellas, & Moore, 2007)

Monks and McGoldrick (2004) studied gender earnings among college administrators. Monks' showed that a majority of the earnings differential can be attributed to institutional and occupational differences between men and women. And that this difference may in itself represent a form of discrimination separate from the earnings discrimination being studied. Women administrators may be less likely to gain employment at larger, research oriented universities, or hold jobs as deans of business and law schools, thus relegating them to lower-paying positions at smaller institutions.

Over the last few years earnings for women increased faster than men; this trend, however, is very volatile. Because of the mixture of meaning in the literature explaining gender salary inequity, the question persists as to how much impact salary has on the level of dissatisfaction between men and women working in collegiate schools of business where women are scarce human resources. What is reported in the literature seems to contradict supply and demand theory: a scarce needed resource is normally associated with a premium price. Thus, answering the following research question was the driver for this study:

> *With so much being written about the inequity in pay between women and men, and a long history of this practice, do women in collegiate schools of business automatically make less than men regardless of rank or Carnegie classification in Texas business schools despite their scarcity?*

Research Purpose

There is agreement in the literature that faculty's salaries play a significant role in job satisfaction; however, the magnitude of the salary differences dictates its value as a motivator or a de-motivator (hygiene factor), as indicated by Herzberg in "The Motivation-Hygiene Concept and Problems of Manpower." Economic theory suggests that scarcity of female business faculty should be associated with a premium for their services. The ratio of male to female faculty is approximately 3 to 1 in most collegiate schools of business.

First, there is a lack of knowledge on how business schools' pay structures affect gender as it is related to rank and field of teaching. Second, there is a lack of synthesis between the conceptual framework of hygiene theory and salary deficits as a gauge for dissatisfaction. Finally, there is a lack of knowledge on possible interaction effects when it comes to gender as salary progresses when rank and Carnegie classifications are the independent variables. Doctoral granting research universities are considered by many to be more prestigious than non-doctoral granting institutions and tend to be richer and pay higher wages (Melguizo & Strober, 2007).

Therefore, the purpose of this study is to test whether salary as a hygiene factor in relation to a business faculty's gender and rank differs in the main effects or two-way or three-way interaction effects across four Carnegie classifications of institutions of higher learning. Past research on the salary and satisfaction in business schools have shown that gender and rank play a major role. Burke, Duncan, Krall, and Spenser (2005) found a relationship between gender, rank, and years of services to faculty's salaries. In addition, Balkin and Gomez-Meji (2002) found similar relationships; when male faculty receives smaller pay raises than anticipated or expected, they tend to resign from their position more so than female professors.

METHODS AND RESULTS

An ANOVA with a 2x4x4 factorial design (gender across four levels of rank and four levels of Carnegie classifications of institutions of higher learning) was used to test nine hypotheses for main effects and possible interaction effects on the dependent variable salary with independent variables gender on rank. The frequency, percent, means and standard deviations for independent variables are included in Table 1. Data was collected from 12 business schools located in the State of Texas. The faculty salary data was collected from an online database called Texastribune.com. The independent variables were rank, gender and Carnegie classifications. The dependent variable was salary.

We completed the update using the www.findthedata.org site and Google Images. The former contains Texas state employee information taken from the Texas Tribune. From the homepage access is granted to the Texas state employee information via the government link. As we plot the data, we should not see any huge gaps between men and women as they progress through the ranks when salary is the dependent variable if equity is present across these differing levels. What this means is the magnitude of pay should be equal in terms of the spread between genders. The magnitude in pay should not have any meaningful interaction effects if pay is equitable between male and female business school faculties regardless of rank, consistent with Bell, Meier and Guyot (2013). In this study, the sampling frame was a fixed-effects model because the number of males and females preexisted in the sample and no researcher treatments took place.

TABLE 1
FREQUENCY, PERCENT, MEANS AND STANDARD DEVIATIONS FOR INDEPENDENT VARIABLES

Independent Variables		Faculty	Percent	Cumulative Percent
Rank	Instructor/Lecturers	118	15.6	15.6
	Assistant Profs.	221	29.3	44.9
	Associate Profs.	187	24.8	69.7
	Full Profs.	229	30.3	100.0
	Total	755	100.0	
Gender	Male	532	70.5	70.5
	Female	223	29.5	100.0
	Total	755	100.0	
Institutions		**Faculty**	**Mean**	**Std. Deviation**
	University of Texas at Dallas	136	$161,002.32	$67,694.16
	University of Houston	98	$135,558.52	$43,603.86
	Texas Tech University	91	$131,099.02	$51,580.93
	University of North Texas	100	$112,910.78	$38,082.62
	Texas Woman's University	16	$103,336.94	$22,179.95
	Texas State University	85	$99,634.06	$27,694.43
	Lamar University	28	$97,595.21	$17,730.17
	Sam Houston State University	60	$91,051.60	$18,726.48
	University of Houston-Downtown	64	$87,055.80	$17,564.35
	West Texas A&M University	23	$84,105.13	$15,437.41
	Angelo State University	22	$79,610.41	$18,121.24
	Prairie View A&M University	32	$78,016.16	$15,542.72
	Total	755	$117,184.27	$49,989.11
Carnegie		**Faculty**	**Mean**	**Std. Deviation**
	Research Universities-Very High Research activity	98	$135,558.52	43603.86
	Research Universities-High Research Activity	327	$137,973.72	59158.41
	Doctoral Research Universities	104	$94,703.39	19404.74
	Master's Colleges and Universities	162	$90,439.87	24882.54
	Baccalaureate Colleges-Diverse Fields	64	$87,055.80	17564.35
	Total	755	$117,184.27	49989.11

Hypotheses Testing

Herzberg's motivation-hygiene theory suggests that for women if their pay is less than men salary thus should be a good measure of their dissatisfaction when the magnitude of their salaries is compared to men at the same academic ranks. Female and male faculties should be statistically equal in salary regardless of rank; otherwise, women will theoretically be more dissatisfied than men, given that salary and rank are extrinsic motivators serving as hygiene factors that reduce or increase dissatisfaction at work. In this paper, we tested nine hypotheses to ascertain if gender differences in salaries across ranks and Carnegie classifications existed.

H1: Male and female faculty members do not differ in their relative frequency or percentage among the academic ranks as instructor/lecturer, assistant professor, associate professor and full professor.

H2: Male and female faculty members do not differ in their relative frequency or percentage among the four Carnegie Classifications of Research Universities-Very High Research Activity, Research Universities-High Research Activity, Doctoral Research Universities, Master's Colleges and Universities, and Baccalaureate Colleges-Diverse Fields.

H3: Means for faculty salaries do not differ between male and female faculty members.

H4: Means for faculty salaries do not differ among the academic ranks of instructor/lecturer, assistant professor, associate professor and full professor.

H5: Means for faculty salaries do not differ among the four Carnegie Classifications of Research Universities-Very High Research Activity, Research Universities-High Research Activity, Doctoral Research Universities, Master's Colleges and Universities, and Baccalaureate Colleges-Diverse Fields.

H6: Means for faculty salaries do not differ between male and female faculty members among the academic ranks of instructor/lecturer, assistant professor, associate professor and full professor.

H7: Means for faculty salaries do not differ between male and female faculty members among the four Carnegie Classifications of Research Universities-Very High Research Activity, Research Universities-High Research Activity, Doctoral Research Universities, Master's Colleges and Universities, and Baccalaureate Colleges-Diverse Fields.

H8: Means for faculty salaries do not differ among the academic ranks of instructor/lecturer, assistant professor, associate professor and full professor on the four Carnegie Classifications of Research Universities-Very High Research Activity, Research Universities-High Research Activity, Doctoral Research Universities, Master's Colleges and Universities, and Baccalaureate Colleges-Diverse Fields.

H9: Means for the magnitude of faculty salaries do not differ between male and female faculty regardless of their rank as instructor/lecturer, assistant professor, associate professor and full professor on any of the four Carnegie Classifications of Research Universities-Very High Research Activity, Research Universities-High Research Activity, Doctoral Research Universities, Master's Colleges and Universities, and Baccalaureate Colleges-Diverse Fields.

Chi-Square Tests Results

The chi-square test results are summarized in Table 2 and Table 3. We reject H1, with p = .000. This infers that the academic rank of faculty members is associated with their gender. Apparently, about 60% of female faculty members are clustered at the lower academic ranks of instructor/lecturer and assistant professor while 51% of male faculty members are clustered at the higher ranks. According to the Goodman and Kruskal (1972) tau test, rank explains 4.7 % of the variance in gender when gender is dependent variable; on the other hand, gender explains only 1.5 % of the variance in rank when rank is dependent variable. Therefore, rank is better at predicting a faculty's gender than gender is at predicting a faculty's rank. This can be explained in part due to a lag because female faculty members are late in

arrival in collegiate schools of business. Tenure and promotion are lengthy processes. Table 2 illustrates the ratios between males and females are nearly 3 to 1 or 532 male to 223 females.

TABLE 2
RANK * GENDER CROSSTABULATION, PEARSON CHI-SQUARE & GOODMAN KRUSKAL TAU

			Gender		
			Male	**Female**	**Total**
Rank	**Instructor/Lecturer**	Count	64	***54**	118
		Expected Count	83.1	34.9	118.0
		% of Total	8.5%	7.2%	15.6%
	Assistant Prof.	Count	141	***80**	221
		Expected Count	155.7	65.3	221.0
		% of Total	18.7%	10.6%	29.3%
	Associate Prof.	Count	***140**	47	187
		Expected Count	131.8	55.2	187.0
		% of Total	18.5%	6.2%	24.8%
	Full Prof.	Count	***187**	42	229
		Expected Count	161.4	67.6	229.0
		% of Total	24.8%	5.6%	30.3%
Total		Count	532	223	755
		Expected Count	532.0	223.0	755.0
		% of Total	70.5%	29.5%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	35.175[a]	3	***.000**
Likelihood Ratio	35.242	3	.000
Linear-by-Linear Association	34.798	1	.000
N of Valid Cases	755		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 34.85.

Directional Measures			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Goodman and Kruskal tau	Rank Dependent	.015	.005		.000[a]
		Gender Dependent	.047	.015		.000[a]

a. Based on chi-square approximation

We also conclude that the Carnegie classification is associated with the faculty gender because we reject H2, with p = .027. About 72% of male faculty members are clustered at the Research Universities-High Research Activity and Doctoral Research Universities while about 35% of female faculty members are clustered at the Master's Colleges and the Baccalaureate Colleges. According to the Goodman and Kruskal (1972) tau test, Carnegie classification explains 1.2 % of the variance in gender when gender is dependent variable; on the other hand, gender explains only 0.60 % of the variance in Carnegie when Carnegie is the dependent variable. Therefore, Carnegie classification is better at predicting a faculty's gender than gender is at predicting the Carnegie classification where a faculty member might be

employed. These findings are consistent with Monk and McGoldrick (2004) who determined women are clustered at smaller institutions that are not research oriented.

TABLE 3
CARNEGIE * GENDER CROSSTABULATION, PEARSON CHI-SQUARE AND GOODMAN KRUSKAL TAU

			Gender		Total
			Male	**Female**	**Total**
Carnegie	**2**	Count	318	107	425
		Expected Count	299.5	125.5	425.0
		% of Total	42.1%	14.2%	56.3%
	3	Count	67	37	104
		Expected Count	73.3	30.7	104.0
		% of Total	8.9%	4.9%	13.8%
	4	Count	107	***55**	162
		Expected Count	114.2	47.8	162.0
		% of Total	14.2%	7.3%	21.5%
	5	Count	40	***24**	64
		Expected Count	45.1	18.9	64.0
		% of Total	5.3%	3.2%	8.5%
Total		Count	532	223	755
		Expected Count	532.0	223.0	755.0
		% of Total	70.5%	29.5%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.172	3	**.027**
Likelihood Ratio	9.105	3	.028
Linear-by-Linear Association	7.541	1	.006
N of Valid Cases	755		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 18.90.

Directional Measures			Value	Asymp. Std. Error[a]	Approx. T	Approx. Sig.
Nominal by Nominal	Goodman and Kruskal tau	Carnegie Dependent	.006	.004		.002[a]
		Gender Dependent	.012	.008		.027[a]

a. Based on chi-square approximation

Factorial ANOVA Tests Results

The means, standard deviations, and ANOVA results are shown in Tables 4 and 5; multiple comparison test for rank and Carnegie class are shown in tables in the Appendix. We begin by looking at the three-way interaction among the three factors. The three-way interaction effect is not significant because we cannot reject H9, with $F(9, 723) = .230$, $p = .990$. Based on this result, we may proceed to access the two-way interaction effects. We cannot reject H6, with $F(3, 723) = .236$, $p = .871$, which signifies that the gender and academic rank interaction is not significant. Furthermore, we cannot reject H7 with $F(3, 723) = .833$, $p = .476$ which indicates that the gender and Carnegie classification interaction effect is not significant. By not rejecting H6 and H7, we know that gender does not interact with academic

rank and Carnegie classification. In other words, gender effect on salary, if any, does not depend on the levels of academic rank and Carnegie classification.

TABLE 4
MEANS AND STD. DEVIATIONS WITH DEPENDENT VARIABLE: SALARY

Dependent Variable: Salary			Descriptive Statistics		
Rank	**Gender**	**Carnegie**	**Mean**	**Std. Deviation**	**N**
Instructor/Lecturer	Male	2	88631.57	31301.680	42
		3	73957.00	.	1
		4	56807.00	10080.337	15
		5	65869.50	31869.912	6
		Total	78809.45	30606.144	64
	Female	2	82063.09	26016.791	32
		3	57540.00	.	1
		4	62041.88	15012.821	17
		5	54761.50	15107.011	4
		Total	73283.65	24382.553	54
	Total	2	85791.15	29128.502	74
		3	65748.50	11608.572	2
		4	59588.03	13010.067	32
		5	61426.30	25947.066	10
		Total	76280.69	27952.591	118
Assistant Prof.	Male	2	123641.22	38171.668	73
		3	85124.09	13679.279	23
		4	89440.56	14166.717	36
		5	82870.56	3970.561	9
		Total	106023.82	34184.905	141
	Female	2	124008.66	41570.002	44
		3	81711.18	18347.635	17
		4	103355.54	21577.391	13
		5	80796.67	4695.245	6
		Total	108423.41	37840.662	80
	Total	2	123779.40	39306.487	117
		3	83673.60	15702.955	40
		4	93132.29	17356.972	49
		5	82041.00	4241.236	15
		Total	106892.45	35484.972	221

TABLE 4 (CONTINUED)
MEANS AND STD. DEVIATIONS WITH DEPENDENT VARIABLE: SALARY

Associate Prof.	Male	2	143704.68	45461.822	78
		3	94625.67	13017.620	18
		4	91358.39	17926.847	31
		5	90142.38	4958.569	13
		Total	120829.91	43605.555	140
	Female	2	125486.56	25239.368	16
		3	95189.92	18591.120	13
		4	93732.09	12850.761	11
		5	89001.29	6666.110	7
		Total	104240.77	24114.088	47
	Total	2	140603.72	43143.139	94
		3	94862.29	15308.770	31
		4	91980.07	16629.626	42
		5	89743.00	5465.661	20
		Total	116660.45	40209.985	187
Full Prof.	Male	2	173693.64	62203.458	125
		3	109770.24	14557.420	25
		4	109083.16	24238.692	25
		5	103776.58	8867.676	12
		Total	152023.31	60339.706	187
	Female	2	176196.67	42023.095	15
		3	114287.50	21888.103	6
		4	113622.71	23871.628	14
		5	98073.43	8135.823	7
		Total	133473.98	43840.183	42
	Total	2	173961.82	60251.068	140
		3	110644.55	15895.729	31
		4	110712.74	23893.068	39
		5	101675.42	8837.864	19
		Total	148621.25	58030.729	229
Total	Male	2	143613.22	57640.258	318
		3	96706.40	17421.272	67
		4	90010.79	23369.004	107
		5	88955.55	17938.590	40
		Total	122815.24	52934.586	532
	Female	2	119001.26	45977.440	107
		3	91076.32	22359.061	37
		4	91274.64	27800.872	55
		5	83889.54	16812.286	24
		Total	103750.73	39086.885	223
	Total	2	137416.80	55918.016	425
		3	94703.39	19404.736	104
		4	90439.87	24882.544	162
		5	87055.80	17564.354	64
		Total	117184.27	49989.106	755

2= Research Universities-Very High Research activity, RU-VH & Research Universities-High Research Activity, RU-H
3= Doctoral Research Universities, DRU
4= Master's Colleges and Universities, Master's L
5= Baccalaureate Colleges-Diverse Fields, Bac-Diverse

It turns out that the gender main effect is not significant because hypothesis H3 cannot be rejected ($p = .690$). Although the mean salary of males appears higher than the mean salary of females, the statistical test shows that these mean salaries of males and females faculty do not differ significantly.

The interaction effect between faculty rank and Carnegie classification is significant because we have to reject H8 with $F(9, 723) = 2.418$, $p = 0.010$. We can conclude that the effect of academic rank on salary depends on the level of Carnegie classification. In other words, the effect of academic rank on salary is not uniform across all levels of the Carnegie classification. Partial Eta Squared accounted for a small effect size; meaning Carnegie classification accounted for 2.9 percent of the variance in salaries when using the Cohen (1988) rule that .01 ~ small, .06 ~ medium and .14 ~ large.

We reject H4, with $F(3, 723) = 20.433$, $p = .000$. This signifies that there is a very strong rank main effect. And the medium effect size accounted for 7.8 percent of the variance in salaries. Means for faculty salaries differ among the academic ranks of instructor/lecturer, assistant professor, associate professor, and full professor. Hypothesis H5 is also rejected, with $F(3, 723) = 50.755$, $p = 0.000$. And the large effect size accounted for 17.4 percent of the variance in salaries. The Carnegie classification main effect is very strong. There are differences in mean faculty salaries among the four levels of the Carnegie Classification.

But, what does all this tell us about equity in pay for Texas business schools and dissatisfaction between male and female faculties?

SUMMARY AND DISCUSSION

In reviewing literature on salary as a hygiene factor among the faculty in business schools, we found several studies that indicate salary as one of the primary variables used to measure job satisfaction. However our literature review was not conclusive as to the magnitude that salary plays as motivator or de-motivator in relation to job satisfaction experienced by business faculty members based on their gender and rank.

Table 5 illustrates that an analysis of variance (ANOVA) with a 2x4x4 factorial design was used to test seven hypotheses on main effects and interaction effects. Only three of the seven hypotheses were rejected. The dependent variable was faculty salaries in business schools. The independent variables were gender, four levels of academic rank and four levels of Carnegie classification of institutions of higher learning. Previous studies have reported that business faculty salary for males is higher than for females; therefore, the Herzberg's motivation-hygiene theory would suggest that there will be more dissatisfaction among women than men.

Factors like salary, rank, and job security are extrinsic motivators and their presence is associated with lower levels of dissatisfaction, and when they are lacking dissatisfaction increases. When they are balanced there is less dissatisfaction. Our findings are inconsistent with other findings in the recent literature and more consistent with economics supply and demand theory. The data shows that females are not only earning equal pay to men, the salaries for women are higher in some cases. This study sheds new light on the erroneous belief that men are making an unreasonably higher salary compared to women. Thus, dissatisfaction among female business school faculties when salary is the gauge seems to reflect equality in this hygiene factor.

Women are not only earning equal pay to men in the 12 Texas business schools we compared but in one of the four Carnegie classifications women's salaries are (non-significantly) higher across all ranks. Our findings contradict the conception female business faculty are possibly more dissatisfied than male business faculty when salary is used to gauge dissatisfaction: Texas business schools are extremely hygienic when it comes to pay equity in gender. The best way to understand our findings is to review the profile plots for gender across ranks on the four Carnegie classifications that are illustrated in Figures 1 through 5. Plots are based on the estimated marginal means; therefore, the salary means may differ from those reported in Table 4.

TABLE 5
UNIVARIATE ANALYSIS OF VARIANCE WITH DEPENDENT VARIABLE: SALARY

Dependent Variable: Salary	**Tests of Between-Subjects Effects**					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	888.320E9[a]	31	28.656E9	20.804	.000	.471[a]
Intercept	2.291E9	1	2.291E9	1663.309	.000	.697
Rank	**84.434E9**	**3**	**28.145E9**	**20.433**	**.000**	.078
Gender	.219E9	1	.219E9	.159	.690	.000
Carnegie	**209.729E9**	**3**	**69.910E9**	**50.755**	**.000**	.174
Rank * Gender	.977E9	3	.326E9	.236	.871	.001
Rank * Carnegie	**29.975E9**	**9**	**3.331E9**	**2.418**	**.010**	.029
Gender * Carnegie	3.443E9	3	1.148E9	.833	.476	.003
Rank * Gender * Carnegie	2.857E9	9	.317E9	.230	.990	.003
Error	995.858E9	723	1.377E9			
Total	12.252E9	755				
Corrected Total	1.884E9	754				
a. R Squared = .471 (Adjusted R Squared = .449)						

Figure 1 illustrates the highest possible Carnegie classification: *Research Universities-High and Very High Research Activity.* Figure 2 illustrates the third highest Carnegie classification: *Doctoral Research Universities*. Figure 3 illustrates the fourth level: *Master's Colleges and Universities*. Figure 4 illustrates the fifth level: *Baccalaureate Colleges-Diverse Fields*. Figure 5 illustrated the ranks compared against the combination of all four of the Carnegie classifications used in this study.

Figure 1 illustrates that at *Research Universities-High and Very High Research Activity* salary means for male instructor/lecturer, assistant, associate and full professors class are $88,631, $123,631, $143,704, and $173,693, respectively. The salary means for females are $82,063, $124,009, $125,486 and $176,197, respectively. Therefore, males earn more at the rank of instructor/lecturer and associate professor but females earn slightly more at the rank of assistant and full professor.

Figure 3 illustrates that women across the ranks are earning higher salaries than men at the *Master's Colleges and Universities* level. Males at the ranks of instructor/lecturer, assistant, associate and full professors have salary means of $56,807, $89,440, $91,358, and $109,083, respectively. While females at this level have salary means of $62,041, $103,355, $93,732, and $113,622, respectively. Therefore, at this Carnegie class of institution, females earn more than males across all ranks.

The good news is that men and women are equal in salaries in the 12 Texas business schools we compared. This is good news for the chief financial officers at these institutions of higher learning who are required by Sarbanes Oxley to certify the financial reports of their respective institutions (Bell, 2007). It is good news that can be delivered through downward, upward and horizontal managerial communications whose goal is to achieve results (Bell & Martin, 2008). Not only does the EEO laws require equal pay for equal work, administrators can now use the findings of this study as further proof equity is a reality in the 12 Texas business schools examined in this study.

Therefore, we surmise that, males and females do not differ in the magnitudes of their dissatisfaction, when salary is used as a gauge to measure dissatisfaction, measured across all ranks and across the four Carnegie classifications. At the Carnegie classified "Master's Colleges and Universities" women, although not significantly so, earn more than men across all ranks. Texas female business school faculty, therefore, are smashing the glass ceiling.

FIGURE 1
RANK * GENDER * CARNEGIE: RESEARCH UNIVERSITIES-HIGH AND VERY HIGH RESEARCH ACTIVITY

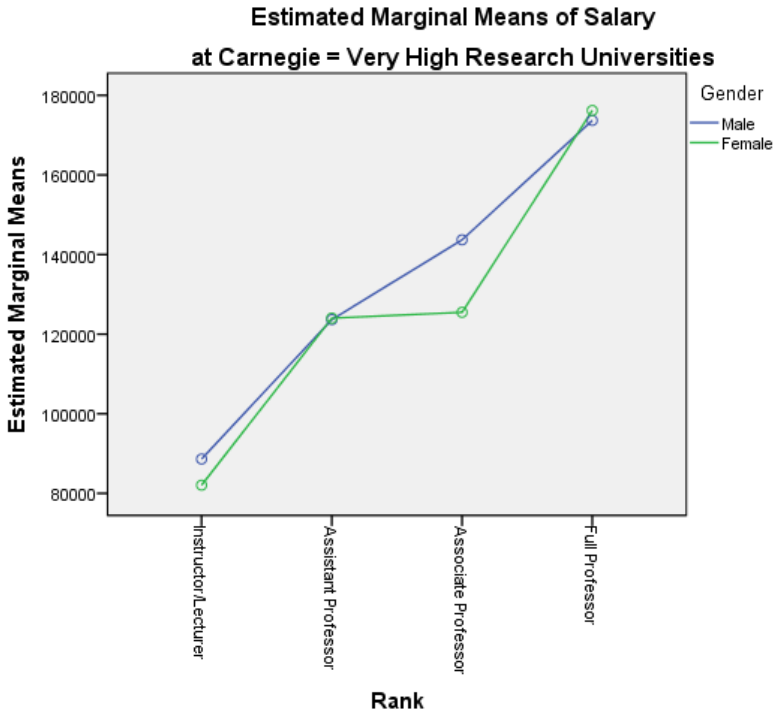


FIGURE 2
RANK * GENDER * CARNEGIE: DOCTORAL RESEARCH UNIVERSITIES

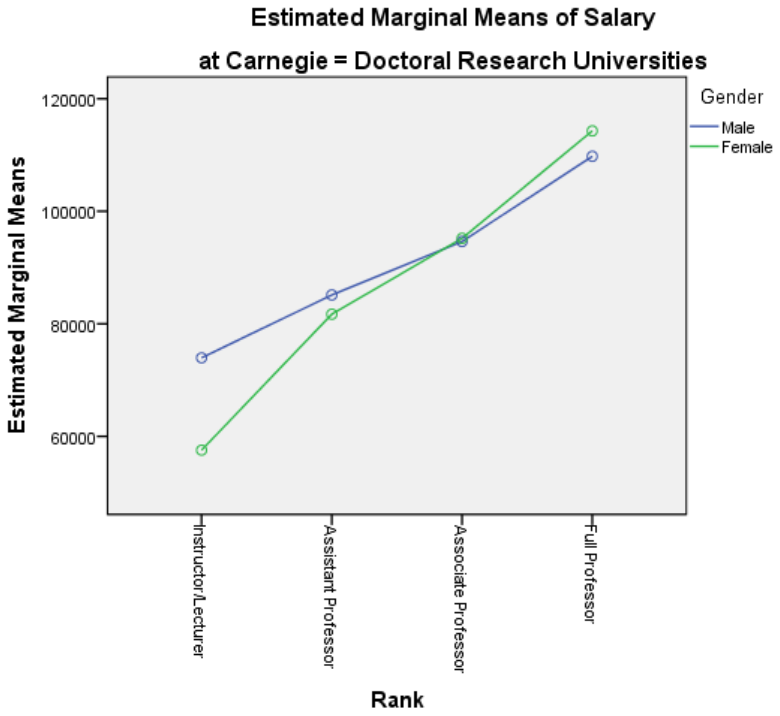


FIGURE 3
RANK * GENDER * CARNEGIE: MASTER'S COLLEGES AND UNIVERSITIES

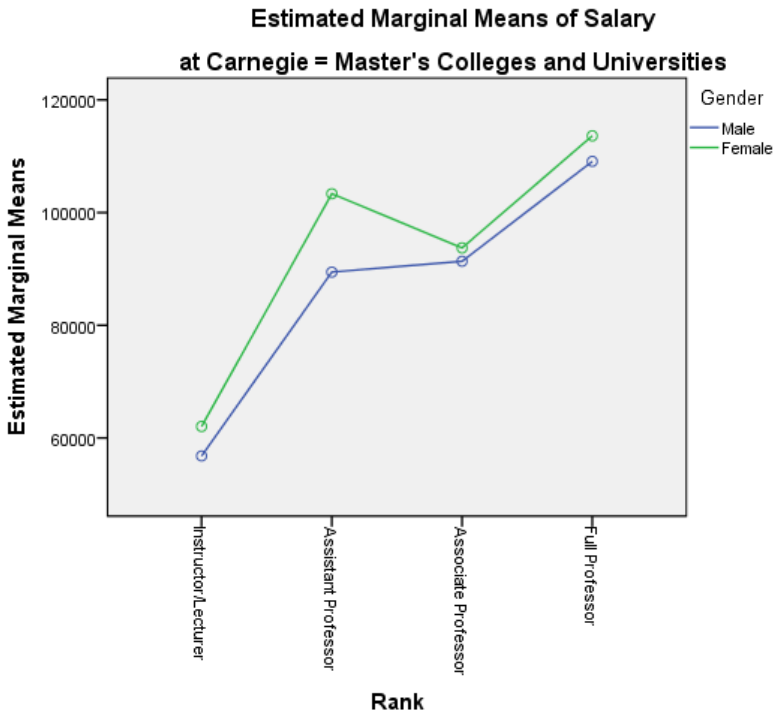


FIGURE 4
RANK * GENDER * CARNEGIE: BACCALAUREATE COLLEGES-DIVERSE FIELDS

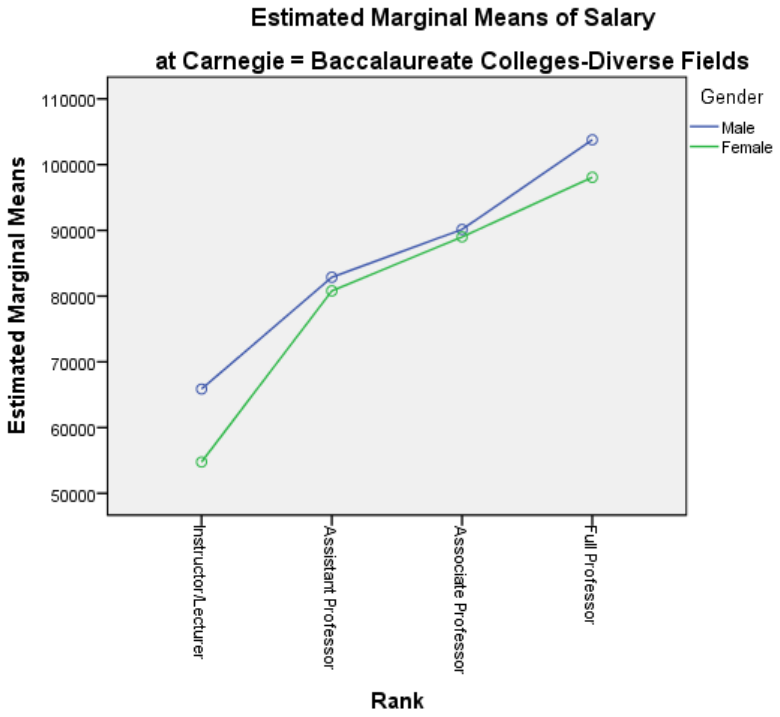
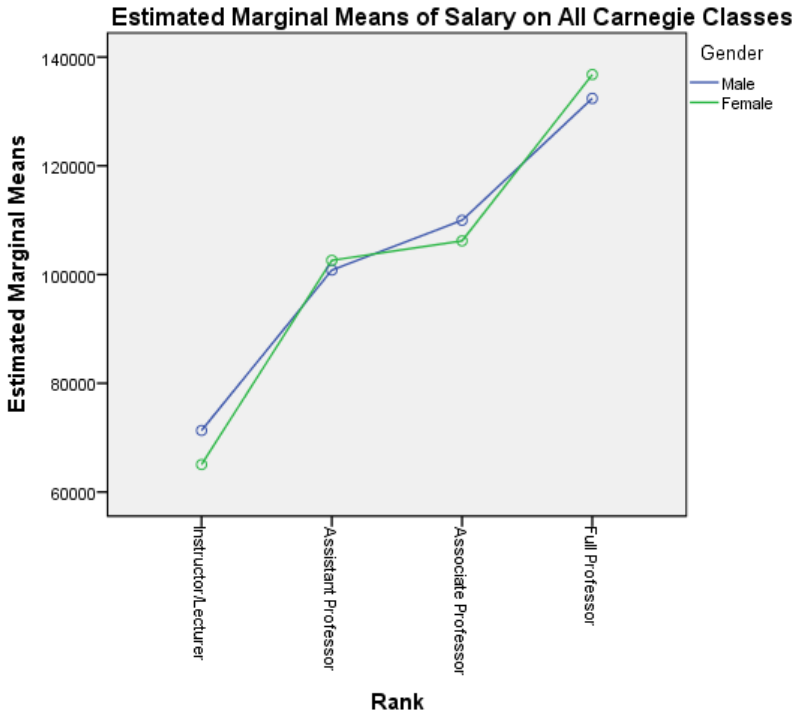


FIGURE 5
RANK * GENDER * ALL THE CARNEGIE CLASSIFICATIONS COMBINED



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APPENDIX

Estimated Marginal Means

1. Rank

Estimates

Dependent Variable: Salary

Rank	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	67708.943	7476.419	53030.860	82387.027
2	96368.557	3349.226	89793.188	102943.926
3	102905.123	3442.829	96145.987	109664.258
4	124812.992	3649.793	117647.534	131978.449

Pairwise Comparisons

Dependent Variable: Salary

(I) Rank	(J) Rank	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-28659.614*	8192.323	.000	-44743.196	-12576.031
	3	-35196.179*	8231.034	.000	-51355.760	-19036.598
	4	-57104.048*	8319.725	.000	-73437.753	-40770.343
2	1	28659.614*	8192.323	.000	12576.031	44743.196
	3	-6536.565	4803.164	.174	-15966.379	2893.249
	4	-28444.434*	4953.615	.000	-38169.621	-18719.248
3	1	35196.179*	8231.034	.000	19036.598	51355.760
	2	6536.565	4803.164	.174	-2893.249	15966.379
	4	-21907.869*	5017.376	.000	-31758.234	-12057.504
4	1	57104.048*	8319.725	.000	40770.343	73437.753
	2	28444.434*	4953.615	.000	18719.248	38169.621
	3	21907.869*	5017.376	.000	12057.504	31758.234

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: Salary

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	84433896715.594	3	28144632238.531	20.433	.000	.078
Error	995857985581.279	723	1377396937.180			

The F tests the effect of Rank. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

3. Carnegie

Estimates

Dependent Variable: Salary

Carnegie	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
2	129678.262	2279.678	125202.682	134153.841
3	89025.699	7248.752	74794.583	103256.815
4	89930.166	3162.762	83720.873	96139.459
5	83161.488	4954.172	73435.208	92887.768

Pairwise Comparisons

Dependent Variable: Salary

(I) Carnegie	(J) Carnegie	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
2	3	40652.562*	7598.772	.000	25734.269	55570.855
	4	39748.095*	3898.717	.000	32093.938	47402.253
	5	46516.773*	5453.508	.000	35810.171	57223.376
3	2	-40652.562*	7598.772	.000	-55570.855	-25734.269
	4	-904.467	7908.695	.909	-16431.217	14622.284
	5	5864.211	8779.990	.504	-11373.109	23101.531
4	2	-39748.095*	3898.717	.000	-47402.253	-32093.938
	3	904.467	7908.695	.909	-14622.284	16431.217
	5	6768.678	5877.659	.250	-4770.640	18307.996
5	2	-46516.773*	5453.508	.000	-57223.376	-35810.171
	3	-5864.211	8779.990	.504	-23101.531	11373.109
	4	-6768.678	5877.659	.250	-18307.996	4770.640

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: Salary

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	209729318703.225	3	69909772901.075	50.755	.000	.174
Error	995857985581.279	723	1377396937.180			

The F tests the effect of Carnegie. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.