

1. Data

The original data set contains the information about the salary and possible explanatory variables of 2288 faculty members from 1993 to 1997. Data was supplied by Gary Ogren, Office of Human Resources. We did not validate original record.

2. Method

All analysis was carried out at the request of and in consultation with the Salary Equity Task Force. The colleges in the following table are the ones we have decided to analyze. We have chosen these from original data, based on one condition: the number of white male faculty members is big enough to get a reasonable model and the number of female minority faculty members is big enough to predict their salaries. We excluded medical schools and law schools.

As a pilot analysis, the CLA (college of liberal art) data set was analyzed in two ways: first, using salary increase in five years as a response and second, using salary97 as a response. When we did the second one, first, we got the model only based on the white-male faculty members, and using that model, we predicted the salary of the female minority faculty members. We assume that the standard error of the female-minority group is same as the standard error of the white-male group. This assumption may be violated at some college such as Human Ecology. We did no subset selection.

3. Summary Tables

College	number white-males	number others	SD of model	Average diff *	SE diff	Ratio
CLA	268	131	0.3812	0.0119	0.0517	0.2308
IT	256	67	0.3238	1.2184	0.6570	1.8544
AG,FOOD,ENVIR SCI	146	25	0.2338	-0.0543	0.0534	-1.0163
HUMAN ECOLOGY	16	31	0.1569	-0.1905	0.0621	-3.0692
PUBLIC HLTH	34	19	0.2642	-0.1263	0.0967	-1.3056
PHARMACY	25	9	0.2132	0.0045	0.1050	0.0427
CBS	39	19	0.3547	-0.0845	0.1221	-0.6917
VET MED	49	14	0.3032	-0.1006	0.1073	-0.9374
EDUC & HUMAN DEV	67	40	0.2579	0.0390	0.0843	0.4626
MANAGEMENT	59	21	0.4039	-0.1220	0.2015	-0.6055
UMD	156	69	0.2094	0.0057	0.0354	0.1621
UMM	39	26	0.4206	0.0668	0.1282	0.5208

Table 1: Prediction for female ^{or} minority faculty members. "diff" here means $(\log_2(\text{actual.salary}) - 20,000 - \text{predicted value})$.

College	number white-males	number females	SD of model	Average diff.	SE diff.	Ratio
CLA	268	111	0.3812	0.1064	0.0526	2.0226
IT	256	18	0.3238	0.1413	0.0947	1.4916
AG,FOOD,ENVIR SCI	146	16	0.2338	-0.0434	0.0666	-0.6517
MANAGEMENT	59	7	0.4039	-0.1420	0.2595	-0.5472

Table 2: Prediction for female faculty members

College	number white-males	number nonwh.-males	SD of model	Average diff.	SE diff	Ratio
CLA	268	20	0.3812	-0.5124	0.1111	-4.6136
IT	256	49	0.3238	-0.0118	0.0678	-0.1742
AG,FOOD,ENVIR SCI MANAGEMENT	146	9	0.2338	-0.0736	0.0834	-0.8831
	59	14	0.4039	-0.1119	0.2012	-0.5565

Table 3: Prediction for nonwhite-male faculty members

4. Agricultural, Food and Environmental Science

Code	Name	white male	nonwhite male	white female	nonwhite female
2211	APPLIED ECONOMICS	25	1	3	0
2212	BIOSYSTEMS & AGRICUL	11	1	0	0
2213	AGRONOMY & PLANT GEN	17	0	1	0
2216	ANIMAL SCIENCE,DEPT	24	0	2	0
2217	ENTOMOLOGY,DEPT OF	7	1	2	0
2218	FOOD SCIENCE & NUTRI	9	1	1	0
2221	HORTICULTURAL SCIENC	13	1	0	1
2222	PLANT PATHOLOGY	12	2	1	0
2224	RHETORIC	10	0	4	0
2225	SOIL,WATER,AND CLIMA	18	2	1	0
	TOTAL	146	9	15	1

Table 4: Departments

Data set = AgFood97whitemale, Name of Fit = L1
Normal Regression
Kernel mean function = Identity
Response = $\log_2[\text{Salary97}-20000]$
Terms = (HireYear PromoYear97 PromoYear97² {F}Dept97 {F}Rank97 PromoYear97*{F}Rank97)
Coefficient Estimates

Label	Estimate	Std. Error	t-value
Constant	10.8402	2.31460	4.683
HireYear	0.0342749	0.00512799	6.684
PromoYear97	0.0991645	0.0564720	1.756
PromoYear97 ²	-0.000838901	0.000343138	-2.445
{F}Dept97 [2212]	0.135297	0.0904316	1.496
{F}Dept97 [2213]	-0.0680527	0.0778475	-0.874
{F}Dept97 [2216]	-0.156616	0.0691290	-2.266
{F}Dept97 [2217]	-0.129804	0.103674	-1.252
{F}Dept97 [2218]	0.0146866	0.0932498	0.157
{F}Dept97 [2221]	-0.102218	0.0828767	-1.233
{F}Dept97 [2222]	-0.0988680	0.0852566	-1.160
{F}Dept97 [2224]	-0.564528	0.0927286	-6.088
{F}Dept97 [2225]	-0.178391	0.0764789	-2.333
{F}Rank97 [2]	-0.846487	0.672741	-1.258
{F}Rank97 [3]	-1.52214	1.31795	-1.155
{F}Rank97 [10]	-8.27263	4.50896	-1.835
PromoYear97.*{F}Rank97 [2]	0.00336926	0.00761425	0.442

PromoYear97.{F}Rank97[3]	0.00614438	0.0148928	0.413
PromoYear97.{F}Rank97[10]	0.103838	0.0504766	2.057

R Squared: 0.70523
 Sigma hat: 0.23381
 Number of cases: 155
 Number of cases used: 146
 Degrees of freedom: 127

Summary Analysis of Variance Table

Source	df	SS	MS	F	p-value
Regression	18	16.6102	0.92279	16.88	0.0000
Residual	127	6.9427	0.054667		
Lack of fit	122	6.92401	0.0567542	15.18	0.0030
Pure Error	5	0.0186908	0.00373817		

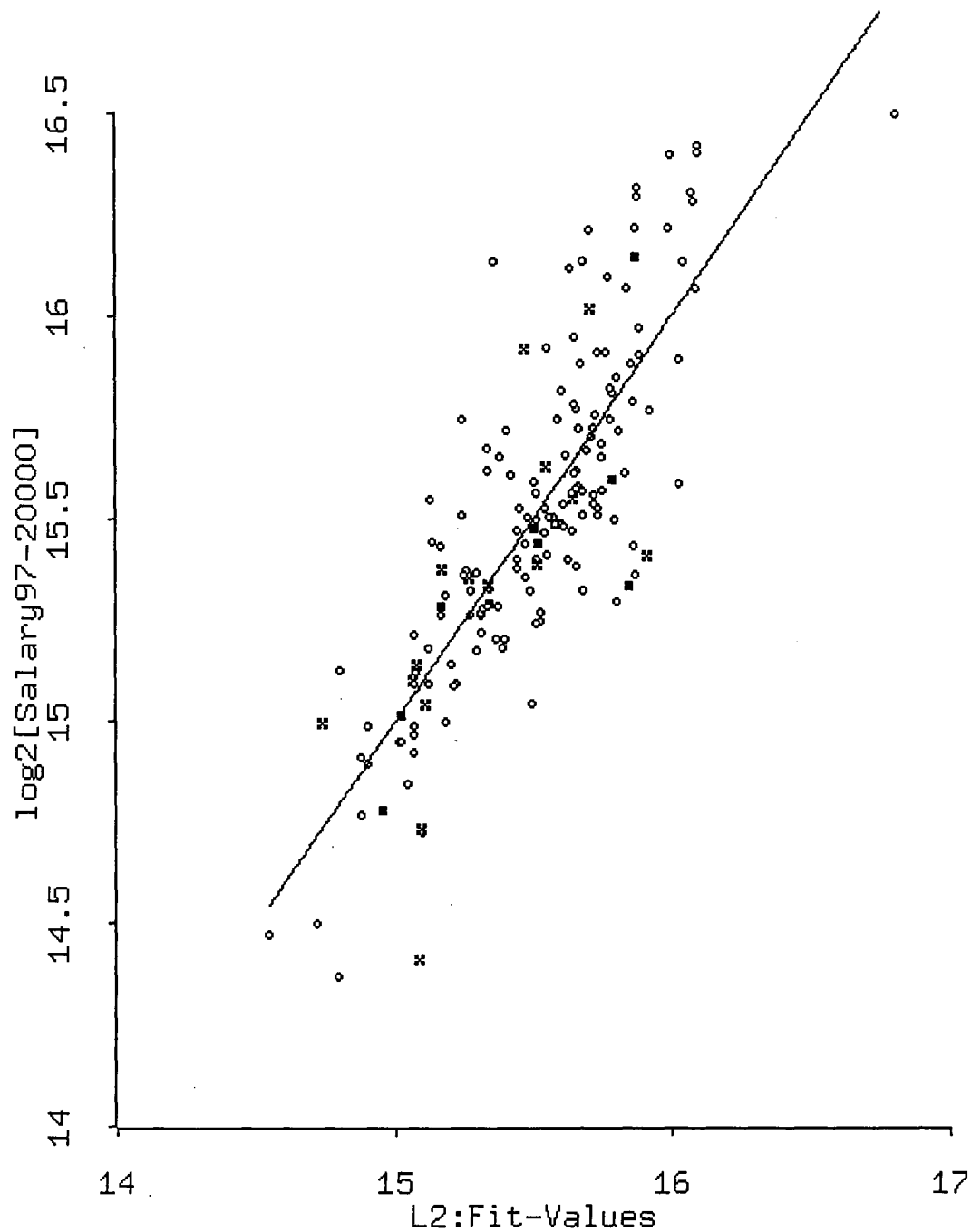


Figure 1: This plot displays the data for the **Ag,Food,Envir.Sci** college. The open circle points correspond to white male faculty members, dark square points correspond to females, and crossed points correspond to nonwhite male faculty members. The square points and crossed points are predicted based on the model for white male faculty members. -0.0543 is the average of $(\log_2(\text{actual.salary}) - \text{predicted value})$ for the female-minority group. 0.0534 is the standard error for this average.

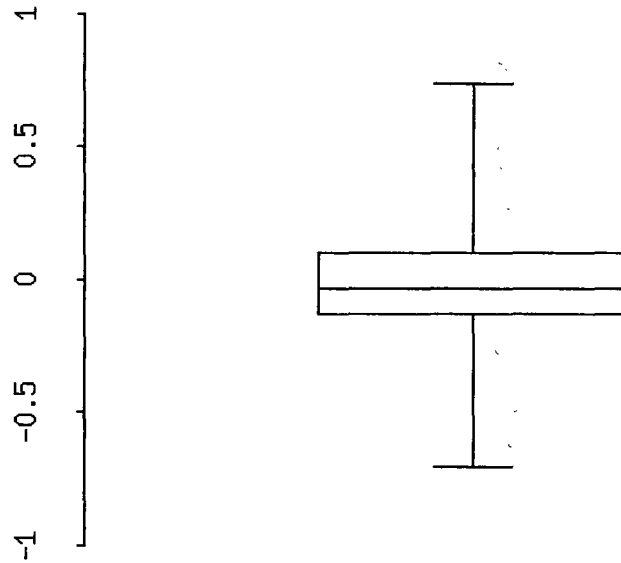


Figure 2: This boxplot displays $(\log_2(\text{actual.salary}) - \text{predicted value})$ for the female-minority group of the Ag, Food, Envir. Sci college.

5. Public Health

Code	Name	white male	nonwhite male	white female	nonwhite female
2450	PUBLIC HEALTH, SCHOO	4	0	0	0
2451	BIOSTATISTICS	5	1	2	0
2452	ENVIRONMENTAL HEALTH	5	0	3	0
2453	EPIDEMIOLOGY	10	2	4	1
2454	HEALTH MANAGEMENT &	2	0	3	0
2455	INST HEALTH SERVICES	8	1	2	0
	TOTAL	34	4	14	1

Table 5: Departments

Data set = PublicHth97whitemale, Name of Fit = mbeta

Normal Regression

Kernel mean function = Identity

Response = $\log_2[\text{Salary97}-20000]$

Terms = (HireYear PromoYear97.PromoYear97² {F}Dept97 {F}Rank97)

Coefficient Estimates

Label	Estimate	Std. Error	t-value
Constant	2.36050	9.61456	0.246
HireYear	0.0225798	0.00903989	2.498
PromoYear97	0.316469	0.231238	1.369
PromoYear97 ²	-0.00198676	0.00133968	-1.483
{F}Dept97 [2451]	-0.257250	0.219799	-1.170
{F}Dept97 [2452]	-0.192405	0.229936	-0.837
{F}Dept97 [2453]	-0.280607	0.222732	-1.260
{F}Dept97 [2454]	-0.256395	0.283827	-0.903
{F}Dept97 [2455]	-0.329597	0.210643	-1.565
{F}Rank97 [2]	-0.616418	0.139172	-4.429
{F}Rank97 [3]	-1.41736	0.219514	-6.457

R Squared: 0.740936

Sigma hat: 0.264196

Number of cases: 34

Degrees of freedom: 23

Summary Analysis of Variance Table

Source	df	SS	MS	F	p-value
Regression	10	4.59152	0.459152	6.58	0.0001
Residual	23	1.60539	0.0697997		

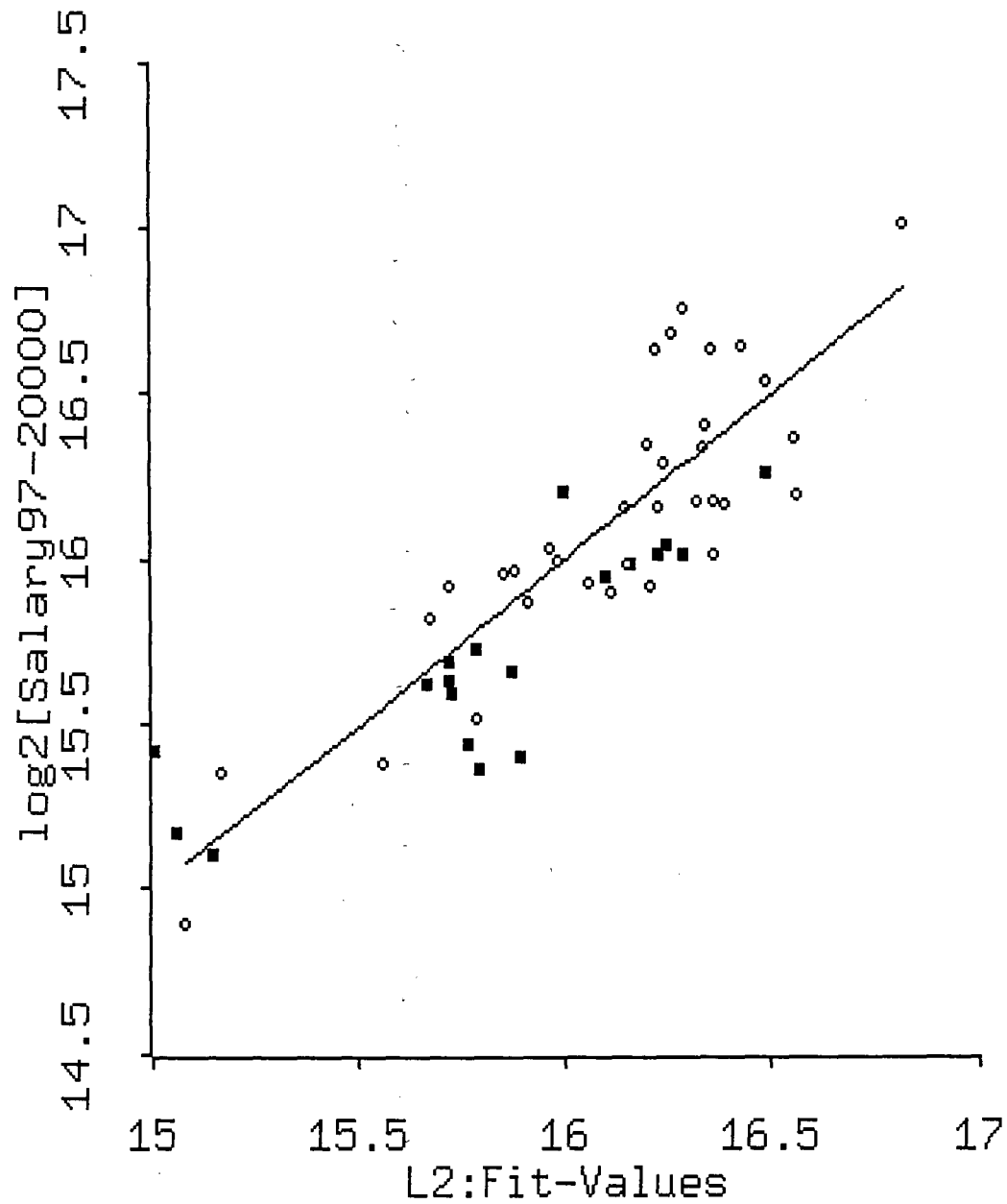


Figure 3: This plot displays the data for the **Public Hlth.** college. The open circle points correspond to white male faculty members, dark square points correspond to females and minorities. The square points are predicted based on the model for white male faculty members. -0.1263 is the average of $(\log_2(\text{actual.salary}) - \text{predicted value})$ for the female-minority group. 0.0967 is the standard error for this average.

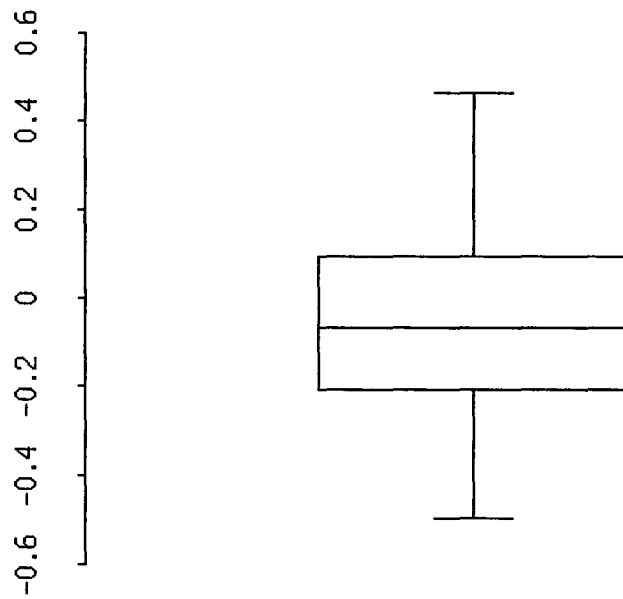


Figure 4: This boxplot displays ($\log_2(\text{actual.salary}) - \text{predicted value}$) for the female-minority group of the **Public Hlth.** college.

6. Pharmacy

Code	Name	white male	nonwhite male	white female	nonwhite female
2461	PHARMACY PRACTICE	12	0	4	0
2462	MEDICINAL CHEM-PHARM	10	0	1	0
2463	PHARMACEUTICS	3	1	1	2
	TOTAL	25	1	6	2

Table 6: Departments

Data set = Pharmacy97whitemale, Name of Fit = L2

Normal Regression

Kernel mean function = Identity

Response = $\log_2[\text{Salary97}-20000]$ Terms = (HireYear PromoYear97 PromoYear97² {F}Dept97 {F}Rank97)

Coefficient Estimates

Label	Estimate	Std. Error	t-value
Constant	20.6278	6.14726	3.356
HireYear	0.00335277	0.0111645	0.300
PromoYear97	-0.0810458	0.148174	-0.547
PromoYear97 ²	0.000278691	0.000877907	0.317
{F}Dept97[2462]	-0.131270	0.117085	-1.121
{F}Dept97[2463]	0.111435	0.140638	0.792
{F}Rank97[2]	-0.587770	0.105872	-5.552
{F}Rank97[3]	-0.799101	0.230155	-3.472

R Squared: 0.828417

Sigma hat: 0.213185

Number of cases: 25

Degrees of freedom: 17

Summary Analysis of Variance Table

Source	df	SS	MS	F	p-value
Regression	7	3.73023	0.532891	11.73	0.0000
Residual	17	0.772611	0.0454477		
Lack of fit	16	0.766272	0.047892	7.55	0.2792
Pure Error	1	0.00633938	0.00633938		

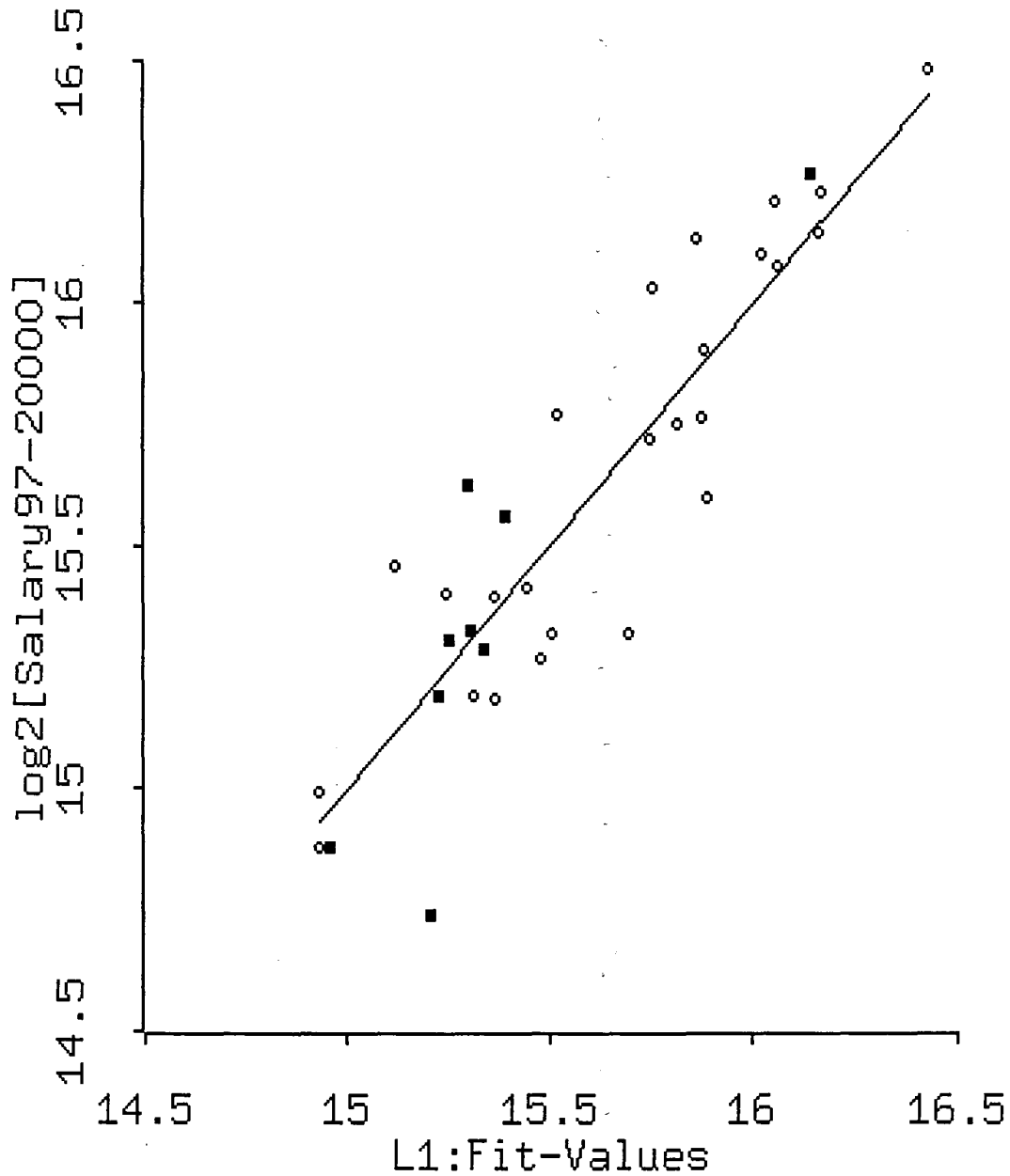


Figure 5: This plot displays the data for the **Pharmacy** college. The open circle points correspond to white male faculty members, dark square points correspond to females and minorities. The square points are predicted based on the model for white male faculty members. **0.0045** is the average of $(\log_2(\text{actual.salary}) - \text{predicted value})$ for the female-minority group. **0.1050** is the standard error for this average.

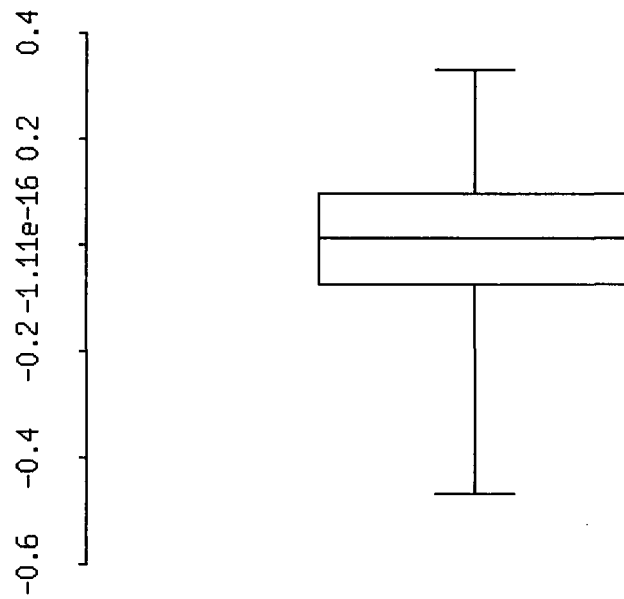


Figure 6: This boxplot displays $(\log_2(\text{actual.salary}) - \text{predicted value})$ for the female-minority group of the **Pharmacy** college.

7. CBS

Code	Name	white male	nonwhite male	white female
2501	BIOCHEMISTRY-BIOLOGI	7	2	4
2502	ECOLOGY, EVOLUTION &	11	0	3
2503	PLANT BIOLOGY	8	0	5
2504	GENETICS AND CELL BI	13	1	4
TOTAL		39	3	16

Table 7: Departments

Data set = CBS97whitemale, Name of Fit = L2

Normal Regression

Kernel mean function = Identity

Response = $\log_2[\text{Salary97}-20000]$ Terms = (HireYear PromoYear97 PromoYear97² {F}Dept97 {F}Rank97)

Coefficient Estimates

Label	Estimate	Std. Error	t-value
Constant	10.1049	6.85628	1.474
HireYear	0.0506364	0.0147702	3.428
PromoYear97	0.0922374	0.162664	0.567
PromoYear97 ²	-0.000835216	0.00101265	-0.825
{F}Dept97 [2502]	-0.200248	0.186619	-1.073
{F}Dept97 [2503]	-0.339294	0.199753	-1.699
{F}Dept97 [2504]	-0.208053	0.182107	-1.142
{F}Rank97 [2]	-0.644039	0.169421	-3.801
{F}Rank97 [3]	-1.56599	0.430432	-3.638
{F}Rank97 [10]	1.50104	0.405911	3.698

R Squared: 0.56633

Sigma hat: 0.354696

Number of cases: 58

Number of cases used: 39

Degrees of freedom: 29

Summary Analysis of Variance Table

Source	df	SS	MS	F	p-value
Regression	9	4.76453	0.529392	4.21	0.0015
Residual	29	3.64847	0.125809		

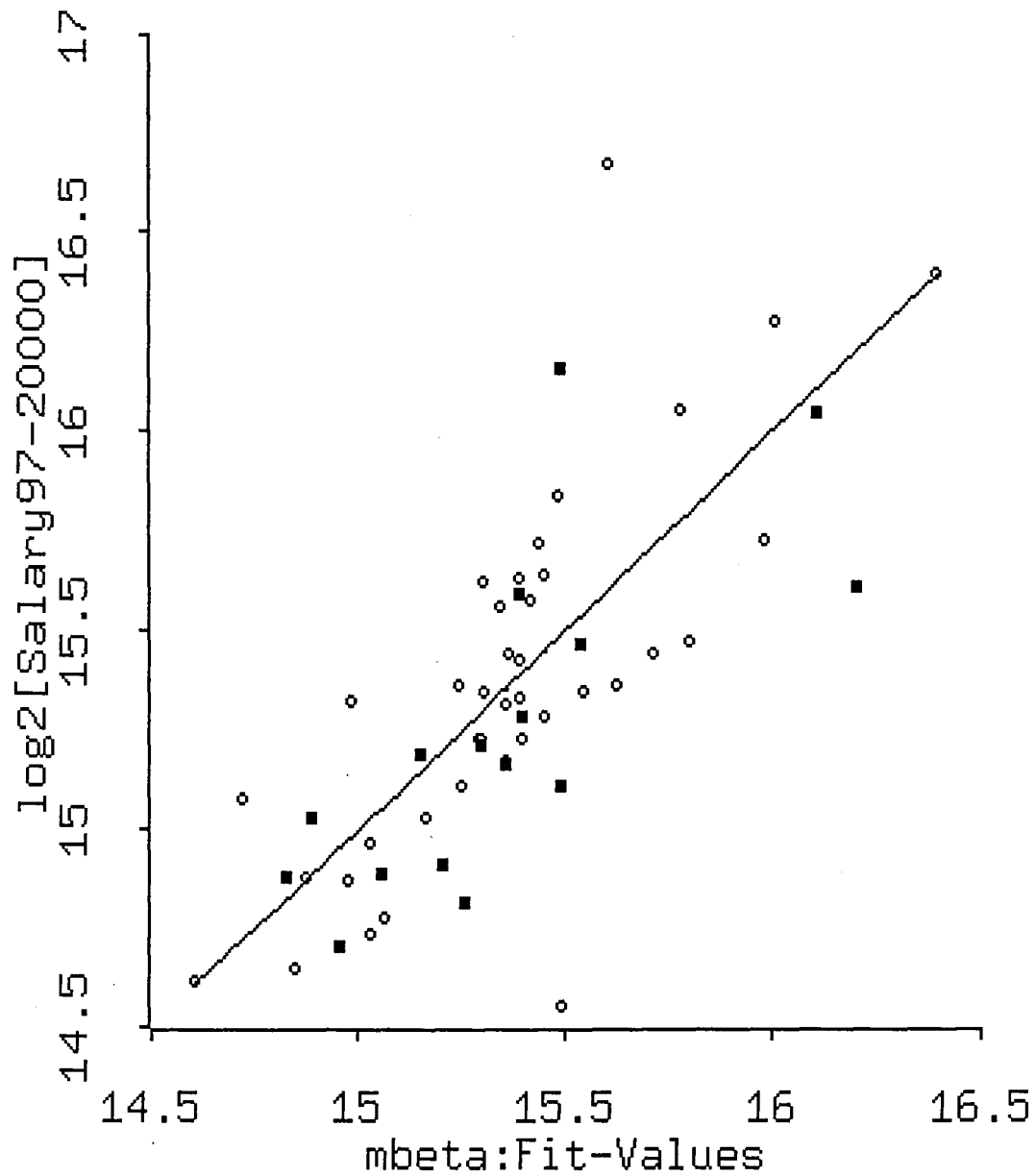


Figure 7: This plot displays the data for the CBS college. The open circle points correspond to white male faculty members, dark square points correspond to females and minorities. The square points are predicted based on the model for white male faculty members. -0.0845 is the average of $(\log_2(\text{actual.salary}) - \text{predicted value})$ for the female-minority group. 0.1221 is the standard error for this average.

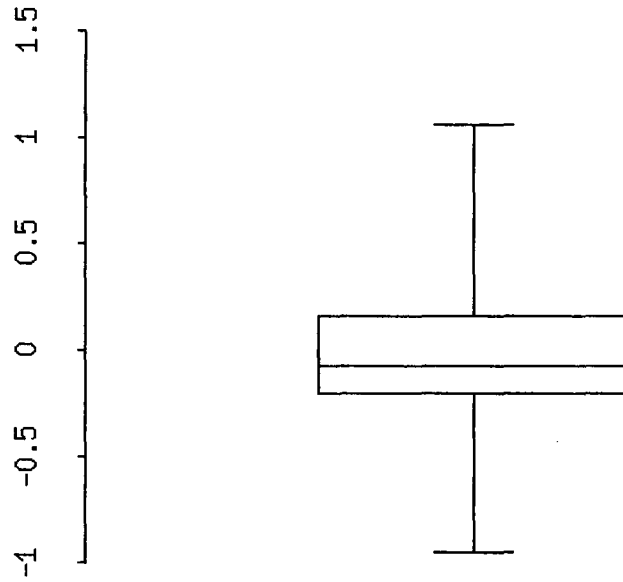


Figure 8: This boxplot displays $(\log_2(\text{actual.salary}) - \text{predicted value})$ for the female-minority group of the CBS college.

8. Veterinary Medicine

Code	Name	white male	nonwhite male	white female
2620	CLINICAL & POPULATIO	15	1	0
2630	VETERINARY PATHOBIOL	12	5	4
2640	SMALL ANIMAL CLINICA	12	0	3
2650	VETERINARY DIAGNOSTI	10	1	0
	TOTAL	49	7	7

Table 8: Departments

Data set = VetMed97wm, Name of Fit = mbeta

Normal Regression

Kernel mean function = Identity

Response = $\log_2[\text{Salary97}-20000]$

Terms = (HireYear PromoYear97 PromoYear97² {F}Dept97 {F}Rank97 PromoYe
ar97*{F}Rank97)

Coefficient Estimates

Label	Estimate	Std. Error	t-value
Constant	27.0474	6.01592	4.496
HireYear	0.00893899	0.0114185	0.783
PromoYear97	-0.263891	0.147626	-1.788
PromoYear97 ²	0.00145841	0.000883955	1.650
{F}Dept97[2630]	0.115311	0.129900	0.888
{F}Dept97[2640]	-0.00927145	0.131126	-0.071
{F}Dept97[2650]	0.0168490	0.126818	0.133
{F}Rank97[2]	-3.46497	1.38634	-2.499
PromoYear97.{F}Rank97[2]	0.0342538	0.0161256	2.124

R Squared: 0.543793

Sigma hat: 0.303214

Number of cases: 49

Degrees of freedom: 40

Summary Analysis of Variance Table

Source	df	SS	MS	F	p-value
Regression	8	4.38358	0.547948	5.96	0.0001
Residual	40	3.67755	0.0919387		
Lack of fit	39	3.65121	0.0936208	3.55	0.4011
Pure Error	1	0.0263351	0.0263351		

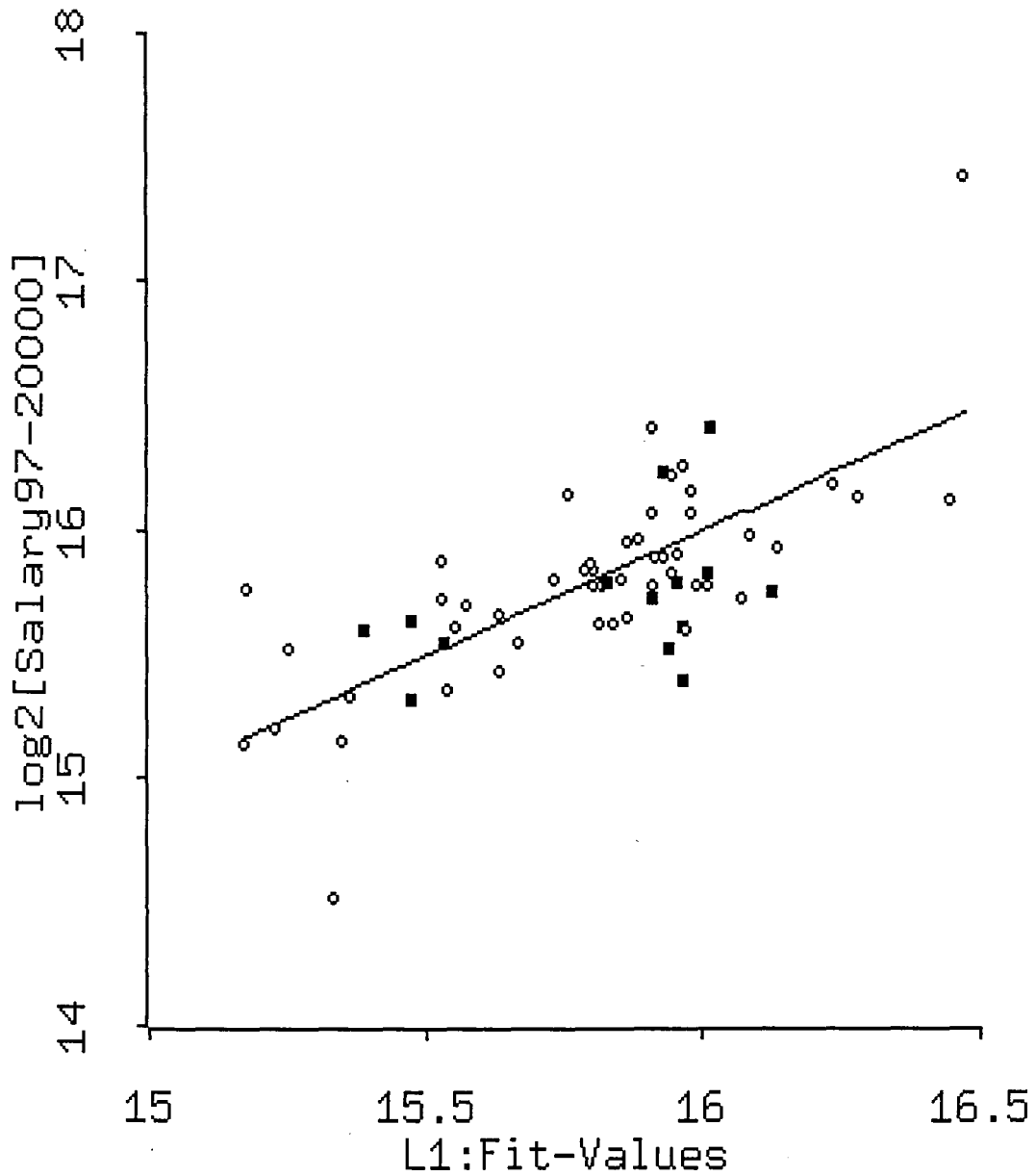


Figure 9: This plot displays the data for the Vet. Med. college. The open circle points correspond to white male faculty members, dark square points correspond to females and minorities. The square points are predicted based on the model for white male faculty members. -0.1006 is the average of $(\log_2(\text{actual.salary}) - \text{predicted value})$ for the female-minority group. 0.1073 is the standard error for this average.

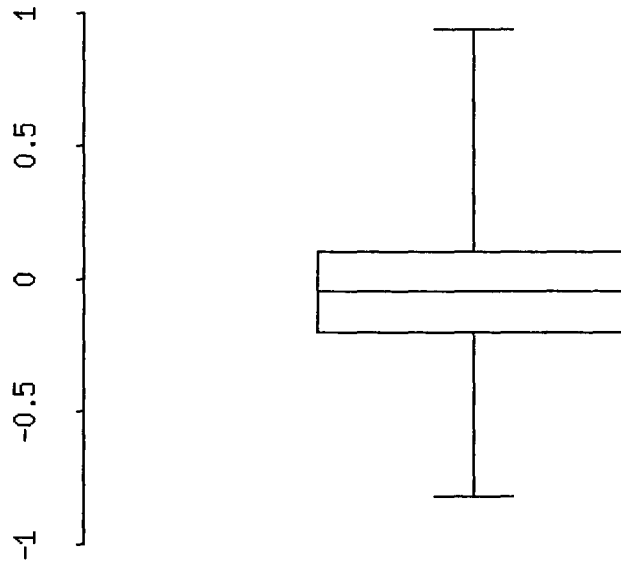


Figure 10: This boxplot displays ($\log_2(\text{actual.salary}) - \text{predicted value}$) for the female-minority group of the **Vet. Med.** college.

9. Educ. & Human Dev.

Code	Name	white male	nonwhite male	white female	nonwhite female
3009	EDUCATIONAL POLICY &	10	0	3	1
3020	WORK, COMMUNITY & FA	7	1	6	0
3030	CURRICULUM & INSTRUC	13	0	9	1
3050	KINESIOLOGY & LEISUR	10	0	2	0
3060	EDUCATIONAL PSYCHOLO	17	2	9	1
3070	CHILD DEVELOPMENT, I	9	0	4	1
4981	4H YOUTH DEVELOPMENT	1	0	0	0
	TOTAL	67	3	33	4

Table 9: Departments

Data set = Education97whitemale, Name of Fit = mbeta

Normal Regression

Kernel mean function = Identity

Response = $\log_2[\text{Salary}_{97-20000}]$ Terms = (HireYear PromoYear97 PromoYear97² {F}Dept97 {F}Rank97)

Coefficient Estimates

Label	Estimate	Std. Error	t-value
Constant	10.6925	3.71742	2.876
HireYear	0.0177466	0.00948024	1.872
PromoYear97	0.118159	0.0916700	1.289
PromoYear97 ²	-0.000939151	0.000570099	-1.647
{F}Dept97[3020]	0.210974	0.133794	1.577
{F}Dept97[3030]	-0.0195854	0.110541	-0.177
{F}Dept97[3050]	0.260495	0.127480	2.043
{F}Dept97[3060]	0.0209658	0.107261	0.195
{F}Dept97[3070]	0.436166	0.128842	3.385
{F}Dept97[4981]	0.169420	0.277365	0.611
{F}Rank97[2]	-0.609008	0.0931093	-6.541
{F}Rank97[3]	-0.696635	0.282822	-2.463
{F}Rank97[10]	1.55820	0.367322	4.242

R Squared: 0.716684

Sigma hat: 0.257922

Number of cases: 67

Degrees of freedom: 54

Summary Analysis of Variance Table

Source	df	SS	MS	F	p-value
Regression	12	9.08715	0.757263	11.38	0.0000
Residual	54	3.59229	0.0665239		
Lack of fit	51	3.33453	0.065383	0.76	0.7200
Pure Error	3	0.257757	0.0859189		

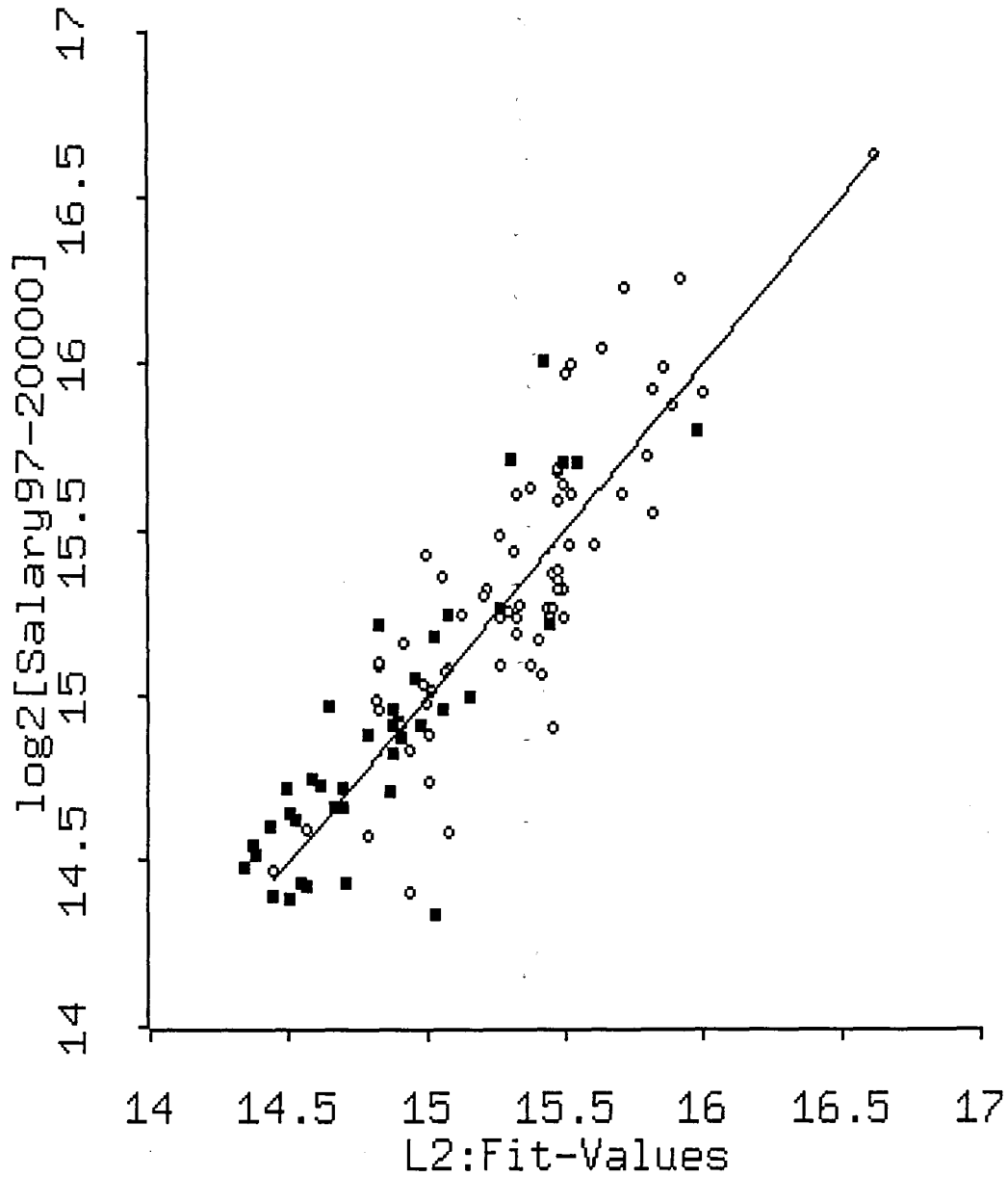


Figure 11: This plot displays the data for the **Educ. & Human Dev.** college. The open circle points correspond to white male faculty members, dark square points correspond to females and minorities. The square points are predicted based on the model for white male faculty members. **0.0390** is the average of $(\log_2(\text{actual.salary}) - \text{predicted value})$ for the female-minority group. **0.0843** is the standard error for this average.

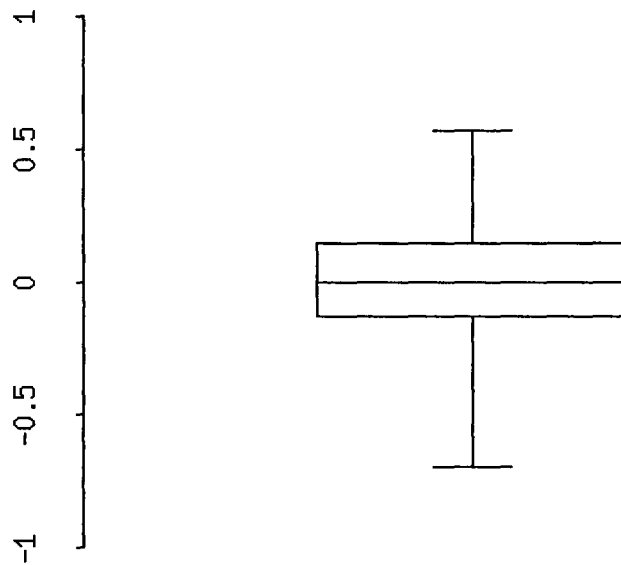


Figure 12: This boxplot displays ($\log_2(\text{actual.salary}) - \text{predicted value}$) for the female-minority group of the **Educ. & Human Dev.** college.

10. U of M at Duluth campus

Code College	Department	white male	nonwhite male	white female	nonwhite female
88	UMD BIOLOGY	7	1	2	0
SCI	UMD CHEMISTRY	7	0	0	1
ENG	UMD GEOLOGY	5	0	0	0
	UMD MATH & STATISTIC	13	1	1	1
	UMD PHYSICS	8	0	0	0
	UMD INDUSTRIAL ENGIN	7	0	0	0
	UMD CHEMICAL ENGINEE	2	0	2	0
	UMD ELECTRICAL & COM	3	3	0	0
	UMD COMPUTER SCIENCE	5	0	1	0
91	UMD ART	8	0	2	0
FINE	UMD MUSIC	6	0	4	0
ARTS	UMD THEATRE	3	0	1	1
92	UMD ACCOUNTING	3	1	0	1
BUS	UMD MANAGEMENT STUDI	6	1	3	0
ECON	UMD FIN & MGMT INFO	2	1	1	0
	UMD ECONOMICS	9	0	1	0
95	UMD EDUCATION	5	0	6	2
ED	UMD HEALTH & PHYS ED	7	0	2	0
	UMD PSYCH & MENTAL H	6	1	4	0
	UMD SOCIAL WORK, DEP	3	0	2	1
	UMD COMM SCIENCES	2	1	2	0
96	UMD AMER INDIAN STUD	0	1	0	0
CLA	UMD WOMEN'S STUDIES	0	0	1	0
	UMD ENGLISH	5	0	3	0
	UMD FOREIGN LANG & L	3	0	2	0
	UMD HISTORY	2	0	2	0
	UMD PHILOSOPHY	4	0	1	0
	UMD COMMUNICATION	4	0	3	0
	UMD POLITICAL SCIENC	6	0	1	0
	UMD SOCIOLOGY/ANTHRO	7	0	1	0
	UMD COMPOSITION	4	0	3	0
	UMD GEOGRAPHY	4	0	0	0
	TOTAL	156	17	51	7

Table 10: College and Departments

Data set = UMDwhitemale, Name of Fit = mbeta

Normal Regression

Kernel mean function = Identity

Response = $\log_2[\text{Salary}_{97-2000}]$ Terms = $(\text{HireYear} \text{ PromoYear}_{97} \text{ PromoYear}_{97}^2 \{F\}\text{Code}_{97} \{F\}\text{Rank}_{97} \{F\}\text{Tenu}$ $\text{re}_{97} \text{ PromoYear}_{97} * \{F\}\text{Rank}_{97})$

Coefficient Estimates

Label	Estimate	Std. Error	t-value
Constant	12.8848	2.30147	5.599
HireYear	0.00773678	0.00301851	2.563
PromoYear97	0.0594321	0.0567862	1.047

PromoYear97^2	-0.000479633	0.000338993	-1.415
{F}Code97[91]	-0.435324	0.0598843	-7.269
{F}Code97[92]	0.219739	0.0559376	3.928
{F}Code97[95]	-0.213604	0.0541842	-3.942
{F}Code97[96]	-0.217309	0.0453038	-4.797
{F}Rank97[2]	-0.117038	0.439410	-0.266
{F}Rank97[3]	-2.43064	1.06492	-2.282
{F}Tenure97[P]	0.430647	0.254728	1.691
PromoYear97.{F}Rank97[2]	-0.00387899	0.00515502	-0.752
PromoYear97.{F}Rank97[3]	0.0223775	0.0140100	1.597

R Squared:	0.759672
Sigma hat:	0.209385
Number of cases:	156
Degrees of freedom:	143

Summary Analysis of Variance Table

Source	df	SS	MS	F	p-value
Regression	12	19.8176	1.65146	37.67	0.0000
Residual	143	6.26944	0.0438423		
Lack of fit	135	6.06311	0.0449119	1.74	0.2024
Pure Error	8	0.206338	0.0257922		

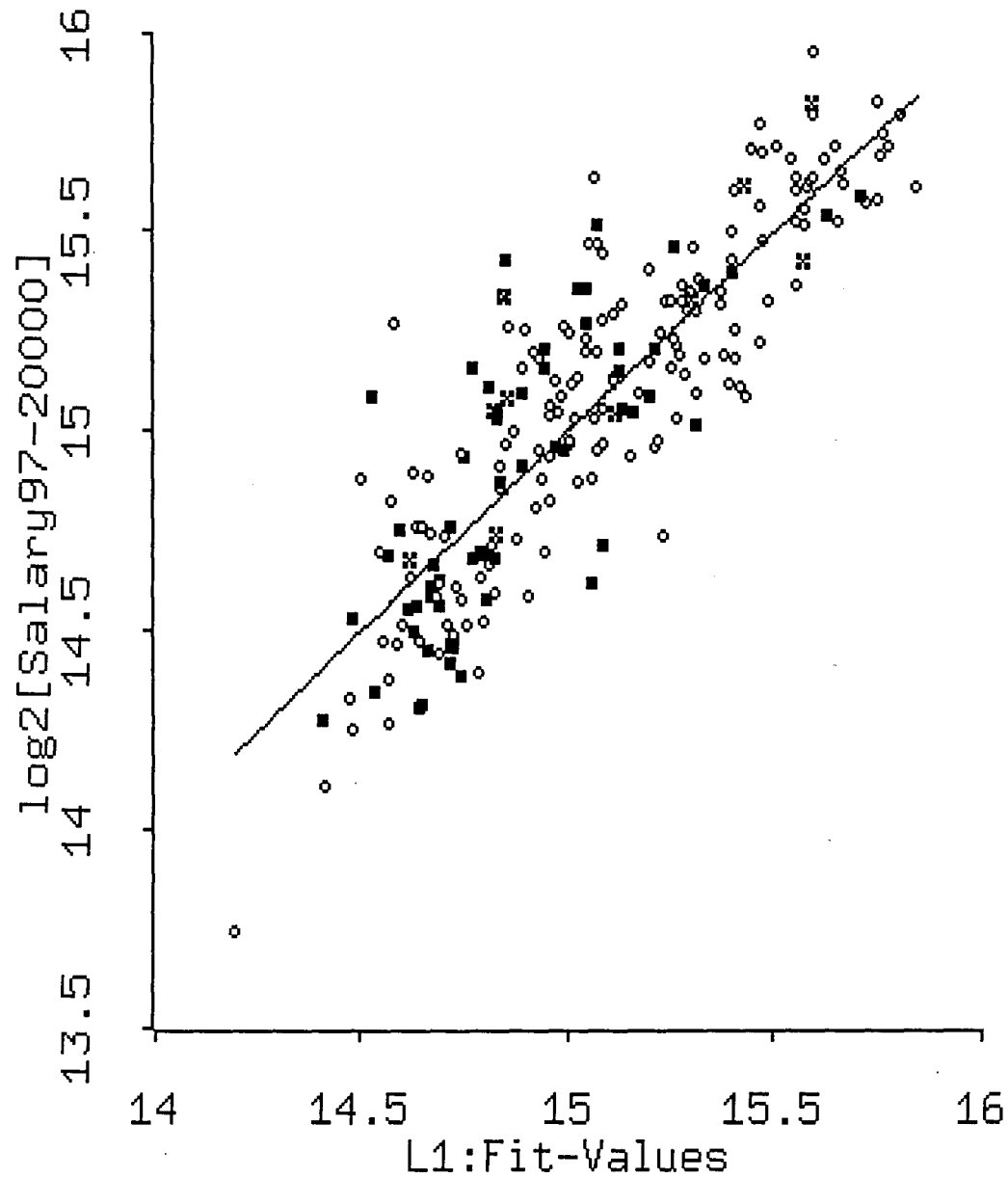


Figure 13: This plot displays the data for the UMD college. The open circle points correspond to white male faculty members, dark square points correspond to females and minorities. The square points are predicted based on the model for white male faculty members. 0.0057 is the average of $(\log_2(\text{actual.salary}) - \text{predicted value})$ for the female-minority group. 0.0354 is the standard error for this average.

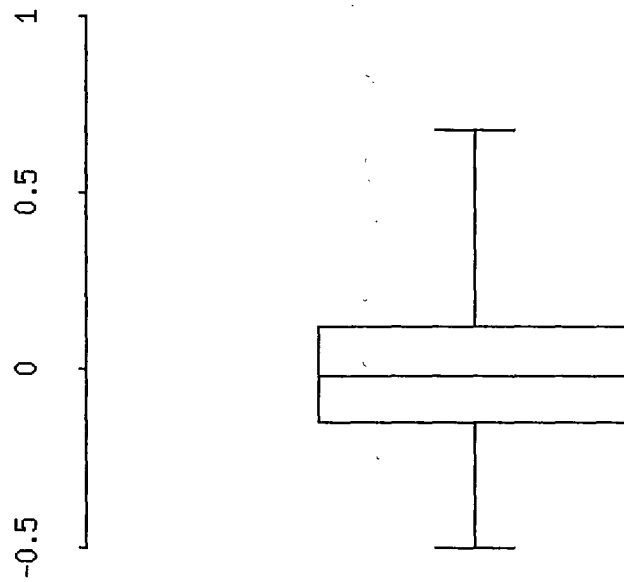


Figure 14: This boxplot displays $(\log_2(\text{actual.salary}) - \text{predicted value})$ for the female-minority group of the UMD college.

10. U of M at Morris campus

Code	Department	white male	nonwhite male	white female	nonwhite female
3401	UMM EDUCATION, DIVIS	1	0	4	0
3402	UMM HUMANITIES, DIVI	16	2	7	1
3403	UMM SCIENCE & MATH,D	14	2	4	0
3404	UMM SOCIAL SCIENCES,	8	2	4	0
TOTAL		39	6	19	1

Table 11: College and Departments

Data set = UMM97whitemale, Name of Fit = mbeta

Normal Regression

Kernel mean function = Identity

Response = $\log_2[\text{Salary97}-20000]$

Terms = (HireYear PromoYear97 PromoYear97² {F}Dept97 {F}Rank97 PromoYear97*{F}Rank97)

Coefficient Estimates

Label	Estimate	Std. Error	t-value
Constant	4.49125	7.32673	0.613
HireYear	-0.0212269	0.0141455	-1.501
PromoYear97	0.326227	0.181356	1.799
PromoYear97 ²	-0.00210971	0.00112820	-1.870
{F}Dept97[3402]	-0.359020	0.489914	-0.733
{F}Dept97[3403]	-0.157254	0.485835	-0.324
{F}Dept97[3404]	-0.239518	0.519755	-0.461
{F}Rank97[2]	-4.55424	1.55541	-2.928
{F}Rank97[3]	-4.09275	2.24873	-1.820
PromoYear97.*{F}Rank97[2]	0.0481389	0.0189215	2.544
PromoYear97.*{F}Rank97[3]	0.0399446	0.0266151	1.501

R Squared: 0.652874

Sigma hat: 0.420588

Number of cases: 65

Number of cases used: 39

Degrees of freedom: 28

Summary Analysis of Variance Table

Source	df	SS	MS	F	p-value
Regression	10	9.31566	0.931566	5.27	0.0002
Residual	28	4.95304	0.176894		
Lack of fit	26	4.89621	0.188316	6.63	0.1393
Pure Error	2	0.0568258	0.0284129		

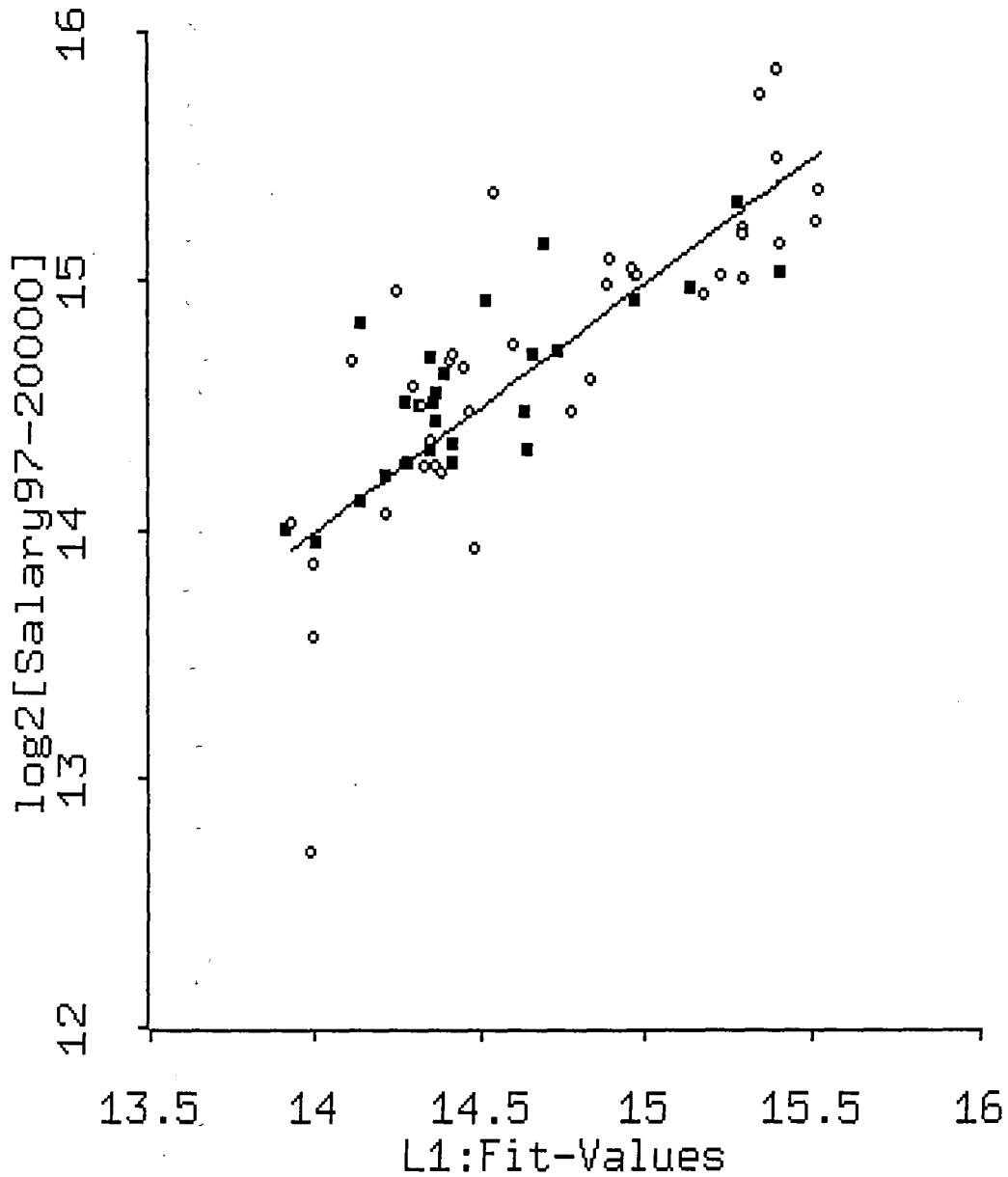


Figure 15: This plot displays the data for the UMM college. The open circle points correspond to white male faculty members, dark square points correspond to females and minorities. The square points are predicted based on the model for white male faculty members. 0.0668 is the average of $(\log_2(\text{actual.salary}) - \text{predicted value})$ for the female-minority group. 0.1282 is the standard error for this average.

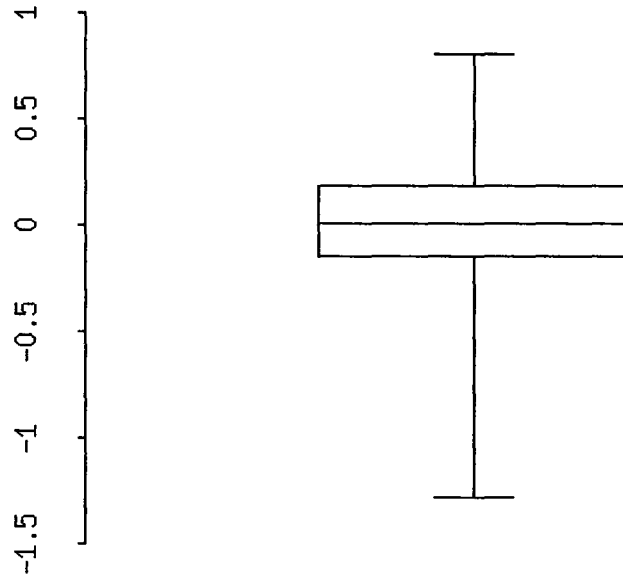


Figure 16: This boxplot displays $(\log_2(\text{actual.salary}) - \text{predicted value})$ for the female-minority group of the UMM college.

11. CLA, IT, Human Ecology, Management Revisited

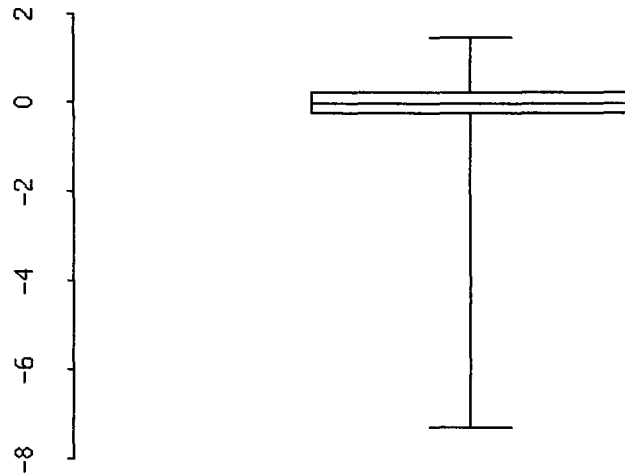


Figure 17: This boxplot displays ($\log_2(\text{actual.salary})$ - predicted value) for the female-minority group of the CLA college.

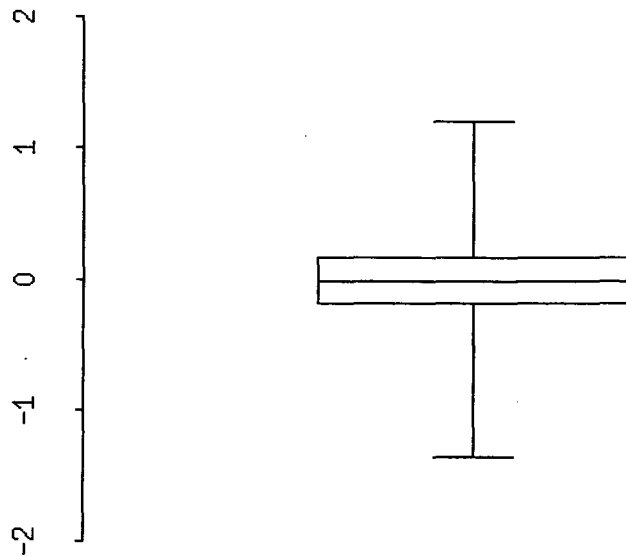


Figure 18: This boxplot displays ($\log_2(\text{actual.salary})$ - predicted value) for the female-minority group of the IT college.

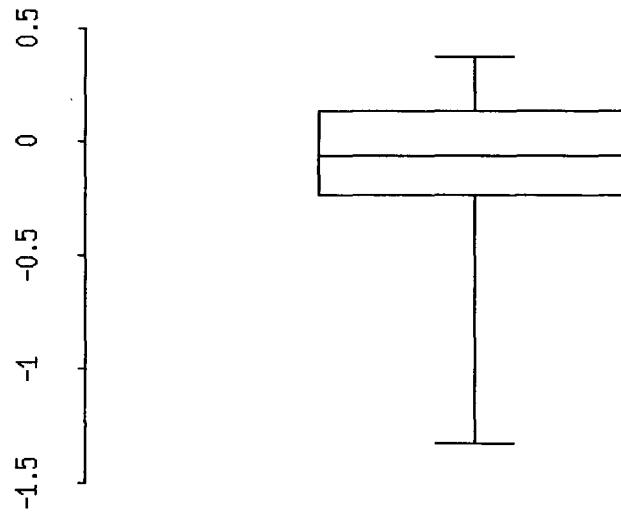


Figure 19: This boxplot displays ($\log_2(\text{actual.salary}) - \text{predicted value}$) for the female-minority group of the **Human Ecology** college.

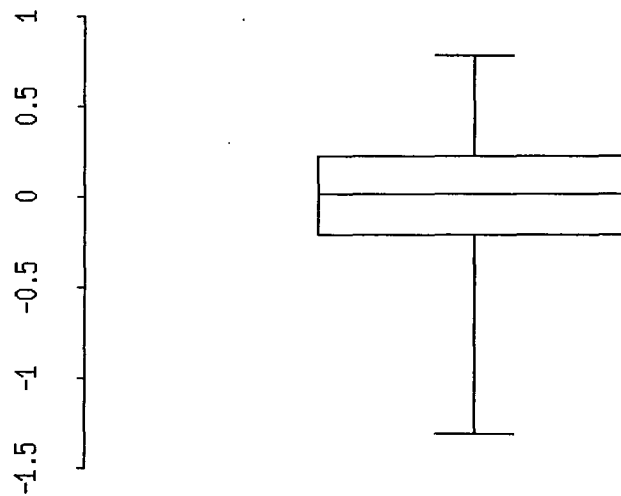


Figure 20: This boxplot displays ($\log_2(\text{actual.salary}) - \text{predicted value}$) for the female-minority group of the **Management** college.

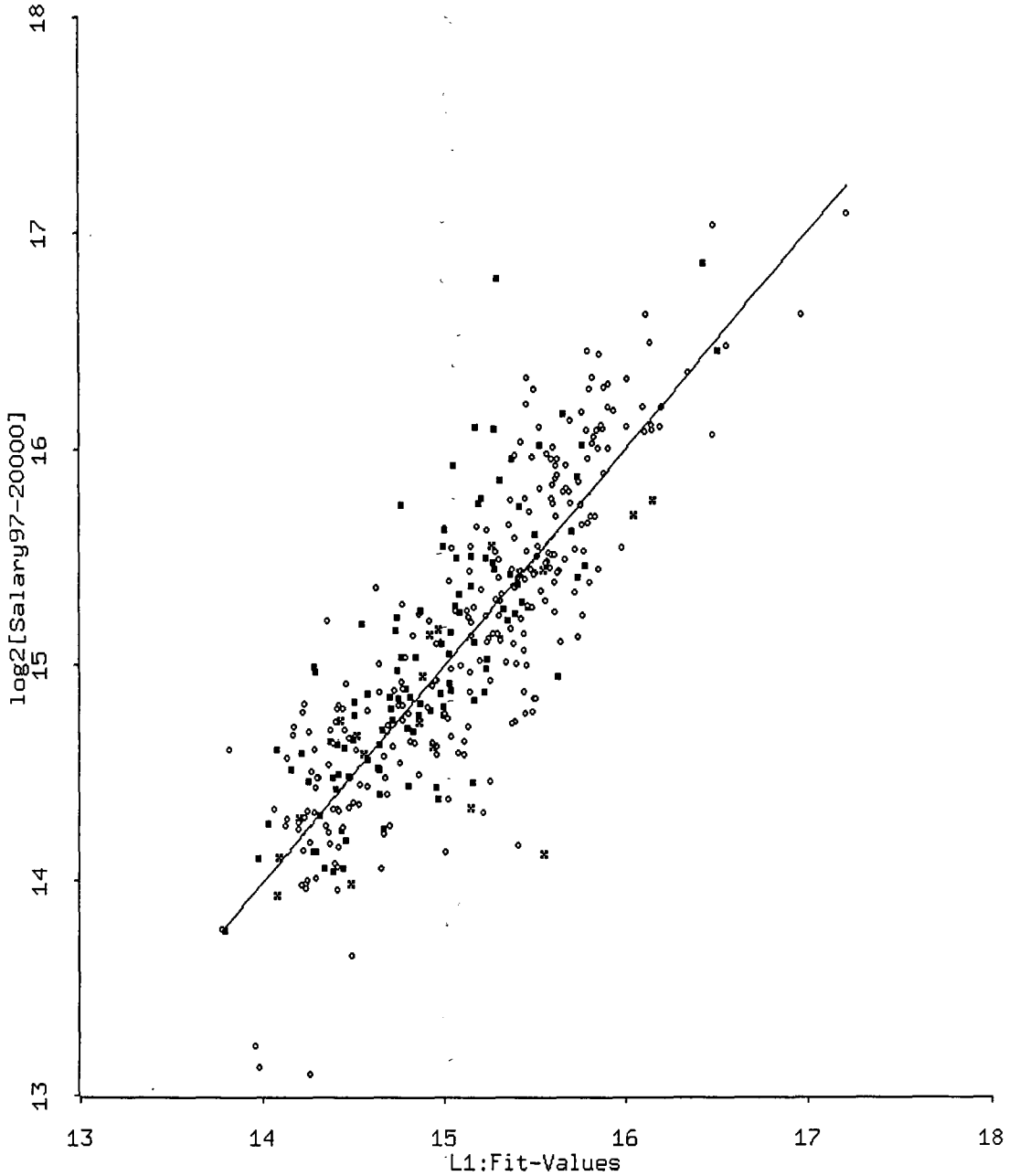


Figure 21: This plot displays the data for the CLA college. The open circle points correspond to white male faculty members, dark square points correspond to females and minorities. The square points are predicted based on the model for white male faculty members. **0.0119** is the average of $(\log_2(\text{actual.salary}) - \text{predicted value})$ for the female-minority group. **0.0517** is the standard error for this average.

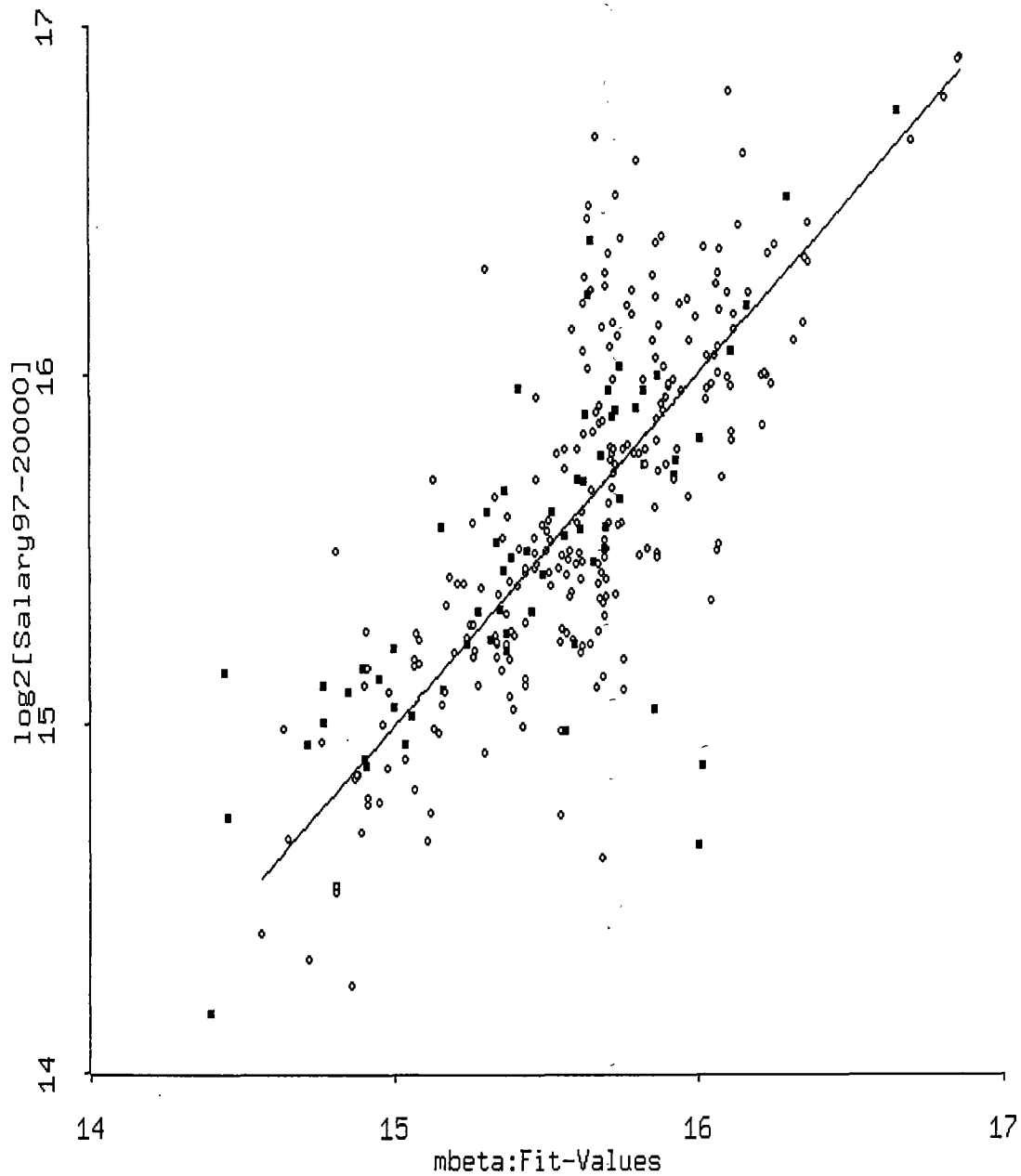


Figure 22: This plot displays the data for the IT college. The open circle points correspond to white male faculty members, dark square points correspond to females and minorities. The square points are predicted based on the model for white male faculty members. **1.2184** is the average of $(\log_2(\text{actual.salary}) - \text{predicted value})$ for the female-minority group. **0.6570** is the standard error for this average.

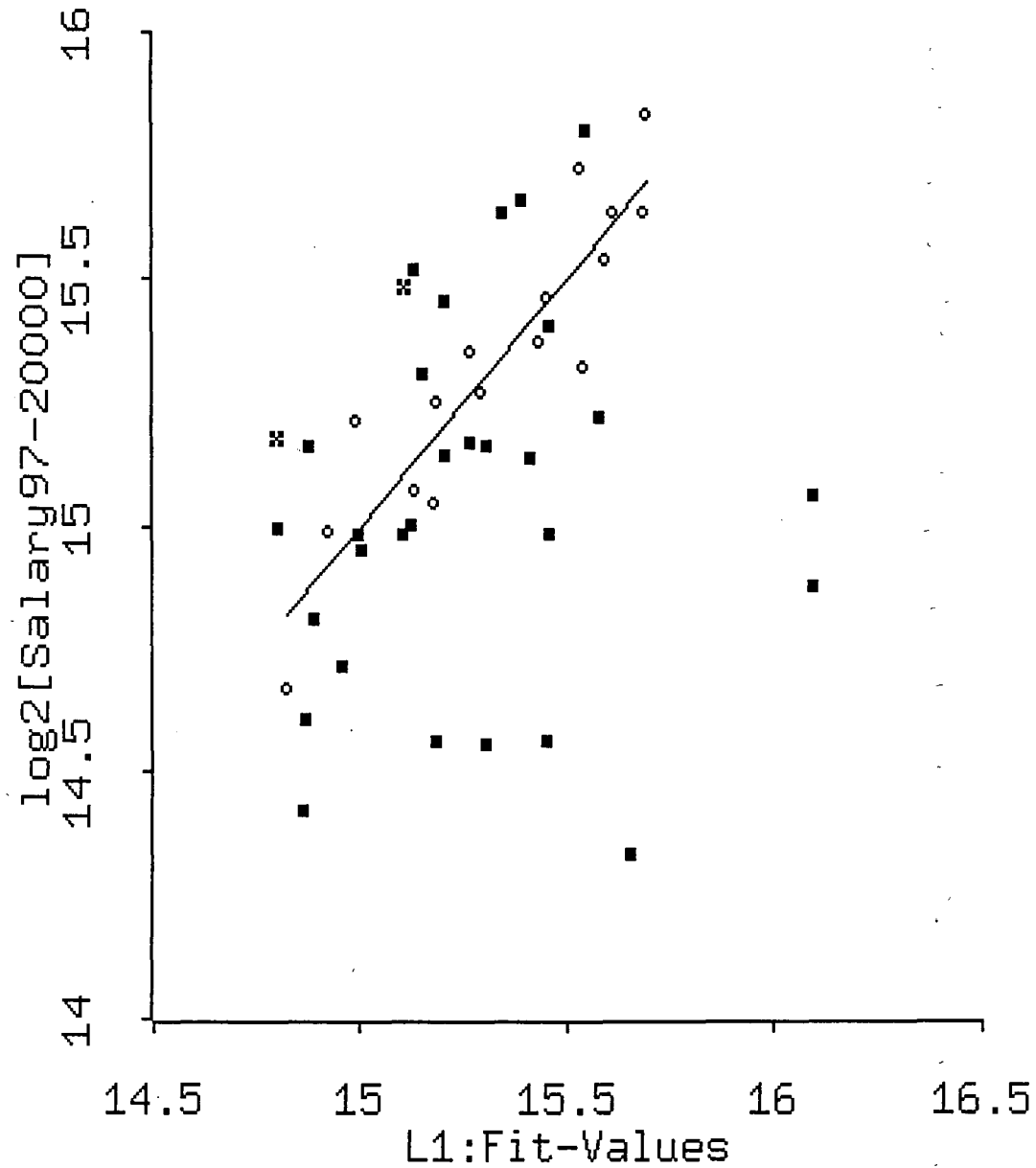


Figure 23: This plot displays the data for the **Human Ecology** college. The open circle points correspond to white male faculty members, dark square points correspond to females and minorities. The square points are predicted based on the model for white male faculty members. -0.1905 is the average of $(\log_2(\text{actual.salary}) - \text{predicted value})$ for the female-minority group. 0.0621 is the standard error for this average.

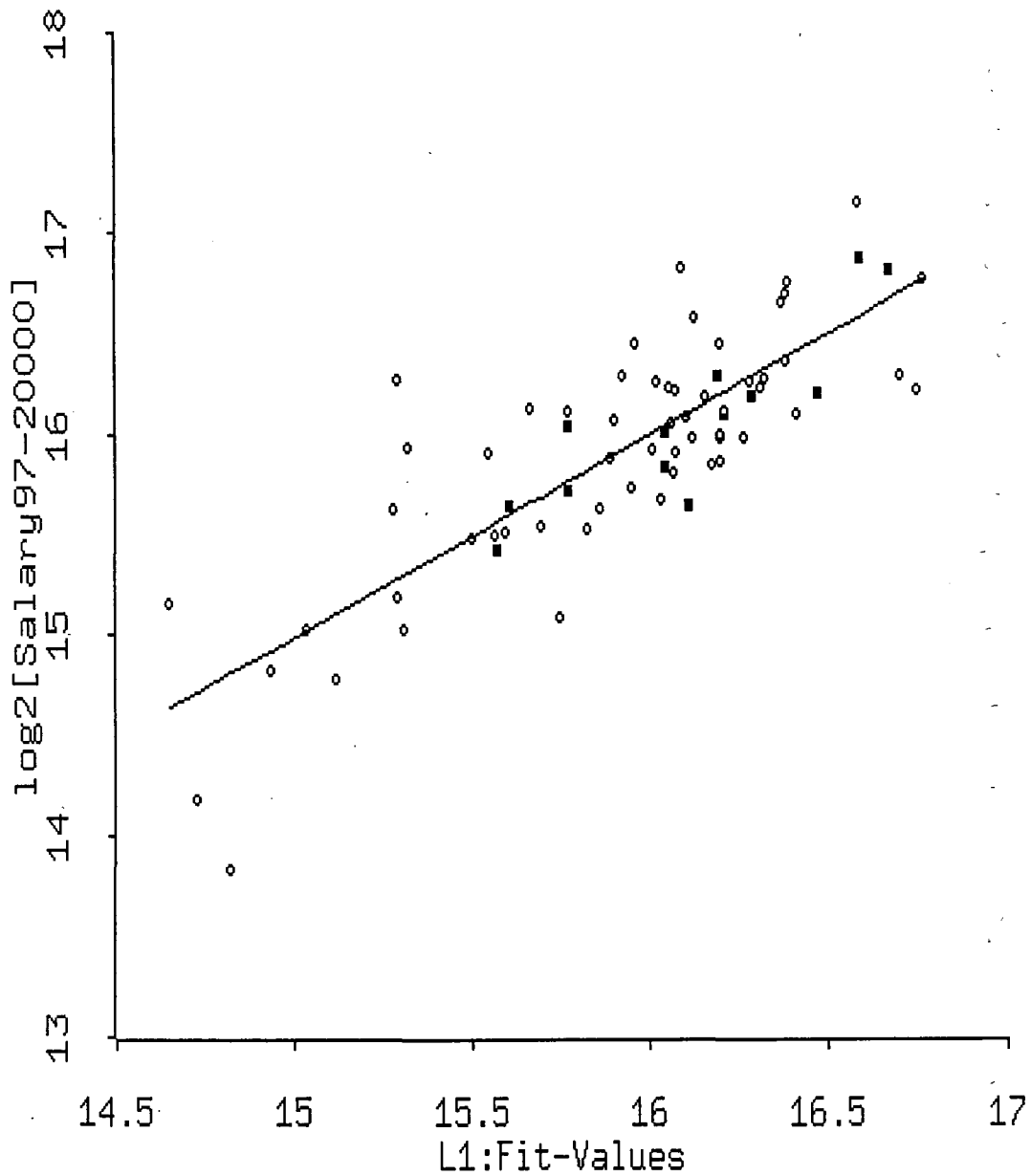


Figure 24: This plot displays the data for the **Management** college. The open circle points correspond to white male faculty members, dark square points correspond to females and minorities. The square points are predicted based on the model for white male faculty members. -0.1220 is the average of $(\log_2(\text{actual.salary}) - \text{predicted value})$ for the female-minority group. 0.2015 is the standard error for this average.

A small mistake.

Last meeting, I had a small mistake in my report. I mismatched department code and department name in human ecology. Following table is now correct.

Code	Name	white male	nonwhite male	white female	nonwhite female
2252	DESIGN, HOUSING & AP	4	0	7	0
2253	FAMILY SOCIAL SCIENC	2	0	8	1
2254	FOOD SCIENCE & NUTRI	2	0	8	0
2255	SOCIAL WORK,SCHOOL O	8	2	4	1

Table 12: Departments in Human Ecology