Starting Salary Trends:
College of Human Ecology, 1978-1986

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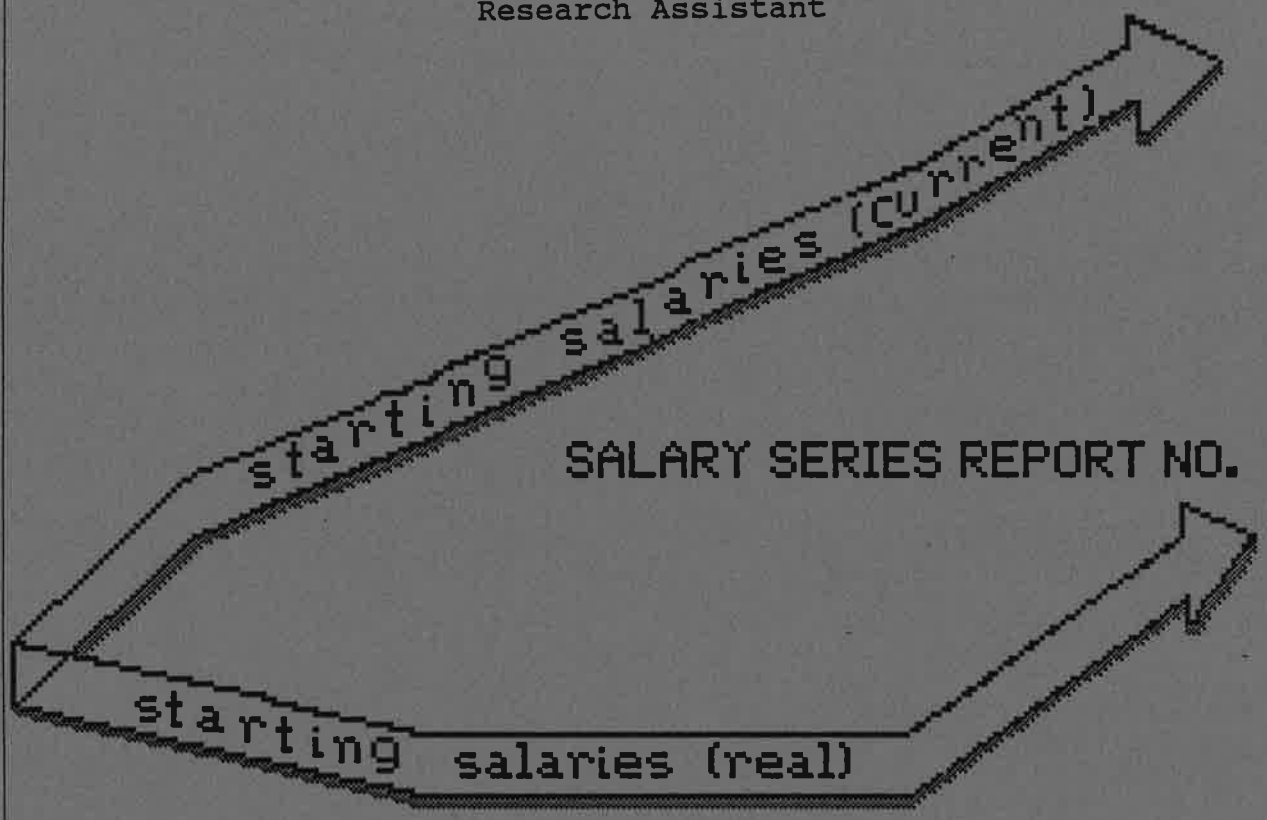

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Over the past decade, both the national and Michigan economies have performed poorly, at times, which has affected the salaries of college graduates. Inflation has eroded the earning power of new labor force participants, especially during the early 1980's. In an investigation of starting salaries of recent graduates from Michigan State University, inflation and economic conditions were shown to have affected starting salary performance over a seven year period (see report No. 2). However, the magnitude of the impact varied by college and sometimes between academic programs within a college. This report reviews recent starting salary trends for bachelor degree recipients of the College of Human Ecology from August, 1978, to June, 1986. This analysis also compares salaries by gender, race, and job location.

OVERVIEW

The results presented in this study are based upon starting salary information reported by 1,168 graduates of the College of Human Ecology (1978-1986). The major findings in this analysis of starting salaries include:

1. Starting salaries have increased annually at an average of 7% since 1978. The average starting salary in 1985-86 was $16,533 as compared to $11,017 in 1978-79 (current dollars that have not been adjusted for inflation).

2. The high inflation experienced from 1980 to 1983 eroded the salary position of graduates who received degrees in this period.After accounting for inflation, the 1985-86 average salary was $10,531 (real), approximately 4% below the 1978 average.

3. Real starting salary averages for nutrition/dietetics graduates ($11,014) were significantly higher than the averages for the other majors. Departments also displayed variations in response to inflation and economic conditions: some experienced cyclical conditions (e.g. merchandising) while others went through several years of decreases before showing steady improvement (e.g. child development).

4. Starting salaries offered by manufacturing organizations were higher than all other types of employers. Starting salaries in manufacturing averaged $11,950 (real), followed by government ($10,658). Average salary within the service sector where the majority of graduates were employed was $10,058.

5. Location played a role in starting salary offers with out-of-state positions paying $719 (real) more than in-state positions. Nutrition/dietetics graduates found salaries to be similar irrespective of location. For merchandising graduates, the locational difference was over $1,100 (real), advantage to out-of-state positions.

6. The average starting salary for men was $10,847 (real) as compared to $10,139 (real) average for women. The male average may not be representative due to the small number of men reporting salaries. Care should be taken in generalizing from this comparison.

7. The average starting salary for Whites, Blacks, and other minorities were $10,152, $10,641, and $10,618, respectively.

GENERAL DESCRIPTION OF THE POPULATION

During the period from August, 1978 to June, 1986, 3,414 bachelor's degrees were conferred in the College of Human Ecology at Michigan State University. Approximately 72% (2,445) of these graduates responded to a follow-up questionnaire sent by Placement Services. Of the respondents, 48% (1,168) were working and reported their starting salary, 33% (802) were working but failed to report a starting salary, 8% (204) reported continuing their education in graduate school, and 11 % (271) were still unemployed six months after graduation. These figures reflected 34%, 23%, 6%, and 8% of the total graduate population, respectively.

The number of students graduating in human ecology fields has shown a steady decline over the study period. In 1978-79, 471 degrees were awarded; by 1985-86 the number of students graduating had dropped to 374.

The response rate has varied from a low of 65% to a high of 76%. Years when the response rate were lowest included 1978-79, 1980-81, and 1985-86. The response rate did not appear to be influenced by the reported unemployment rate: the highest unemployment was experienced between 1981-82 and 1982-83, years when the response rate was 75%. These two years of unemployment stand out because of the sharp increase over previous years, approximately 4%. In general, the unemployment rate has hovered between 5% and 7%.

Women comprised approximately 94% of the total graduating population. The proportion of males to females has remained relatively constant over the study period. Because of the small number of males graduating, changes in the number graduating tend to stand out. From 1981 and 1983, fewer men graduated from the college, approximately 20, as compared to 30 in earlier years. Recently, their number has returned to about 30.

Women had a slightly higher response rate based on the proportion of females to males. Women were more likely not to report salary, however. Men, on the other hand, were more likely to go to graduate school: 15% for men as compared to 5% for women. Both genders had the same reported average unemployment rate, 8%.

While men graduated from all academic majors within the college, they tended to be enrolled in nutrition/food disciplines and interior design.[1] Women comprised nearly 98% of the graduates in child development. Upon examining only those graduates who responded, women from child development had a slightly higher response rate while women from nutrition/food and interior design were slightly lower, than a prior expectations. Men from nutrition/food and interior design were more likely to have responded than men from the other academic majors.

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[1] Because of sample size restrictions, academic majors have been grouped together as follows: (1) nutrition, dietetics, and food/nutrition, (2) merchandising management, (3) interior design, (4) child development, and (5) "other" which includes clothing-textiles, home economics education, human environment and design, family-consumer research, and all other human ecology majors not previously listed.

Response rates for the various human ecology majors are reported in Table 1. The highest non-response rates were found for merchandising management (32%) and the "other" category (33%). Nutrition/food had the highest response rate at 80%. Graduates from nutrition/food were more likely to go to graduate school (10%) or not report salary (31%), reflective of the requirement to pursue an internship (often unpaid) or additional education before accepting permanent employment. Merchandising management and interior design graduates reported salary in higher numbers than expected, a priori. Graduates from child development and "other" graduates were not likely to report salary. The highest unemployment rates were experienced by interior design and "other" graduates, approximately 10%.

Over the eight year period, 64% of the human ecology graduates who responded remained in Michigan. Nearly 89% of the unemployed remained in Michigan while only 57% of those reporting salary were in Michigan. Michigan's recent economic problems partially explain the higher percentage of those leaving the state. In 1980-81, 40% of the graduates left Michigan, nearly 10% more than two years earlier. Between 1981 and 1983 more than 36% of the graduates were located outside Michigan. Even though Michigan's economy has improved, 41% of the 1984-85 graduates and nearly 38% of the 1985-86 graduates were residing outside the state.

Nutrition/food and merchandising management majors were the most likely graduates to seek opportunities outside the state, approximately 43%. The majority of graduates from the other majors, 75%, remained in the state.

For those graduates reporting salary, 43% were residing outside the state. This was approximately 7% higher than the overall distribution had indicated. Thus, the salary figures were tilted slightly in favor of out-of-state respondents, though the difference was not considered large enough to distort the salary figures presented below.

The racial composition of the College of Human Ecology was predominantly White (92%) with Blacks and Asian-Americans comprising 5% and 1% of the graduates, respectively. The remaining graduates included Hispanics, Native Americans, and foreign students. The response rate for Blacks was 55% while Hispanics and Asian-Americans were 78% and 74%, respectively. Considering only those who provided salary information, the low response rate for Blacks was reflected again with only 24% providing salary as compared to the overall average of 34%.

Grade point average also served as a characteristic for distinguishing between response groups. Graduates continuing their education had the highest grade point averages with 66% over 3.00. In the group that reported salary, 72% had grades between 2.5 and 3.0 while for those working but not providing salary 50% had grades above 3.0. The unemployed and non-response groups were similar in that 69% of each group had grades below 3.00. Nearly 60% of the graduates with grades below 2.5 fell into these two groups. Employment opportunities appeared limited for graduates with poorer grades.

In summary, the sample population to be used in the analysis of starting salary was fairly representative of the general human ecology population at Michigan State University. Potential sources of bias include underrepresentation of graduates reporting salaries

from outside Michigan. Statistical limitations, imposed by the small samples from each minority group, have been overcome by collapsing minorities into one category (non-white) in the following analyses.

SALARY TRENDS AND COMPARISONS

In 1978-79, the average starting salary (in current dollars not adjusted for inflation) for all human ecology graduates was $11,017 (Table 2).[2] Starting salaries have increased at an average of approximately 7% per year. However, salaries leveled off between 1980-81 and 1982-83 when salaries only increased a net 1%. In 1982-83, salaries actually decreased slightly. Again, between 1983-84 and 1984-85, salary levels only increased at a very modest 2%. By 1985-86, the average starting salary had reached $16,633.

When salary figures were adjusted for inflation (1978-79 = 100), the impact of inflation on current salary trends can be measured. If yearly salary increases (current) lag behind inflation, the general economy may not be performing well enough to provide job opportunities or to remunerate new labor force participants in accordance with the rise in the cost of living. Between 1978-1979 and 1982-83, current salaries failed to keep up with inflation as indicated by the negative percentage change figures in the real (dollars adjusted for inflation) column of Table 2. Over this period, salary levels declined nearly 18%, clearly indicative of the poor labor market human ecology graduates encountered.

In 1983-84, the situation improved as real salaries increased by 10% over the previous year. This upward movement was blunted the next year when salary increases again fell behind inflation. Salaries did increase in 1985-86 by 7% above inflation which was higher than the overall university performance that saw no change in salaries between 1984-85 and 1985-86. The purchasing power of 1986 graduates remained below the level for 1978-79 graduates ($486 or 4.5%), but higher than the previous five years.

The "year of graduation" variable was found to be an important explanatory factor of starting salary ($F = 12.45$, $p \leq .001$). A means test of the yearly averages identified several significant differences that are listed at the bottom of Table 3. Years 1978-79, 1979-80, and 1985-86, when salaries were higher, generally differed from other years.

Academic Majors

Graduates from different human ecology programs may have experienced different job markets that are often reflected in starting salary offers. Nutrition/dietetics graduates received the

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[2]Interpretation of reported salaries requires one to consider the fact that many human ecology graduates, particularly in merchandising and nutrition programs, are involved in internships and training programs during their first year of employment. Thus, those salaries initially reported may be lower than salaries at the end of the first year after training programs have been completed. As a result, the potential first-year salaries in these occupations may be understated.

highest salaries, averaging $11,014, a level significantly different from all other majors. Merchandising management and interior design had real average salaries around $10,000. Grouped together around $9,700 were child development and "other" graduates.

Each program fared differently against inflation. Child development's trend is representative of the patterns experienced by many majors in the university where inflation and economic conditions seriously eroded salary position during the early years of the study (1979 to 1983) before beginning a steady recovery. In the case of child development graduates, a large amount of the improvement in salaries can be attributed to the 17% increase in salary between 1984-85 and 1985-86.

Graduates from the other majors faced a cyclical trend with salaries showing some improvement after a period of decline before declining again. This type of pattern suggests that the labor market remains volatile, making it difficult to predict even short-run salary trends. The situation in the "other" group is particularly distressing in that salaries have fallen seriously behind1978-79 levels, even after accounting for a 28% increase in 1984. Currently, within the labor market, there appears to be limited opportunity to absorb these graduates.

Employer

Human ecology graduates are employed by a variety of different employers primarily from the service sector of the economy. Employers that commonly employ human ecology graduates represented medical services, primarily hospitals, merchandising and retail sales, elementary and secondary education, and research and consulting services. Approximately 6% of the graduates who were working were employed in the manufacturing sector; the majority of these in construction.

The average starting salary (real), as reported in Table 4, offered by manufacturing firms was significantly higher than the other sectors, at $11,950. Government employment ranked second at $10,658. In the service sector, where the majority of graduates found employment, the average salary was $10,058, slightly higher than the salaries reported for education, which was $9,898, and "other" that includes consulting, volunteer organizations and self-employed, at $9,755.

When sorted by year of graduation, the sample sizes in manufacturing, government, education and "other" categories were small, thus producing erratic salary trends that cannot be properly interpreted. For completeness, all yearly salary averages have been included in Table 4. Graduates working in all sectors of the economy have been seriously affected by inflation and economic conditions. When salary changes between years are highly negative after adjusting for inflation, economic conditions were so poor that the labor market essentially disappeared for new employees. Isolating graduates working in the service sector, in five of the seven years since 1978-79 salaries have lagged 5% behind inflation. The labor market for new graduates was clearly unfavorable during this period. Some recovery in salaries has occurred over the last couple years; but a hefty 11% increase in 1983-84 was partially negated by a 4% decline in 1984-85. Over the last three years, the teaching field has shown the strongest recovery which is welcomed after reaching a low of only $8,644 (real) in 1982-83.

Job Location

The decision to accept a position within or outside of Michigan may be linked to the salary being offered. The average starting salary outside of Michigan was $10,584 (real) while positions inside Michigan were $9,865, a difference of $719 (Table 5). This difference was statistically significant ($F = 49.38$, $p \leq .001$), indicating the importance of location in setting starting salary levels.

Upon examination of the yearly averages, graduates working in Michigan suffered a more serious erosion of salary between 1978-79 and 1982-83 than out-of-state employed graduates, 20% as compared to 14% (Table 5). It was during this period that the locational difference in salary more than doubled from approximately $400 to $1,000. Michigan salaries have improved at a faster rate than salaries outside Michigan, even after accounting for an unexpected 4% decrease in 1984-85. In both locational groups, salary increases for 1985-86 were stronger, higher than university-wide salaries which showed no change after accounting for inflation.

Starting salaries for certain academic programs were influenced by location, as indicated by a significant interaction term ($F = 4.15$, $p \leq .02$). Nutrition/dietetics graduates had a small difference in salary between locations with the advantage to Michigan residents (Table 6). The remaining programs have locational salary differences, ranging from $400 to over $1,100, all favoring out-of-state graduates. The largest differences were for merchandising ($1,144) and child development ($998) graduates. For merchandising graduates, attractive salaries in other states have resulted in more than 53% leaving Michigan.

Location also influences the starting salaries for graduates finding employment with certain types of employers. The locational salary differential favored out-of-state employers in each of the major economic sectors (Table 7). The smallest difference appeared in government where Michigan agencies were only $172 behind other states. The gap for manufacturing, service and education exceeded $500.

Gender

The average starting salary for men was $10,847 (real) as compared to the $10,139 average for women, a difference of $708. This difference proved to be statistically significant ($F = 8.19$, $p \leq .004$), other factors not held constant. The small sample size for men interjects concerns over the validity of the statistical test. Throughout this section, gender comparisons have been presented for informational purposes. Care should be taken when generalizing from the reported figures because of the sample size problem.

Inflation and economic conditions had a negative impact on women's starting salaries, particularly between 1978-79 and 1982-83, (Table 8). During this period, their salary level dropped approximately 17%, from $11,009 (real) to $9,129. Over the same period, men experienced a similar decline, except that the declines came in two years. During this period the gender gap in salary fluctuated from $172 to $1,502 (real), depending upon the annual changes in salary levels within each group.

Women's salaries improved strongly in 1983-84, moving the salary gap to their advantage. However, men experienced a robust improvement in 1985 and 1986, nearly 24%, as compared to 4% for the women. This performance widened the salary gap to its largest amount, $1,761.

Across academic majors, gender differences were evident (Table 9). In all but one case, nutrition/dietetics, men had the higher salaries. While the difference in interior design was relatively small, the remaining differences were quite large. The most important gender comparison was in merchandising where the sample of men was large enough to generalize from the results. In merchandising, men hold a decided salary advantage, slightly over $1,000.

When starting salaries were viewed from the perspective of the sector of employment, men earned higher salaries in all areas except government (Table 10). With so few men reporting salaries other than in the service sector, their reported figures may not truly represent the salaries paid in this labor market. In the service sector, however, the salaries were somewhat comparable, with men holding an advantage of approximately $500.

For women remaining in Michigan after graduation, the average starting salary was $675 lower than average of those men remaining in Michigan (Table 11). For men and women who left the state the difference was again in favor of men by $608. For both men and women, salaries were higher outside the state. The out-of-state labor market slightly favored women who had the largest locational difference of $711.

Grade Point Average

Grade point average did not produce a strong effect on starting salary. All grade point groups had similar average salaries (Table12). Except for graduates with grades below 2.5, salaries tended to increase as grade point increased. For those below 2.5, their salaries were comparable to graduates with grades above 3.5, $10,257 and $10,672, respectively.

Inflation and economic conditions played havoc with starting salaries within each GPA group, even as late as 1984-85 for 3.0-3.5 group (Table 12). The biggest impact came between 1979 and 1983, but in 1983-84, salary levels also declined except for the 3.0-3.5 group. In 1985-86, only the 2.5-3.0 group had recovered in relation to the initial salary level, being 1% below the 1978-79 average. For the 2.5 and 3.0-3.5 groups, salaries lagged approximately 5% behind 1978-79 levels. For those graduates with grades above 3.5, 1985-86 salaries remained 13% below 1978-79 levels, which explains why more of these graduates elected to enter graduate school.

The manufacturing sector paid the highest salary for all GPA groups (Table 13), with very little difference between groups. Manufacturing salaries ranged from $11,423 (3.0-3.5 group) to $12,196 (> 3.5 group). Salaries within the service sector were positively related to GPA: as GPA increased, so did salaries from $9,965 (<2.5) to $10,909 (> 3.5). Graduates with lower GPA's reported higher salaries in government and the "other" category of employers, while in education there was a wide variation in salary between GPA groups.

In a comparison of grade point average by gender, men had the higher salaries across all GPA groups (Table 14), even though women have the higher overall grade point average. Women's salaries were positively associated with grades: generally increasing as grades increased. Men's salaries were higher for the graduates with lower grades. For the few men with grade above 3.5, the average salary was very high, over $12,400.

Race

The analysis of salary between racial groups faced the small sample size problem for minorities. Hispanics, Native-Americans, and Asian-Americans were collapsed into one group for comparison purposes. The average salaries (real) for Whites, Blacks, and other minorities were $10,152, $10,641 and $10,618, respectively.

Because of sample size constraints encountered when the data was disaggregated by year, industry, and several other characteristics, reasonable comparisons could not be made. The majority of minority respondents graduated from merchandising. In this major, the average salaries for Whites and minorities were $10,083 and $10,655, respectively. For the other academic majors, the number of minority respondents precluded the presentation of results.

STARTING SALARY DETERMINANTS

The salary comparisons made above indicate that several factors are important in determining starting salary levels: academic major, year of graduation, gender, and job location. Because of confounding effects caused by the relationship between independent variables, the unique contribution of a single factor cannot be specifically determined. A final analytical exercise, using hierarchical regression analysis, was performed to identify the key determinants of starting salaries for human ecology graduates (real salaries were employed in the analysis).

In order to measure a particular effect, class variables were created for major, year of graduation, grade point average, industry of employment, and race. The dummy variables for gender and job location (in or out of Michigan) were also treated as class variables.

Each independent class variable was then regressed separately (along) onto the dependent variable, starting salary. The R^2 was obtained for each variable, as well as the regression coefficient for each member of the class. These measures reflect the causal relationship between the independent and dependent variables with all other effects uncontrolled. The next step was to regress the entire set of explanatory variables whose causal priority (order of entry) had been pre-specified onto starting salary. For example, to test the hypothesis that year of graduation did not have a unique effect on starting salary, the explanatory variables were entered in the following order: major, industry, gender, grade point average, job location, race and finally year of graduation. The incremental R^2 for the last variable entered (in example, year of graduation) was calculated by subtracting the final R^2 from the R^2 for the model obtained prior to the entry of the last variable. Similar tests were performed for the other independent variables.

The statistical inference assumed the null hypothesis that in the population, there was no increment in starting salary variance accounted for when year, for example, was added to the model. The null hypothesis or incremental R^2's significance was tested by using the F-test as described by Cohen and Cohen (1983).

Results

Approximately 25% of the College of Human Ecology starting salary variance was accounted for by specifying a model that included all the independent variables. Upon examination of the regression coefficients (Table 15), year of graduation, major, gender, and location stand out as the most important explanatory factors after holding all other effects (available for the study) constant. The coefficients for the final model represent values when the variable was entered last.

Using a significance criterion of $p \leq .01$, only year of graduation had a significant incremental R^2 (Table 16). Upon relaxing the criterion to .05, the major variable would also be significant. The contribution for all variables is presented in Table 16 where the R^2's for each variable are listed in column one and the unique R^2's in column two. The general F-tests for each incremental R^2 are included in column three.

Year of Graduation. When confounding effects are partialled out, the proportion of starting salary variance explained by year of graduation does not change. This is unusual in that generally an independent variable contributes less to the variance of the dependent after accounting for all other factors; a testimony to the strength of the year variable. "Year" then uniquely explained 7% of the starting variance.

An examination of the regression coefficients further illustrates the importance of this variable. Setting 1985-86 equal to zero to avoid problems of collinearity, the coefficients for the years 1981-82 to 1984-85 were significant at the .01 level. The negative sign placed salaries in these years below the 1985-86 level. Salaries in the year 1980-81 were also below 1985-86 salaries; the difference was significant at the .05 level. Salaries in 1978-79 were higher than in 1985-86 (significant at .05) but 1985-86 salaries were comparable to 1979-80 salaries.

Clearly, the year of graduation made a big difference in salary level. The magnitude of the coefficients and their signs indicate that job opportunities for human ecology graduates were not readily available in the early 1980's. Hidden behind high inflation, was a very weak job market.

Major. Without controlling for spurious relationships, major explained 4% of salary variance. After controlling for all other variables, the unique portion of starting salary explained by major was 2%. This incremental R^2 was significant at the .05 level.

The importance of major is best captured in the magnitude of the regression coefficients. All majors, except child development, had higher salaries than the "other" category, which has been omitted to avoid collinearity. The highest salaries were earned by nutrition/dietetics and merchandising majors whose coefficients were significant at the .01 level. Child development, interior design, and "other" had comparable salaries, in that they were not statistically different.

Gender. Even though gender did not make a significant incremental contribution to starting salary, the significant, negative sign for the gender regression coefficient indicates the lower salary level of women within the college. The size of the coefficient remained relatively unchanged between models while its significance went from .05 to .01. Gender appears to be an important variable in the description of starting salary, but it's important to bear in mind that there was a very small sample of males.

Job Location. Job location had a large F ratio when measuring the importance of the incremental R^2 that proved, however, to be insignificant. However, job location was a suppressed variable: a situation where a variable (location) is correlated with other independent variables, hiding its real relationship with starting salary. Once the effects are partialled out, location makes a 4% incremental contribution to starting salary.

The strength of the location variable is reflected in its significant regression coefficient in both models. Once the suppression effect is removed, the location coefficient was actually stronger. Out-of-state employers paid higher salaries, a difference $879 (all other things equal), than in-state employers.

Other Factors. The remaining class variables do not make strong contributions. Several variables did have significant regression coefficients at the .05 level. One variable of note was automotive firms under industry: manufacturing where the coefficient revealed the high salaries paid by automobile companies in comparison to other manufacturers.

CONCLUSIONS

After comparing starting salary means by available characteristics for College of Human Ecology graduates and employing regression analysis, several variables were found to be important when determining salary levels. The year of graduation, which captures the economic conditions prevailing at the time, proved to be the strongest predictor of salaries. After accounting for inflation, yearly salary increases from 1978 to 1983 were negative. Besides inflation, general economic conditions were so poor that appropriate positions for human ecology graduates were not created. Because the supply of students exceeded demand, salaries could be kept to a minimum.

Graduates from certain departments consistently received higher salaries. Nutrition/dietetics and merchandising had the highest salary averages. Lower salaries for other graduates may reflect an oversupply of graduates and also historically low remuneration for certain positions (e.g. child development). Another factor to keep in mind is that some human ecology graduates, particularly in nutrition/dietetics and merchandising management, elect to pursue internships or special training programs before working full-time. In these situations, graduates may receive partial salary or a small stipend (often nothing). After successfully completing their extra training, pay increases. Examination of salaries a year or two after graduation may provide a better indication of how well some human ecology graduates are doing.

Job location also influenced salary levels with positions in Michigan paying less than out-of-state positions. For graduates remaining in Michigan, inflation seriously eroded salary levels, and economic conditions caused graduates to look outside the state for employment.

A gap in initial earnings between men and women was found. Because the sample of men was small, inferences drawn from the salary patterns may not reflect true labor market conditions. In the area of merchandising, where the number of men was sufficient for comparison purposes, the salary difference was approximately $500. With so few men in these fields, men can command a slightly higher salary -- similar to women in some fields of engineering.

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Table 1. Response Rate by Category of Response for Each Department in the College of Human Ecology.

MAJOR	Total		Working Salary			Working No Salary			Graduates School			Unemployed			Non-response		
	n	%	n	% Category	% Major	n	% Category	% Major	n	% Category	% Major	n	% Category	% Major	n	% Category	% Major
Nutrition/Dietetics	825	24	211	18	26	252	31	31	129	63	16	66	24	8	167	17	20
Merchandising Management	1,268	37	573	49	45	189	24	15	16	5	1	88	32	7	402	41	32
Interior Design	303	9	126	11	42	68	8	22	10	5	3	29	11	10	70	7	23
Child Development	390	11	101	9	26	129	16	33	12	6	3	27	10	7	121	12	31
Other*	628	18	157	13	25	164	20	26	37	18	6	61	23	10	209	22	33

*Other includes: clothing-textiles, home economics education, human environment and design, family consumer research and other human ecology majors not previously listed.

Source: Follow-up report data base, 1978-1985, Placement Services, Michigan State University, East Lansing, MI 48824.

Table 2. Average Starting Salary, Current and Real, for Human Ecology Graduates from August, 1978, through June, 1986.

Year	Average (Current) $	% Change	Average (Real) $	% Change
1978-79	11,017		11,017	
		8		-4
1979-80	11,906		10,537	
		8		-3
1980-81	12,891		10,231	
		2		-6
1981-82	13,175		9,616	
		-1		-5
1982-83	12,985		9,145	
		14		10
1983-84	14,886		10,058	
		2		-2
1984-85	15,110		9,876	
		9		7
1985-86	16,533		10,531	

Real Average Comparisons Significant at the 0.5 Level:
1978-79, 1981-82; 1978-79, 1982-83; 1978-79, 1983-84; 1978-79, 1984-85; 1979-80, 1981-82; 1979-80, 1982-83; 1985-86, 1981-82; 1985-86, 1982-83; 1980-81, 1982-83

Source: Follow-up report data base, 1978-1986, Placement Services, Michigan State University, East Lansing, MI 48824.

Table 3. Average Starting Salary (real) for Academic Majors in the College of Human Ecology for 1978-79 to 1985-86.

	Human Nutrition			Merchandising Management			Interior Design			Child Development			Other		
Year	n	Average Starting Salary $	% Change	n	Average Starting Salary $	% Change	n	Average Starting Salary $	% Change	n	Average Starting Salary $	% Change	n	Average Starting Salary $	% Change
1978-79	34	11,561		71	11,087		16	10,879		18	10,401		30	10,680	
			-2			-6			-9			.4			-5
1979-80	42	11,353		79	10,423		20	9,906		13	10,422		31	10,175	
			-.4			-3			-6			-8			-2
1980-81	30	11,309		72	10,117		12	9,306		10	9,561		21	9,932	
			-4			-6			10			-8			-9
1981-82	24	10,891		79	9,475		8	10,192		13	8,794		24	9,060	
			-5			-2			-11			-9			-9
1982-83	15	10,383		70	9,245		9	9,053		9	8,013		16	8,234	
			3			10			7			1			28
1983-84	25	10,662		63	10,128		25	9,655		8	8,103		14	10,503	
			-6			-1			-.7			17			-8
1984-85	19	9,993		78	10,010		17	9,592		13	9,490		16	9,699	
			7			5			11			8			-10
1985-86	22	10,670		61	10,541		19	10,683		17	10,269		5	8,776	
Total/ Average	211	11,014		573	10,116		126	9,955		101	9,579		157	9,807	

Table 4. Average Starting Salaries (Real) by Economic Sector from 1978 to 1986 for College of Human Ecology Graduates.

	Manufacturing			Service			Government			Education			Other		
Year	n	Average Starting Salary $	% Change	n	Average Starting Salary $	% Change	n	Average Starting Salary $	% Change	n	Average Starting Salary $	% Change	n	Average Starting Salary $	% Change
1978-79	14	13,026		103	11,003		10	10,750		31	10,588		11	10,047	
			17			-6			-2			-3			-10
1979-80	8	15,221		132	10,387		12	10,536		26	10,241		7	9,095	
			-25			-4			9			-7			18
1980-81	19	11,450		102	9,998		5	11,469		13	9,563		6	10,754	
			12			-5			-15			-6			-17
1981-82	9	12,868		107	9,502		4	9,789		15	9,009		13	8,955	
			-28			-4			4			-4			5
1982-83	9	9,319		84	9,149		2	10,176		9	8,644		14	9,381	
			22			11			15			7			-4
1983-84	13	11,346		86	10,186		3	11,704		12	9,239		21	8,972	
			-7			-4			-8			7			8
1984-85	10	10,522		96	9,809		1	10,712		21	9,903		15	9,780	
			20			5			-6			3			14
1985-86	8	12,675		68	10,262		4	10,094		24	10,169		20	11,108	
Total/Average	90	11,950		778	10,058		41	10,658		151	9,898		107	9,755	

Source: Follow-up report data base, 1978-1986, Placement Services, Michigan State University, East Lansing, MI 48824.

Table 5. Average Starting Salary (Real) for Employment In and Outside of Michigan, College of Human Ecology, 1978-86.

	Michigan			Outside Michigan			($)
Year	n	Average Salary ($)	% change	n	Average Salary ($)	% change	Difference (Michigan-Outside)
1978-79	107	10,861		62	11,286		-425
			-4			-4	
1979-80	121	10,402		64	10,792		-390
			-6			-1	
1980-81	74	9,802		71	10,678		-876
			-4			-7	
1981-82	78	9,364		70	9,897		-533
			-7			-2	
1982-83	65	8,715		54	9,662		-947
			9			11	
1983-84	75	9,536		60	10,711		-1,175
			-4			-0.6	
1984-85	72	9,120		71	10,642		-1,522
			12			4	
1985-86	76	10,197		48	11.058		-861
Total/Average	668	9,865		500	10,584		-719

Source: Follow-up report data base, 1978-1986, Placement Services, Michigan State University, East Lansing, MI 48824.

Table 6. Average Starting Salaries (real) for Majors in Human Ecology by Location, 1978-1986.

	Michigan		Outside Michigan		
Employer	n	Average Starting Salary ($)	n	Average Starting Salary ($)	($) Difference (M-O)
Nutrition/Dietics	141	11,064	70	10,915	149
Merchandising	269	9,509	304	10,653	-1,144
Interior Design	90	9,736	36	10,501	-765
Child Development	63	9,204	38	10,202	-998
Other	105	9,673	52	10,077	-404

Source: Follow-up report data base, 1978-1986, Placement Services, Michigan State University, East Lansing, MI 48824.

Table 7. Average Starting Salary (real) for Major Employers In and Out of Michigan, College of Human Ecology, 1978-1986.

Employer	Michigan n	Michigan Average Starting Salary($)	Outside Michigan n	Outside Michigan Average Starting Salary($)	($) Difference (M-O)
Manufacturing	54	11,651	36	12,399	-748
Service	416	9,664	362	10,509	-845
Government	26	10,595	15	10,767	-172
Education	108	9,756	43	10,256	-500
Other	63	9,601	44	9,975	-374

Source: Follow-up report data base, 1978-1986, Placement Services, Michigan State University, East Lansing, MI 48824.

Table 8. Average Starting Starting Salary (real) Trends for Male and Female Human Ecology Graduates.

Year	Male n	Male Average Salary($)	Male % change	Female n	Female Average Salary($)	Female % change	($) Difference (Male-Female)
1978-79	7	11,023		162	11,009		194
			7			-5	
1979-80	7	11,982		178	10,480		1,502
			-13			-2	
1980-81	5	10,397		140	10,225		172
			4			-7	
1981-82	10	10,832		138	9,528		1,304
			-13			-4	
1982-83	7	9,394		112	9,129		265
			5			10	
1983-84	8	9,829		127	10,073		-244
			12			-2	
1984-85	5	11,013		138	9,835		1,178
			11			6	
1985-86	7	12,192		117	10,431		1,761
Total/Average	56	10,847		112	10,139		708

Source: Follow-up report data base, 1978-1986, Placement Services, Michigan State University, East Lansing, MI 48824.

Table 9. Average Starting Salary (real) for Men and Women in Human Ecology Compared by Academic Program, 1978-1986.

Academic Major	Men n	Men Average Salary($)	Women n	Women Average Salary($)	($) Difference (Men-Women)
Nutrition/Dietics	12	10,615	199	11,038	-423
Merchandising	27	11,096	546	10,068	1,028
Interior Design	7	10,177	119	9,942	235
Child Development	3	11,745	98	9,513	2,232
Other	7	10,565	150	9,772	1,052

Source: Follow-up report data base, 1978-9186, Placement Services, Michigan State University, East Lansing, MI 48824.

Table 10. Average Starting Salary for Men and Women by Employer, College of Human Ecology, 1978-1986.

Employer	Men n	Men Average Salary($)	Women n	Women Average Salary($)	($) Difference (Men-Women)
Manufacturing	3	13,266	87	11,905	1,361
Service	46	10,535	732	10,028	507
Government	2	8,043	39	10,792	-2,749
Education	2	14,582	149	9,836	4,746
Other	3	12,578	104	9,673	2,905

Source: Follow-up report data base, 1978-1986, Placement Services, Michigan State University, East Lansing, MI 48814.

Table 11. Average Starting Salary (real) for Men and Women by Location, College of Human Ecology, 1978-1986.

Location	Men n	Men Average Salary($)	Women n	Women Average Salary($)	($) Difference (Men-Women)
Michigan	27	10,513	641	9,838	675
Outside Michigan	29	11,157	471	10,549	608
($) Difference (M-O)		-644		-711	

Source: Follow-up report data base, 1978-1986, Placement Services, Michigan State University, East Lansing, MI 48824.

Table 12. Average Starting Salary Trends (real) for Human Ecology Graduates According to Selected Grade Point Average Groups, 1978-1986.

	Grade Point Average											
	<2.5			2.5-3.0			3.0-3.5			>3.5		
Year	n	Average Salary($)	% change	n	Average Salary($)	% change	n	Average Salary($)	% change	n	Average Salary($)	% change
1978-79	26	11,676		61	10,675		57	10,608		25	12,100	
			-5			-2			-2			-13
1979-80	31	11,104		67	10,458		68	10,349		19	10,560	
			-7			-5			3			-4
1980-81	31	10,293		52	9,885		46	10,629		16	10,094	
			-10			-1			-9			-3
1981-82	38	9,246		50	9,791		47	9,682		13	9,789	
			-2			-8			-4			2
1982-83	26	9,037		50	9,024		38	9,269		5	9,955	
			14			13			3			7
1983-84	28	10,317		62	10,168		36	9,517		9	10,659	
			-7			-4			8			-8
1984-85	22	9,601		76	9,768		35	10,293		10	9,844	
			14			8			-1			7
1985-86	26	10,976		61	10,539		31	10,143		6	10,522	
Total/Average	228	10,257		479	10,067		358	10,117		103	10,672	

Source: Follow-up report data base, 1978-1986, Placement Services, Michigan State University, East Lansing, MI 48824.

Table 13. Human Ecology Graduates Average Starting Salaries (real) for Major Employment Sectors According to Grade Point Average Levels, 1978-1986.

	< 2.5		2.5 - 3.0		3.0 - 3.5		< 3.5	
Employer	n	Average Salary($)	n	Average Salary($)	n	Average Salary($)	n	Average Salary($)
Manufacturing	24	12,149	31	12,166	26	11,423	9	12,196
Service	174	9,965	353	9,891	201	10,219	50	10,909
Government	7	11,034	5	11,567	24	10,359	5	10,659
Education	15	9,470	52	10,143	56	9,656	28	10,159
Other	8	11,731	38	9,697	50	9,504	11	9,657

Source: Follow-up report data base, 1978-1986, Placement Services, Michigan State University, East Lansing, MI 48824.

Table 14. Average Starting Salaries for Men and Women in Human Ecology According to Grade Point Average, 1978-1986.

	Men		Women		($)
GPA	n	Average Salary ($)	n	Average Salary ($)	Difference (Men-Women)
<2.5	18	11,013	210	10,193	820
2.5-3.0	25	10,637	454	10,036	601
3.0-3.5	9	10,378	349	10,110	268
>3.5	4	12,464	99	10,559	2,047

Source: Follow-up report data base, 1978-1986, Placement Services, Michigan State University, East Lansing, MI 48824.

Table 15. Regression Coefficients for Selected Variables from First Step and Final Models for College of Human Ecology Starting Salary, 1978-86.

	B (alone)	Final B
Intercept		10,684 *
Year		
1978-79	487 **	448 **
1979-80	6	92
1980-81	-299	-579 **
1981-82	-914 *	-982 *
1982-83	-1,386 *	-1,364 *
1983-84	-472	-625 *
1984-85	-655 *	-675 *
1985-86 (intercept)	10,531 *	
Academic Major		
Nutrition/Dietetics	1,207 *	946 *
Merchandising Mgt.	309	702 *
Interior Design	148	370
Child Development	-228	-439
Other (intercept)	9,807 *	
Gender		
Women	-708 **	-758 *
Men (intercept)	10,847	
Job Location		
Outside Michigan	719 *	879 *
Michigan (intercept)	9,865 *	
Grade Point Average		
< 2.5	-414	-285
2.5 - 3.0	-604 *	-451 **
3.0 - 3.5	-555 **	-348
> 3.5 (intercept)	10,672 *	
Race		
White	299	53
Black	788	328
Hispanic	1,310	728
Native American	1,570	828
Asian American	282	-150
Foreign (intercept)	9,853 *	

Industry		Intercept
Manufacturing	2,195 *	342
Service	303	-351
Government	904 **	-423
Education	144	440
Other (intercept)	9,755 *	
Industry: Manufact.		
Aerospace/Petro.	4,193 *	3,213
Automotive	3,436 *	3,129 **
Elect./Pub. Util.	2,021 *	1,751
Chemical/Electrical	2,907 *	2,078
Construction	1,257 *	708
Other (intercept)	10,028 *	
Industry: Service		
Medical Services	625 *	997 **
Accounting	-1,618	-1,183
Banking/Finance	-307	601
Merchandising	-465	-49
Hotels/Restaurants	-186	304
Other (intercept)	10,377 *	
INDG		
State	1,039	1,483 **
Military	1,129	-179
City, Federal	761	1,314
County (intercept)	10,155 *	
INDE		
Elementary/Secondary	-294	-708
Other (intercept)	10,184 *	
INDO		
Research/Consulting	-383	27
Volunteer	-1,082 **	-1,113
Other (intercept)	10,219 *	

Table 16. R^2 (alone) and R^2 (unique) for variables in Regression Model with Corresponding F-test, College of Human Ecology.

	R^2 (a)	R^2 (u)	F (u)
Year of Graduation	0.070	0.070	14.99 *
Academic Major	0.043	0.021	7.87 **
Gender	0.005	0.006	8.99
Grade Point Average	0.007	0.004	2.00
Job Location	0.030	0.041	61.45
Race	0.004	0.001	0.30
Industry	0.067	0.003	1.12
Industry:Manufacturing	0.077	0.014	4.20
Industry:Service	0.025	0.010	3.00
Industry:Government	0.005	0.004	2.00
Industry:Education	0.001	0.003	0.00
Industry:Other	0.006	0.003	2.25

* significant at the 0.01 level
** significant at the 0.05 level