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ASSESSMENT OF PREPARATION AS A PROFESSIONAL: A FOLLOW-UP STUDY OF MICHIGAN STATE UNIVERSITY'S 1978-79 AND 1982-83 COLLEGE OF HUMAN ECOLOGY BACCALAUREATE GRADUATES

Michigan State University PH.D. 1985

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ASSESSMENT OF PREPARATION AS A PROFESSIONAL: A FOLLOW-UP STUDY OF MICHIGAN STATE UNIVERSITY'S 1978-79 AND 1982-83 COLLEGE OF HUMAN ECOLOGY BACCALAUREATE GRADUATES

By

Ellen Sperry Cripps MacDonald

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
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DOCTOR OF PHILOSOPHY

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1985

ABSTRACT

ASSESSMENT OF PREPARATION AS A PROFESSIONAL: A FOLLOW-UP STUDY OF MICHIGAN STATE UNIVERSITY'S 1978-79 AND 1982-83 COLLEGE OF HUMAN ECOLOGY BACCALAUREATE GRADUATES

By

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PURPOSES. The purpose of this study was to compare baccalaureate graduates' perceived adequacy of preparation for professional positions in relation to employment status, type of employment, primary employment activity, advanced study, income, department, and year of graduation. A human ecological conceptual approach was utilized which primarily focused on College of Human Ecology graduates as they assessed the academic programming of the College of Human Ecology.

METHODOLOGY. The instrument consists of questions modified from various sources such as Educational Testing Service, American College Testing service, and National Center for Higher Education Management Systems. The cross-sectional population consisted of all bachelor's degree graduates of the College of Human Ecology for the academic years 1978-79 and 1982-83. The 1982-83 graduates were chosen because of their recent perspective on undergraduate experiences. Graduates from 1978-79 were chosen because of an ability to evaluate their preparation

in light of intervening employment and educational experiences. Data were collected by a self-administered mail questionnaire.

RESULTS. Analysis of variance was used to determine variance in graduates' perceptions of adequacy of preparation for professional positions by their undergraduate program. Findings indicated there was a significant difference between department (Family and Child Ecology, Food Science and Human Nutrition, Human Environment and Design), type of employment (education; nonprofit agency or institution, self-employment, private practice; Cooperative Extension Service, government; business, industry), primary employment activities for Family and Child Ecology (education; administration; service; marketing, scientific, other) and Food Science and Human Nutrition graduates (scientific; marketing, service, other; administration), income ($15,000 and above; less than $10,000; $10,000 to $14,999), and graduates' perceptions concerning preparation for professional positions.

SIGNIFICANCE. Results of this study will be used to improve faculty and administrators' knowledge about the program's perceived usefulness. Information will also help guide decision making concerning the future course of the College's curricula. The study will provide a model questionnaire as well as baseline data for future comparative studies. In addition, the results and the procedure may be of interest to other human ecology/home economics institutions in the development and evaluation of their programs.

This is dedicated to my parents, Lora and Henry Cripps, and brother, John Cripps. I am forever indebted for the way they "bent the twig."

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CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

A recent National Institute of Education document, Involvement in Learning: Realizing the Potential of American Higher Education (Astin, Blake, Bower, Gamson, Hodgkinson, Lee, & Mortimer, 1984), maintained that undergraduate education would be significantly improved if knowledge about assessment and feedback, a measure of educational excellence, would be applied in higher education. The authors posited that higher education institutions should make a concerted effort to acquire and use these measures for the purpose of increasing student involvement, clarifying expectations, and making changes in individual effort, program content, and instructional methods. Furthermore, Astin and his colleagues concluded that students are one of the best sources of information and evidence concerning how well higher education is doing its job.

One way to improve undergraduate education is to examine baccalaureate graduates' perceptions of the adequacy of preparation for employment by their undergraduate program. According to the American Home Economics Association (1974), assessment of what home economics graduates are doing as professionals is essential for the development of systematic procedures for determining the effectiveness of

professional-preparation programs. Opinions of human ecology/home economics graduates obtained by a follow-up study can indicate experiences which should be retained, eliminated, or revised in the professional program as they relate to preparation for employment.

Gentry (1972) maintained that the responsibility of home economics professional programs does not end at graduation, but should continue to assist and encourage former students as they accept professional positions. A follow-up study is one way to carry out this responsibility. Best (1977) indicated that a follow-up study can also identify what has happened to graduates, and how the institution and program of study have affected their personal and professional growth. For a complete assessment of the relationship between education and work, Pace (1979) maintained that this evaluation cannot be made until the students' education has been completed. Furthermore, the assessment must include interim, part-time, and full-time work.

A follow-up study has significant implications for theory and practice. Presently there is a lack of data regarding the degree of effectiveness of the Michigan State University College of Human Ecology academic programs in relation to employment as perceived by the graduates. Results of this study will be used to improve the college faculty and administrators' knowledge of the program's perceived usefulness to the graduates. Information will also help guide decision making concerning the future course of the College curricula.

This research, a component of the larger College of Human Ecology 1978-79 and 1982-83 alumni follow-up study, assessed baccalaureate

graduates' perceptions of the adequacy of preparation for employment by their undergraduate program. The larger study will provide a model questionnaire as well as baseline data for comparative studies to be used in the future at the College of Human Ecology, and it will meet the American Home Economics Association's accreditation guideline of conducting a periodic follow-up study of graduates. In view of the fact that Michigan State University is a perceived leader in the field of human ecology, the results and the procedure of the larger study and this research may be of interest to other human ecology/home economics institutions in the development and evaluation of their programs (see Figure 1).

Conceptual Approach

In analyzing an educational institution, it is possible to talk about the relationship between the individual (the graduate) and his/her environment (the university, including administration, faculty, staff, and so on). Within a transaction some change is always taking place. The underlying conceptual approach for assessing academic programming at the College of Human Ecology, as it relates to employment of its graduates, is based on the human ecological framework. Andrews, Bubolz, and Paolucci (1980) described an ecological system as having three organizing concepts: the environed unit, the environment, and the patterning of transactions between them. Transactions in this model include the impact of the environment on the organism (the student graduates) as well as actions of the organism which influence the environment. This research design incorporates the ecological

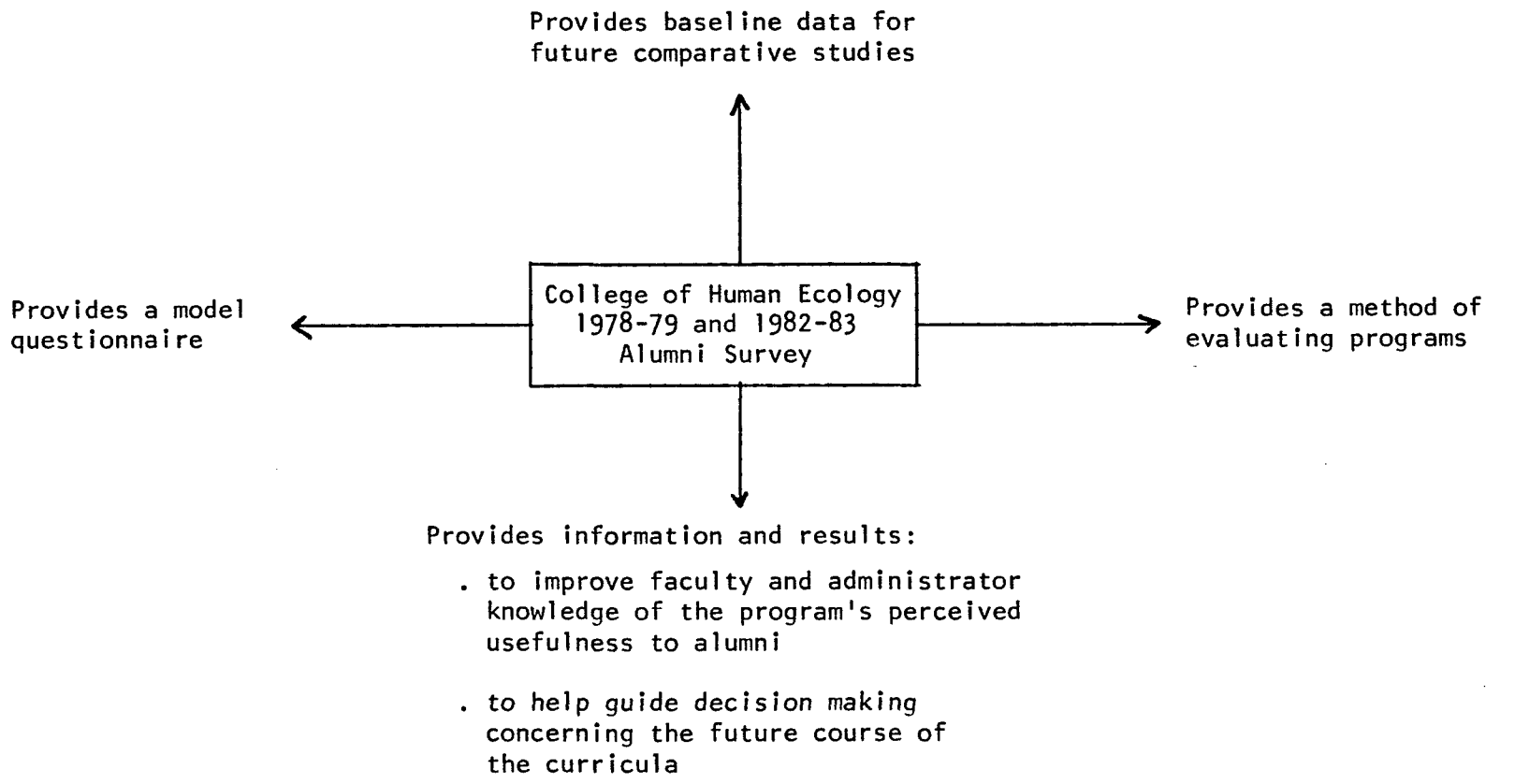
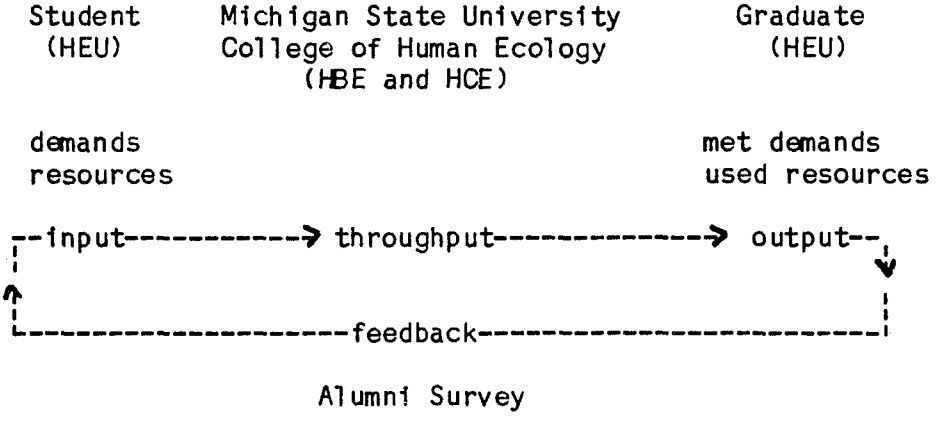


Figure 1: College of Human Ecology 1978-79 and 1982-83 Alumni Survey in the larger context of the evaluation process.

perspective by primarily focusing on the College of Human Ecology graduates (the human environed unit) as they assess the academic programming of the College of Human Ecology (the environment).

In the educational transaction process the university can be seen as impacting on the student (input) which produces a special kind of graduate or alumnus (output). Involved in the teaching and learning activity, the university transfers energy as information to the student, graduate, and alumnus. The university undergoes transformation as well because graduates feed back information to their environment in the form of a follow-up study, for example.

Deacon and Firebaugh (1975) envision the family system as being comprised of two subsystems: personal and managerial. The personal subsystem, consisting of demands and resources, can be used to identify what the student (HEU) brings as input to the College of Human Ecology (HBE and HCE). Upon graduating, these inputs are transformed into met demands and used resources.



The ecological approach can be further delineated by examining the environment in depth. Environment can be envisioned as being composed of three interrelated environments: the human behavioral environment, the human constructed environment, and the natural environment. The human behavioral environment (HBE) is an environment of human beings and their biophysical, psychological, and social behaviors. The human constructed environment (HCE) is an environment altered or created by human beings. The natural environment (NE) is a product of nature with spatial-temporal, physical, and biological components (Bubolz, Eicher, & Sontag, 1979).

By reflecting upon their role as a student in a follow-up study, College of Human Ecology graduates (HEU) are part of an ecosystem in a university setting (HBE and HCE) (see Figure 2). In reporting about their employment experiences, graduates (HEU) are part of the workplace (HBE and HCE) ecosystem (see Figure 3). There is an interrelationship and an interaction between the two ecosystems.

Purpose and Objectives

The purpose of this study was to assess baccalaureate graduates' perceptions of the adequacy of preparation for employment by their undergraduate program via feedback through a follow-up survey. Results of this study can be used for career guidance, educational guidance, program planning and development, accountability, and public relations as delineated in the review of literature. In order to accomplish this purpose, specific objectives were proposed:

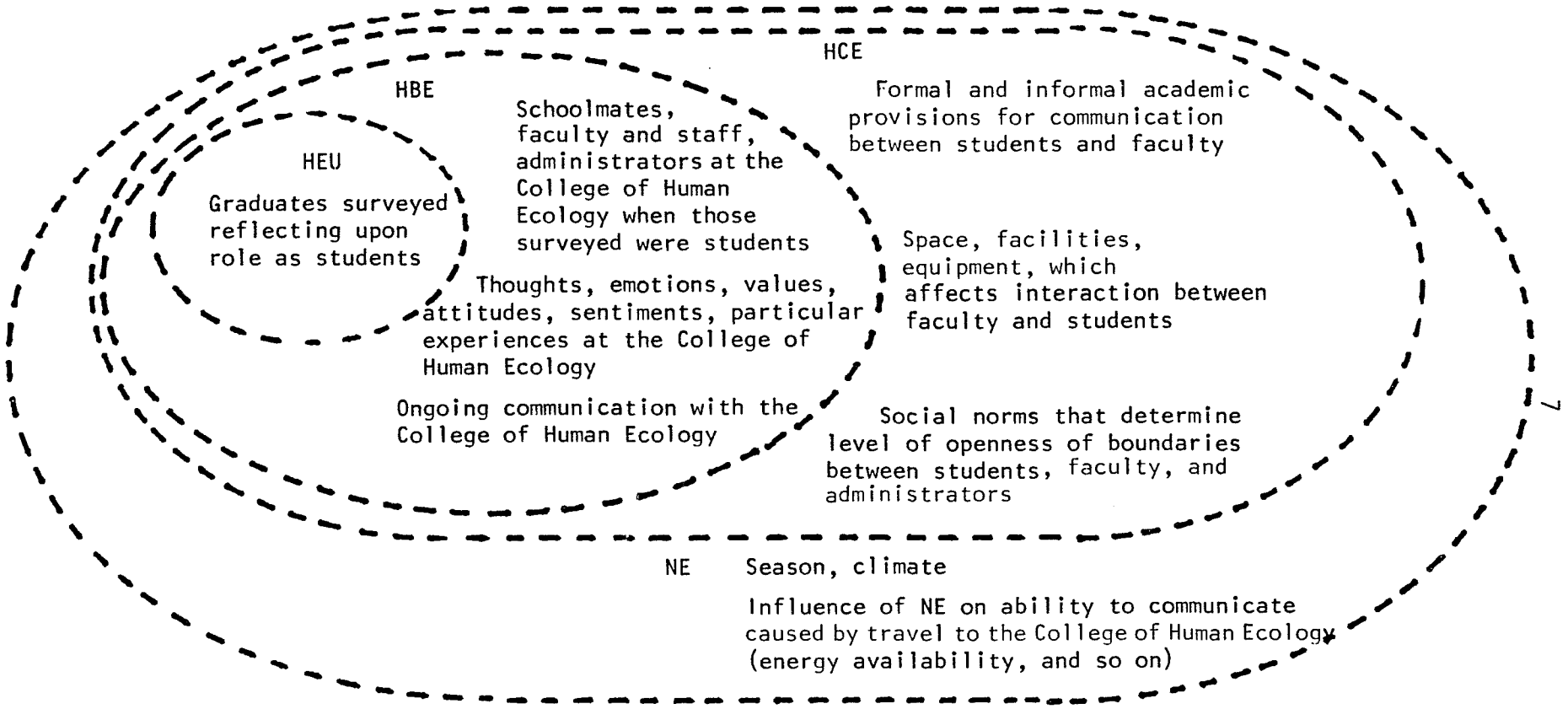


Figure 2: Graduates reflecting upon role as student in a university ecosystem.

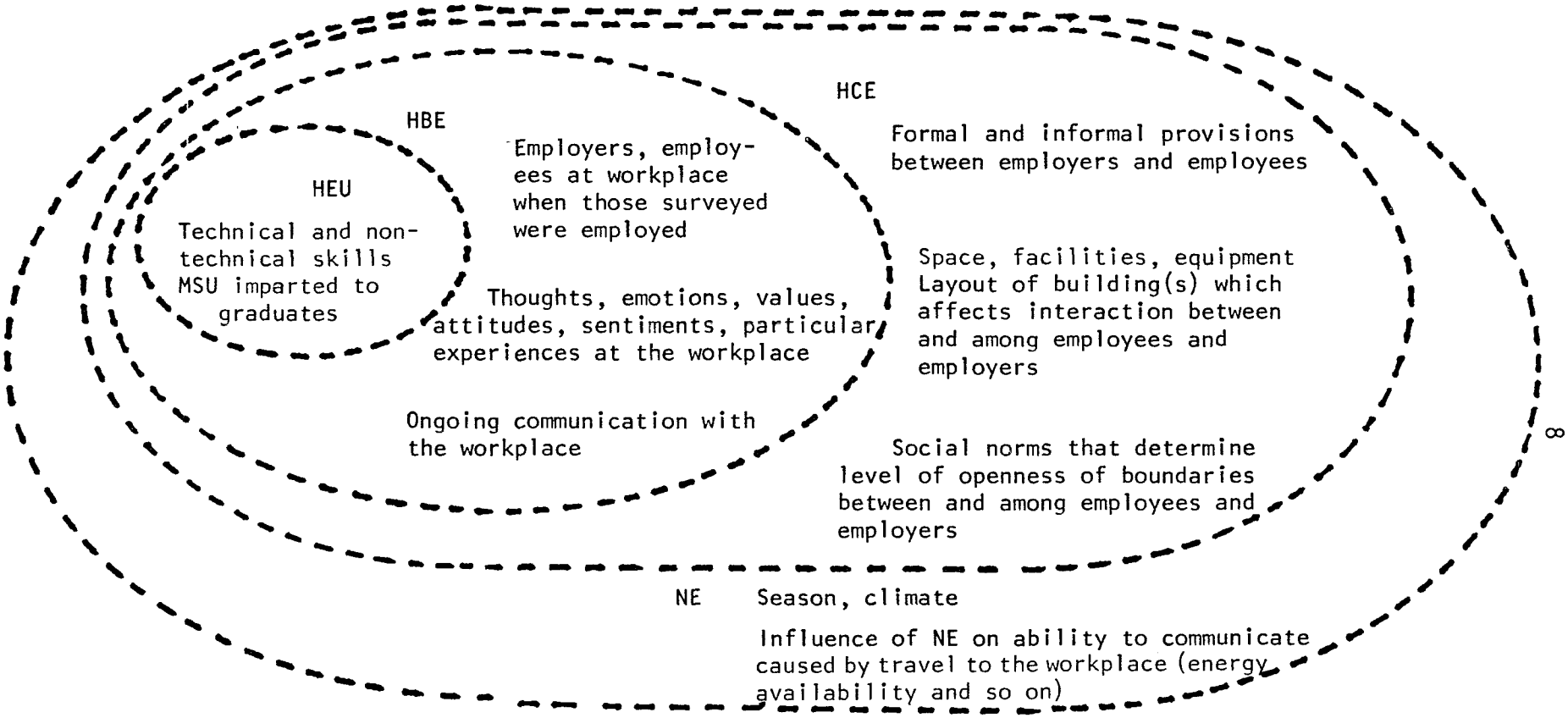


Figure 3: Graduates reflecting upon role as employee in a workplace setting.

1. To assess baccalaureate graduates' perceptions of the adequacy of their preparation by their undergraduate program in relation to:

   a. employment status

   b. type of employment

   c. primary employment activity

   d. advanced study

   e. income category

2. To compare the perceptions of graduates by their department and year of graduation as they relate to perceptions about employment preparation.

A longitudinal study was approximated by examining cross-sectional data from two groups of students who graduated in different academic years: 1978-79 and 1982-83. This method permitted the researcher to draw conclusions about processes which occurred over a period of time.

Hypotheses

A two-way analysis of variance test was employed to test the hypotheses. Therefore, within each hypothesis were three different subhypotheses. Two of the three subhypotheses were concerned with main effects, and the third subhypothesis pertained to interaction between the main effects. In order to assess baccalaureate graduates' perceptions of the adequacy of their preparation for employment by their undergraduate program, the following hypotheses were proposed:

Ho 1: There is no significant difference among department, employment status, and graduates' perceptions about the adequacy of their preparation for professional positions.

As related to the first part of Hypothesis 1, Stephens (1957) indicated support for the alternate hypothesis in the finding that graduates who obtained positions were more satisfied with their academic preparation. Concerning department in relationship to perceived adequacy of professional preparation, Lowe (1977) found little difference in satisfaction with preparation for home economics careers by area of study. However, McClendon (1977) did find a difference in perceptions about preparation for professional positions by major, with home economics education graduates being more satisfied than clothing graduates. von dem Bussche (1969) also found a difference in perceptions about preparation for careers by area of study. Higher ratings were made by clothing and textiles, food and nutrition, and home and family life graduates. Home economics education and general home economics graduates rated their preparation lower.

Ho 2: There is no significant difference among type of employment, department, and graduates' perceptions about the adequacy of their preparation for professional positions.

Ho 3: There is no significant difference among type of employment, advanced study, and graduates' perceptions about the adequacy of their preparation for professional positions.

Ho 4: There is no significant difference among department, advanced study, and graduates' perceptions about the adequacy of their preparation for professional positions.

Ho 5: There is no significant difference among primary employment activity, department, and graduates' perceptions about the adequacy of their preparation for professional positions.

Ho 6: There is no significant difference among income, advanced study, and graduates' perceptions about the adequacy of their preparation for professional positions.

Ho 7: There is no significant difference among department, year of graduation, and graduates' perceptions about the adequacy of their preparation for professional positions.

A similar hypothesis to number 7 was suggested by Fain (1981/1982). She found a significant difference between number of years since graduation and opinions of home economics graduates about their professional preparation programs. Recent graduates had more positive opinions about their professional preparation programs than did earlier graduates. However, Lowe (1977) found that graduate satisfaction with the home economics program fluctuated over the years.

Theoretical Definitions

The following definitions will be used in assessing baccalaureate graduates' perceptions of the adequacy of preparation for employment by their undergraduate program:

Academic Programming. The curriculum, instructional plan, major, or course of study leading to a bachelor's degree (HBE and HCE).

Follow-up Study. "A procedure for accumulating pertinent data from or about individuals after they have had similar or comparable experiences" (feedback) (McKinney & Oglesby, 1971, p. 1).

Graduate. A person who has satisfied the criteria to receive a College of Human Ecology bachelor's degree as specified in Michigan State University's Academic Programs 1984-85 (1984) (HEU).

Perception. "An awareness on the part of the individual of his/her attitude toward a condition, event, a training activity, or person" (feedback) (Darcey, 1980, pp. 7-8).

Employment Status. A designation of being employed or unemployed (HBE and HCE).

Employment. Part-time or full-time work that individuals engage in to earn income (HBE and HCE) (Special Task Force to the Secretary of HEW, 1973).

Type of Employment. Work performed for university or college; elementary, intermediate, or secondary school; Cooperative Extension Services; nonprofit agency or institution; business or industry; government; or self-employment/private practice (HBE and HCE).

Primary Employment Activity. The central occupation of the seven home economics occupational clusters: administration or management; design, manufacturing, or processing; marketing, merchandising, or sales; media; scientific or professional; service; or education. A category of "other" was added (HBE and HCE).

Position. A group of tasks performed by a person for an employer (HBE and HCE) (Shartle, 1959).

First Position. First position after graduating with a Michigan State University undergraduate degree (HBE and HCE).

Income. Approximate annual salary before deductions from first/current employment position(s) (HBE and HCE).

Advanced Study. Pursuance of study beyond the bachelor's degree (HBE and HCE).

Department. One of the three divisions in the College of Human Ecology: Family and Child Ecology (FCE), Food Science and Human Nutrition (FSHN), or Human Environment and Design (HED) (HBE and HCE).

Year of Graduation. One of the two academic years (1978-79 or 1982-83) in which surveyed individuals graduated (HBE and HCE).

Perceived Adequacy of Preparation for Professional Position. Graduates' perceptions concerning the suitability of academic programming in preparation for professional employment (feedback).

Assumptions of the Study

This study was predicated on the following basic assumptions:

1. The respondent is willing and able to give valid rather than socially desirable answers (Tuckman, 1972).

2. Graduates' assessment of their preparation for employment can result in viable suggestions for improving the College of Human Ecology undergraduate program.

3. Employment status is related to professional preparation received by graduates of the College of Human Ecology undergraduate program.

4. A graduate with a bachelor's degree is considered a professional because of the practical experiential components included in the College of Human Ecology undergraduate program (Kieren, Vaines & Badir, 1984).

Delimitations

The study was delimited in the following ways:

1. Only those human ecology graduates whose current addresses were available were sent questionnaires. However, Alumni/Donor Records, from which addresses were obtained, continually updates alumni

addresses with the help of alumni responses and the U.S. Postal Service. Up-to-date alumni addresses were also obtained from administrators, faculty, and staff. A potential bias may exist due to alumni who do not inform the Alumni/Donor Records of changes in their addresses, notify the U.S. Postal Service of a forwarding address, or maintain contact with the College of Human Ecology.

2. Participation in the study was limited to human ecology graduates who chose to complete and return the questionnaires. This limitation was assessed by determining nonresponse bias, which is discussed in the methodology section, Chapter III.

3. Those human ecology graduates surveyed were representative only of College of Human Ecology baccalaureate degree graduates from the academic years 1978-79 and 1982-83.

4. Responses of 1978-79 and 1982-83 baccalaureate graduates represented the curriculum requirements, college mission and goals, and faculty of the classes taught when they graduated.

5. This study was similar to a longitudinal study, in that it examined cross-sectional data from two groups of students who graduated in different academic years. However, it was only an approximation about processes that occur over time.

6. Graduate success was delimited to preparation as a professional in relation to employment.

CHAPTER II

REVIEW OF THE LITERATURE

This study assessed baccalaureate graduates' perceptions of the adequacy of preparation for employment by their undergraduate program. The review of literature initially examines employment decisions and success. Survey research and methods of collecting survey research are also reviewed. The remaining sections deal with issues directly related to follow-up study: description of follow-up study, use of follow-up studies in educational evaluation, integration of survey data with other relevant data, development of a management information system, importance of continuous evaluation, purposes of follow-up study, role of graduates in follow-up study, and human ecology/home economics follow-up studies.

Employment Decisions and Success

Although it is recognized that success includes and transcends employment success, this study was limited to the examination of preparation for employment. Given this stipulation, it is important to examine the determinants of employment decisions and success. The terms vocational and occupational as used in the following research relate to the dependent variable, preparation for employment, as used in this study. Baccalaureate graduates' perceptions about professional

preparation are shaped by experiences during their undergraduate program. As indicated by the following research, perceptions about preparation for employment are also influenced by their period of development, previous educational experiences, and family and life experiences.

Ginzberg (1972) proposed a vocational development theory. The theory comprises four major psychological periods during which vocational decisions are made. The fantasy period occurs from age 4 or 5 through 11 or 12, at which time children can state a vocational preference. During the tentative period (age 11 to 18) people take into account their interests, values, and capabilities in considering a vocation. The realistic period extends from age 18 to the early 20s, and consists of two stages. During the exploration stage, people test tentative vocational choices in relation to their vocational and personal values, aptitudes, and interests. In the crystalization stage, a clear picture of vocational goals and specific occupations is visualized. The fourth period or specification period takes place in the early 20s. During this period of development, people make commitments to particular vocations. Ginzberg (1972) maintained that career decisions are made in a continuous, developmental process which considers individual values, interests, capabilities, and vocational task demands.

Jencks, Smith, Aclund, Bane, Cohen, Gintis, Heyns, and Michelson (1972) maintained that occupational and life success is determined by level of education, but even more importantly, family and life

experiences. Although schools, including colleges and universities, are important in developing individuals' values and identity which influence occupational success and choice, some researchers suggest that an individual's personality develops before adolescence and is independent of schooling. Research is expanding which supports the idea of family as being critical in influencing children's values and behavior (Jencks, Bartlett, Corcoran, Crouse, Englesfield, Jackson, McClelland, Mueser, Olneck, Schwartz, Ward, & Williams, 1979).

In an assessment of the impact of college on students, Feldman and Newcomb (1969) concluded that every student who has ever attended college is influenced by the experience. Although the focus of their study was on the impact of college on students, it was found that college impacts are conditioned by students' backgrounds (such as family and life experiences) and personalities. It was also found that characteristics a student has upon entering college tend to be reinforced and extended by those experiences he/she has in college.

Survey Research Described

Survey research has, as a primary focus, the goal of describing, predicting action, or explaining the relationship between two or more variables (Oppenheimer, 1973). Survey research, which is based on asking people questions, is probably the most frequently used method for collecting data in the social sciences (Caplovitz, 1983). Variables in survey research can be classified as sociological and psychological. Researchers are interested in how sociological information, such as demographic data, relates to psychological variables--opinions,

attitudes, and behavior--as well as how psychological variables relate to each other (Kerlinger, 1964).

Strengths of Survey Research

There are strengths and weaknesses inherent in survey research. The results of survey research can accurately describe the characteristics of a large population. A large number of subjects can be surveyed cost efficiently through the use of self-administered questionnaires (Williamson, Karp, Dalphin, & Gray, 1982). This is essential for descriptive and explanatory analysis (Babbie, 1983).

With the preplanned design of survey research, results are uniform and reliable, especially in comparison to the method of observation (Williamson et al., 1982). Survey research also enables flexible analysis of subjects and issues since many questions can be asked about a particular topic. Furthermore, the reliability of survey research measurement is high because each person is asked the same questions via a standardized questionnaire (Babbie, 1983). Concurrent validity can be increased by comparing survey results to other data such as institutional records (Kerlinger, 1964).

Weaknesses of Survey Research

Because standardized questions are designed to be applicable to all subjects, superficial analysis may result, although sophisticated analysis can overcome this limitation (Babbie, 1983). Results may also be superficial because of the tendency of survey research to reveal a greater scope of information, as opposed to explaining indepth

relationships (Kerlinger, 1964). Survey research must be restricted to questions respondents are likely to know (Williamson et al., 1982). This may result in artificial findings since only self-reports as opposed to social action are measured (Babbie, 1983). There is also a question of accuracy concerning self-reports (Williamson et al., 1982). Although there are advantages to a preplanned research design, survey research lacks flexibility because the study design cannot be changed after the study is implemented unless the research is conducted in phases.

Data-Collection Methodology

Two main methods of collecting survey research data are the self-administered questionnaire and the interview. The self-administered questionnaire is a written document given to the respondent for completion, containing questions and other items designed to solicit data for analysis (Babbie, 1983). The interview is conducted face-to-face or over the telephone. A major difference between the self-administered questionnaire and the interview is that questionnaires are usually self-contained, self-administered, and require no interaction between the researcher and respondent. In contrast, a social relationship between the researcher and respondent is necessary for the interview (Abrahamson, 1983).

Even though the interview method permits indepth, probing questions, produces less incomplete questionnaires, and deals effectively with complicated questions, this study used a self-administered mail

questionnaire. The self-administered method of data collection was chosen because of its potential of obtaining a high response rate. This method can easily locate and reach subjects over a geographically dispersed area. In fact, Dillman (1978) indicated that a researcher who wants to survey college alumni who are geographically dispersed around the world probably has only one choice--the mail questionnaire. As well as being capable of obtaining accurate answers, other advantages of the mail questionnaire are that it requires few people to administer and it entails lower costs than the interview method.

The Self-Administered Questionnaire

Dillman (1978) compared the merits of self-administered questionnaires based on four performance criteria: obtaining a representative sample, questionnaire construction and question design, obtaining accurate answers, and administrative requirements. A discussion of the advantages and disadvantages of the self-administered questionnaire is based on the potential of the method as it relates to the four performance criteria.

1. Obtaining a representative sample. The first performance criterion of the self-administered questionnaire is the potential of obtaining a representative sample. Self-administered questionnaires have a high probability of achieving this given a completely listed population and a medium probability for populations not completely listed. This method also has moderate control over the selection of respondents within sampling units (Dillman, 1978). A selected sample can be easily located since mail reaches people who cannot otherwise be

contacted by the phone or because of relocation (Franchak & Spirer, 1978). However, mail questionnaires have a lower likelihood of controlling substitution of respondents and households (Dillman, 1978).

The self-administered questionnaire has typically had a low response rate. However, this weakness can be overcome with f' low-up mailings (Abrahamson, 1983). It has a moderate probability of obtaining a high response rate with heterogeneous samples such as the general public. For homogeneous samples, the difference in response rate between mail surveys and interviews diminishes. In fact, researchers who used Dillman's Total Design Method for homogeneous groups have exceeded an 85% response rate, a rate similar to that obtained by the interview method. Some cases have even equaled or exceeded the rate for face-to-face interviews (Dillman, 1978).

Mail questionnaires have a low potential of avoiding bias due to nonresponse (Dillman, 1978). This problem can be assessed by testing nonresponse bias. Because of the difficulty of obtaining updated address lists, however, a low response rate may be due more to inaccurate addresses than to refusals to respond (Lansing & Morgan, 1971). To obtain a representative sample, the population to be surveyed by a mail questionnaire should not include illiterates. The mail questionnaire is most appropriate for studying highly educated populations such as professionals or students (Caplovitz, 1983).

2. Questionnaire construction and question design. The mail questionnaire should be of moderate length. Questions can be only moderately complex and must be unambiguous since there is no

opportunity for unauthorized clarification. Self-administered questionnaires have low success with open-ended questions because of the lack of probes (Dillman, 1978). Furthermore, subjects do not usually give open-ended questions serious consideration (Williamson, Karp, Dalphin, & Gray, 1982). The mail questionnaire method has moderate success with screen questions. Although the questions may have been ordered to eliminate response bias, there is no control over the order in which respondents answer questions (Bailey, 1982). The method also has low success with tedious or boring questions and a moderate success rate in avoiding item nonresponse. Mail questionnaires are very sensitive to question structure since stimulating questions and transitions are the impetus for achieving response (Dillman, 1978).

3. Obtaining accurate answers. Self-administered questionnaires have a high to medium potential of obtaining accurate answers. The self-administered method is best in reducing bias due to social desirability (Dillman, 1978). Anonymity and privacy permitted by the mail questionnaire encourage more open responses and willingness on the part of the respondents to give socially undesirable responses than do interviews (Bailey, 1982). Mail questionnaires also have a high likelihood of avoiding interviewer distortion and subversion (Dillman, 1978). Possible antagonism between the interviewer and respondent is eliminated, and standardized questions guard against the interviewer modifying questions or suggesting answers (Franchak & Spirer, 1978).

Self-administered questionnaires have a moderate probability of avoiding outside contamination (Dillman, 1978). The influence of

others in questionnaire response cannot be controlled or estimated, nor can there be any assurance that the subject even filled out the questionnaire (Bailey, 1982; Williamson et al., 1982). However, there is a moderate likelihood that consultation will be obtained when necessary (Dillman, 1978).

4. Administrative requirements. Mail questionnaires rate from high to low in meeting administrative requirements. This method has the easiest task in meeting personnel requirements which are largely clerical--typing, sorting, and processing returned questionnaires. It also requires fewer people given the same sample size than telephone and face-to-face interviews. The potential speed of implementation is low, however, because of the time required to print and assemble the surveys for mailing. Only if the mail survey is very large does it become competitive with the speed in which telephone surveys can be conducted.

Compared to expenses involved in the interview method, the mail technique has a high probability of keeping costs low, both on costs per respondent and as the geographical area increases (Dillman, 1978). Postage, the largest expense in mail surveys, is substantially lower in cost than the labor-intensive method of interviewing (Abrahamson, 1983). Because postage is relatively inexpensive, it is possible to have large sample sizes when using the mail technique (Caplovitz, 1983). Since it costs no more to conduct a national or local mail survey, this technique can reach respondents who are geographically

dispersed at a lower price than the travel expenses of an interviewer (Bailey, 1982).

As shown in this analysis, the self-administered method has its advantages and disadvantages. Selection of an appropriate method involves consideration of four major performance criteria. These criteria must be considered in relation to the needs and attributes of the particular survey, such as the topic of study, population to be surveyed, and survey objectives (Dillman, 1978).

Follow-Up Study

According to Franchak and Spirer (1978), a follow-up study is part of an evaluation scheme which scientifically studies practical problems in order to guide, direct, and evaluate decisions and actions (Corey, 1953). Follow-up study is a procedure for accumulating pertinent data from or about individuals who have had similar or comparable experiences (McKinney & Oglesby, 1971). Since experimental inquiry is inappropriate, follow-up study often uses an ex post facto or retroactive design (Carano, 1970).

Ex post facto research begins with the observation of a dependent variable or variables. The independent variables are studied in retrospect for their possible relations to, and effects on, the dependent variable or variables (Kerlinger, 1964). In this study, the dependent variable, perceived adequacy of preparation for professional position, was examined in light of impact of the independent variables employment status, type of employment, primary employment activity, advanced study, income, department, and year of graduation.

A type of normative survey research, follow-up studies can help solve practical problems because data come from the field (Good et al., 1941). Follow-up studies most nearly observe ultimate educational contributions by looking at the effects of a course or program as a whole (Worthen & Sanders, 1973). With respect to employment, follow-up studies can evaluate professional preparation programs which establish a basis for success in positions accepted by graduates of an educational institution (Fain, 1981/1982).

Follow-up studies are most effective in providing information about the collective attributes of respondents. This information can be used to identify relationships among attributes in the form of hypotheses or questions (Hobbs, 1979). Besides producing useful information, follow-up studies involve alumni. As a result of participating in the follow-up study, alumni may become more interested in the institution (Nelson, 1964).

The Use of Follow-Up Studies in Educational Evaluation

Results of follow-up studies should be used and interpreted carefully because they indicate only what has happened; they do not establish cause. To determine cause, other collaborating information should be examined (Franchak & Spirer, 1978). To produce evidence for cause and effect, surveys can be conducted on a regular basis (Frey, 1979).

Student outcome information is of greater use as a context for decision making than as a basis for particular decisions or conclusions

(Ewell, 1983a). Follow-up studies only reveal what the respondents think, feel, or guess about a subject. They cannot be used to predict a course of action (Hobbs, 1979). Although follow-up information may reveal what types of programs and courses should not be offered, for example, they cannot always determine what alternative courses or improvements are necessary. Follow-up information is most valuable as an indicator of needed services that are not presently provided (Franchak & Spirer, 1978).

The success of an evaluation program can be measured by the extent to which the results are used. To ensure use of the results, an institution needs a built-in strategy such as a data-based management information system for their utilization. Another important consideration about the usefulness of the findings is that results must be shared if they are to have impact (Clark, 1983). The main purpose of follow-up studies is not to compile data, but rather to gain and use information that permits the institution to better serve its clients (O'Connor, 1965).

The follow-up study should be seen as a nonthreatening method of using data (Ciampa, 1978). One way to minimize potential threat is to use the results to confirm the quality of a program. Follow-up study results should not be perceived as simply identifying weaknesses. If information from the study is to be used effectively, administrators, faculty, and staff must be convinced of the benefit of conducting a follow-up study (Franchak & Spirer, 1978).

Integration of Survey Data With Other Relevant Data

The follow-up study is a useful part of the data-gathering process, but it is only one component for evaluating an educational system (Hobbs, 1979; McKinney & Oglesby, 1971). Because of limitations such as response bias, instability of student self-reported data on attitudes, and response distortion, a single study or source of information should not be used as the basis for decision making (Ewell, 1983a). Instead, as many relevant and independent sources of data as possible should be included in evaluating educational quality (Ewell, 1983a; Wise, Hengstler, & Braskamp, 1981). Furthermore, several sources of data often yield a consistent body of findings (Ewell, 1983a).

> To be effectively utilized, student-outcomes information must be visibly placed alongside such diverse elements of management information as available-resource indicators, activity-level and productivity indicators, and external policy and program constraints. (Ewell, 1983a, p. 6)

Not all issues, of course, require such a complex and multifaceted research effort, but the utilization of several varied and integrated approaches should not be overlooked in a large study (Hobbs, 1979). Information that is collected and effectively integrated with other related data to provide a comprehensive picture of the issue will be used to a greater extent by decision makers. Integration with data familiar to the decision maker also ensures greater possibility of using the results (Ewell, 1983a, 1983b).

From a perspective that the survey is only one part of the evaluation effort, Francis (1979) maintained that the survey, which

characterizes a mathematical strategy, must be used as an investigatory approach for aiding decision making. The survey represents a mathematical strategy because it follows preestablished rules and guidelines. However, with an investigatory approach, the survey can be treated as an exercise in analytic induction, a process that begins with broad general questions and a flexible array of methods. The investigative method compares and contrasts information from many sources and uses human judgment to make inferences from the data. Since the follow-up survey is only part of the total information, other methods of data collection include the use of documentary analysis, interview, case study, and direct observation. The integration of survey research with other suitable approaches will result in a flexible and multidimensional research approach (Francis, 1979; Hobbs, 1979).

Suggestions of additional information that institutions may consider collecting as part of program assessment (in addition to questionnaire results from faculty, graduate students, and recent alumni) include a history of the program, interinstitutional or other cooperative arrangements, student recruitment and retention, teaching load, mix of lecture/seminar/practicum courses, program content, evaluation procedures, degree requirements, departmental budgetary support, and employment demand for graduates (Clark, 1983).

In a summary of teacher education program evaluation and follow-up studies, Hord and Hall (1978) noted that these studies collected data from students while in the program and during inservice as teachers,

trained observers, college supervisors, school principals, district administrators and supervisors, classroom cooperative teachers, pupils of the student teachers, and peer teachers. Data-collection methods included surveys, classroom observation, questionnaires, personality inventories, interviews, and evaluation forms. Other data used were the permanent records of graduates, which include their grade point average, other academic information, National Teacher Examination scores, and other standardized measures.

The Ohio State University College of Education has designed one of the most comprehensive systems of integrating student data to document and assess teacher candidates. Zimpher, de Voss, and Lemish (1982) designed a four-part multidimensional system that collects data at multiple points in the educational program using a variety of data-collection methods. Data collected include demographic data about students and programs, academic data such as transcript information and entry test scores, performance data collected through qualitative and quantitative measures, and self-reported data collected in campus and field settings.

In an attempt to adhere to the National Council for the Accreditation of Teacher Education's standards of involving a variety of sources in the program-evaluation effort (Standards for the Accreditation, 1979), Cooper and Jones (1979) collected perceptual data via a questionnaire from students, instructors, supervisors, and supervising teachers associated with the program. Documentation data were collected from relevant program documents, policy statements, and instructional

material. In integrating information from surveys with other kinds of student data institutions have collected, Ewell (1983b) recommended finding out how available and useful the data may be before conducting the survey.

Development of a Management Information System

Follow-up studies should be seen as part of a larger system of study in evaluating educational programs (Little, 1970), with the eventual goal of developing an institutional data base or management information system (Ewell, 1983b). "The management information system is a dynamic tool for analyzing the need for decisions and the probable effect these decisions can have on the local educational agency" (Franchak & Spirer, 1978, p. 136). Such a data base can be flexibly and comparatively used by administrators to address a variety of specific questions such as the assessment of education as it relates to employment. The management information system should serve as an ongoing, continually updated information resource to answer administrative questions as they arise (Ewell, 1983a).

A management information system can be used to improve the quality of planning and decision making, give directions in making better use of scarce resources, and improve the quality of the educational environment (Astin, 1980). The data base also permits comparison within the unit as well as among different institutions, programs, and student groups at different points in time (Ewell, 1983a).

The 1979 American Home Economics Association (AHEA) Membership Survey represents one effort to develop a data base. AHEA collected

selected information from its members to develop a master computerized resource bank. This study establishes benchmark data from which to identify trends and change. It also provides data for planning programs, priorities, and goals based on the characteristics and needs of the membership (Fanslow, Andrews, Scruggs, & Vaughn, 1980).

Several commercial management information services exist. Educational Testing Service's Graduate Program Self-Assessment (GPSA) Service has provisions for comparing results with other institutions on file. GPSA also plans to provide comparison data with an institution's first and successive running of questionnaires, which would be especially useful for institutions experiencing rapid change (Clark, 1983).

The National Center for Higher Education Management Systems and the College Board jointly offer a Student Outcomes Information Service (SOIS). This service provides a continuous system for collecting and analyzing information on student outcomes, which is "any consequence of a student's enrollment in a given educational institution and involvement in its programs" (Ewell, 1983b, p. 3). The program also has provisions for comparing data with other institutions that have used SOIS.

Another commercial information service is the American College Testing Program (ACT). ACT offers an Evaluation/Survey Service (ESS) to educational institutions and agencies for collecting and using student-based survey data. The service also provides a composite report which contains survey results from several schools.

Francis (1979) proposed an Attitude Information System (AIS), a data-bank of attitude information to be used for institutional advancement. The purpose of the AIS would be to gather and report information quickly. Data would then be stored for secondary analysis and comparison with new data. The AIS would permit an institution's constituency to be periodically sampled.

Since educational administrators rarely get feedback on the educational consequences of policies and decisions (Astin, 1980), a management information system would be of great value in relating how institutions function educationally as they relate to graduates' employment experiences. More detailed analysis can be done to identify problems and their possible causes, and data can be reanalyzed and used for comparison with new data. Furthermore, the data are most likely to be used if they are incorporated into an ongoing data base (Ewell, 1983a, 1983b; Franchak & Spirer, 1978; Francis, 1979).

Importance of Continuous Evaluation

Many accrediting organizations require continuous evaluation. The American Home Economics Association (Haley, 1984) calls for periodic follow-up of graduates, and the National Council for the Accreditation of Teacher Education states that the maintenance of "acceptable teacher education programs demands a continuous process of evaluation of the graduates of existing programs" (Standards for the Accreditation, 1979, p. 10).

Ayers (1981) maintained that an evaluation program must be ongoing and longitudinal in nature with continual input from graduates of the

program. A continuous model of evaluation measures changes taking place in a program and identifies developing problem areas. Sanders (1981) concurred that continual engagement in "developmental inquiry" is necessary for program improvement. According to Partney (1972), program evaluation "is a continual requirement for universities and colleges because of constant societal and educational changes" (p. 6). Another reason for continuous evaluation is that it may take several years for significant trends in the data to show up (Franchak & Spirer, 1978).

Data gathering can be thought of as part of an ongoing integrated data-collection system rather than as a set of "one shot" efforts. For example, a survey could be initially used to pinpoint potential problems that can be a subject of further investigation. Instead of using a questionnaire one time in a cross-sectional analysis, the instrument can be used in conjunction with other similar questionnaires administered in a longitudinal analysis (Ewell, 1983b) as in sequential design.

Cross-sectional research is used to describe and determine relationships between and among variables. Although there are limitations to making observations at only one point in time, inferences can be made about processes that occur over time. Longitudinal research provides information describing processes over time. However, the design is costly and requires a great deal of time (Babbie, 1983). Limitations of these designs can be overcome by the use of sequential design, which combines cross-sectional and longitudinal approaches.

Sequential design is a method of testing a hypothesis that involves examination of a sequence of samples. For each sample a decision is made whether to accept or reject the hypothesis. Although the technique is expensive, a cohort sequential design, which can examine a specific subpopulation of graduates as they change over time, provides a more accurate and extensive picture (Warwick & Lininger, 1975).

Program evaluation should be integrated into all aspects of the educational program. Several follow-up studies of home economics graduates (Christian, 1969; Fain, 1981/1982; Garrett, 1969; Hodgkins, 1977; Johnson, 1975; von dem Busshe, 1969) have recommended periodic follow-up, but Gentry (1972) explicitly stated that follow-up should be a periodic as well as integral part of home economics professional programs. In an article on design characteristics essential for meaningful teacher follow-up evaluation, Ayers (1981) maintained that a teacher-evaluation program must be viewed as a part of the total teacher-education program, not as an isolated project.

Program evaluation, as with program planning, should be an ongoing process that encompasses all aspects of the program (Newton, 1981) since the results are of interest to the entire community. Finally, the evaluation system should have a component for assessing the effectiveness of the evaluation tool for gathering information and making meaningful decisions (Ayers, 1981).

Kessler (1979) proposed regularly conducting follow-up studies to meet the need for more extensive data on career outcomes of graduates and factors that affect these outcomes with the purpose of analyzing

and improving the education/work relationship. Results could be used by educators, employers, and students. Continuous evaluation could be used to improve job placement programs and career development offices. Follow-up of graduates as they advance in their careers could provide information to curriculum planners about the need to retrain for new technology, or it could suggest remedial actions for obsolescent programs.

With continuous evaluation, educators and employers would get a better view of the student and would be able to see the effects of college on the student from a long-term perspective. Students could use results of ongoing studies of graduates' employment problems and successes to make viable and realistic career choices. Continuous evaluation would enable users to gauge long-range results of the effect of education on employment (Salter, 1979).

Purposes of Follow-Up Studies

There are probably as many reasons for conducting surveys as there are surveys (Babbie, 1973; Ewell, 1983b). Primary purposes of conducting a follow-up study should be identified before the survey is conducted (Clark, 1983), since the success of a follow-up study depends on understanding the purpose or purposes of conducting the study (Franchak & Spirer, 1978). The ultimate value of the resulting information, however, depends on the goals and objectives of the institution or program (Ewell, 1983a).

In a study of follow-up studies in higher education from 1964 to 1971, Taylor (1971) noted that all areas of activity in higher education have been researched with traditional areas of institutional research including studies of students, faculty, space, fiscal matters, and physical facilities. Researchers have developed categories for the different areas of research. Ewell (1983a) designated three different approaches to the follow-up process of identifying and measuring student outcomes. The oldest approach treats the student college experience as a matter of academic investigation by examining the cognitive and social-mobility impacts of college. A second major approach is the student-personnel perspective where outcomes are used to counsel and advise students. The newest approach, a management perspective, uses student outcomes as part of the resource allocation and program decision-making approach.

Although each approach deals with the impact of college on students, they have different goals and therefore different data requirements. The academic approach has a goal of explaining or accounting for a given outcome. It tries to determine whether or not the factors that produced the outcome are under the control of the decision maker. The student-personnel perspective seeks data useful in making decisions concerning the welfare of the individual student. Explanation of the causes of an individual's problems is not of concern. The main objective of the management perspective, which focuses on the institution or program, is to improve resource-allocation decision making.

The Graduate Program Self-Assessment Service was designed to develop quality indicators for the different stages of program functioning. These stages are categorized as inputs (such as financial resources and student ability), educational processes (such as faculty-student relations, teaching performance, and the learning climate), and outcomes (such as the professional performance of graduates and faculty research productivity).

Based on a review of the literature, the following categories of uses of follow-up studies have been identified. One category is career guidance, which includes placement. Educational guidance is a second category encompassing admissions, advising, and retention. A third category is for program planning and development with subcategories of curriculum, instructional, and resource allocation/ fiscal decision-making purposes. Accountability, a fourth category, includes accountability to the user, accreditation associations, agencies such as the government and university, and accountability to the institution itself. The last major use in public relations is communication with alumni and other community members, and recruitment of potential students, faculty, administrators, and others.

Ways in which follow-up employment, academic, and demographic data can be used to achieve these purposes are identified. Many of the examples are not mutually exclusive nor exhaustive. Rather, the examples cited reflect the current state of follow-up study uses.

1. Career Guidance

Follow-up data are useful in improving career guidance (Hoppock, 1976). By evaluating employment data of former students, insightful data can be provided for advising current students (Newton, 1981). In addition, current students will find the information relevant because it is from former students (McKinney & Oglesby, 1971). Unfortunately, there have been few studies on the employment outcomes of graduates of individual institutions (Kessler, 1979).

Career counselors can help students make realistic career plans based on former students' major, employment opportunities, placement, earnings, and job satisfaction (Hoppock, 1976). Specifically, employment data could answer questions such as: What occupations do graduates enter after majoring in a particular field? Do graduates in this field have more or less difficulty compared to others in finding satisfactory employment? What kinds of starting salaries do graduates of this major obtain upon entering different occupations? How do these salaries compare with salaries of other graduates and graduates in related fields? What kinds of employment activities do graduates from this major perform? What chance do graduates have of doing the kinds of work they seek? (Kessler, 1979).

Information on the kinds of jobs alumni have secured can provide current occupational information on employment trends and the availability and quality of job opportunities in a particular field of study (Hoppock, 1976; McKinney & Oglesby, 1971; Newton, 1981). The advisement department could develop a career profile of former students in

each program for student career information. Employment data could also be used to analyze successful job-finding patterns which could subsequently be incorporated into the advisement process (Newton, 1981).

Employment data about the success of previous students could be given to students. These data would help them identify competencies needed as well as help motivate them to gain competencies in ways shown to result in success (O'Connor, 1965). Dangers of overspecialization which could reduce employment options, make early career decisions irrevocable, or limit possibilities of changing career plans could also be identified (Bisconti, 1979). The data could point out the value of certain work experience for later employment, show different career paths of part-time and full-time graduates, and document patterns of career advancement. As they relate to placement, the data could be used by advisors to develop an index of entry-level jobs and a group of employers for placement contacts (Newton, 1981). Employment data of former graduates could also be used to develop material on the effectiveness of an institution's preprofessional and other career-related programs to help students realize their occupational objectives (Kessler, 1979).

2. Educational Guidance

A second major use of follow-up information is for educational guidance. Follow-up studies can provide information on factors relating to the achievement and success of graduates (Kirk, 1982). They can identify student trends such as decisions about further

education (Bower & Renkiewicz, 1977) as well as assess the preparation of graduates for further education (Ewell, 1983a).

Subcategories of educational guidance include admissions, advising, and retention. Demographic data in particular can provide administrators with information on which to base and evaluate the effectiveness of entrance requirements (O'Connor, 1965). In fact, a University of Michigan Alumni Survey's ("Alumni rate education," 1983) results provided direct input for admissions activities.

Follow-up studies can provide information to be used to counsel and advise students (Ewell, 1983a; Kostelnik, 1984). In addition, it can assist in improving the effectiveness of educational guidance (Hoppock, 1976; O'Connor, 1965). Employment and academic data can be analyzed to determine the influence the undergraduate major has on what kinds of job opportunities will be available (Salter, 1979). Based on employment and academic data provided by alumni, advisors can use this information as a basis for guiding students in course selection and extracurricular participation (O'Connor, 1965). Furthermore, they have a basis for documenting the value of education at a particular institution (Newton, 1981).

Specific demographic data can be integrated into the advising process. Advisors can guide students into particular channels based on experiences of former students. With information on former students' achievement of educational goals, counselors can help students identify competencies needed (Newton, 1981). This information would be relevant

to current students because it was obtained from former students (McKinney & Oglesby, 1971).

Academic data are valuable in building effective retention programs, a third subcategory of educational guidance, by revealing patterns of dissatisfaction and difficulty among different types of students. Demographic data can be useful in identifying and helping potential drop-out students. By knowing special problems of particular student populations, strategies can be developed to help prepare them more effectively for college. This information can also be an impetus to develop support systems for populations with particular problems (Ewell, 1983a). With this information, the number of students who leave or drop out of college before satisfactory completion of their program can be reduced (O'Connor, 1965).

3. Program Planning and Development

One use of follow-up information is for decision making related to program planning and development. Wise, Hengstler, and Braskamp (1981) identified uses of alumni ratings and concluded that the greatest potential utility of these evaluations appears to be for the purpose of program review. In a summary of teacher education follow-up studies from seven diverse institutions, Hord and Hall (1978) indicated that there was a common purpose of using the results for program maintenance, revision, and adaptation. The primary purpose of Educational Testing Service's Graduate Program Self-Assessment (GPSA) Service is to help graduate programs and graduate departments assess their doctoral programs. The GPSA Service collects information about resources,

environment, process, and outcomes to provide a means by which a program can identify its strengths and weaknesses (Clark, 1983).

Academic data can measure graduates' satisfaction with a program. Results can affect the modification, improvement, and development of the program (Flowers, 1978), as well as identify a need for special programs (Ewell, 1983a). The Graduate Program Self-Assessment Service even has a provision to examine the extent to which students, faculty, and alumni agree in their perceptions of the program (Clark, 1983). Also related to program planning and development, demographic data can help decision makers review the program mission in light of student characteristics and achievements to ensure that programs are aimed at the proper audience (Ewell, 1983a). Demographic data can help programs accommodate changes in enrollment (Ewell, 1983b).

Related uses of follow-up information in program planning and development are for curriculum, instructional, and resource-allocation purposes. A University of Michigan Alumni Survey ("Alumni rate education," 1983) assessed graduates' satisfaction with their academic preparation. The information was found to be valuable to individual schools and departments as well as feeder institutions in assessing the effectiveness of the curriculum. As part of its curriculum-review process, the University of Illinois sends an alumni survey to all degree recipients one year after graduation to obtain ratings of their degree program (Whipple & Muffo, 1982). A select review of home economics follow-up studies indicated that a majority of them have an overall purpose of providing a research base for decision making in the

home economics curriculum (Abbott, 1981/1982; Brown, 1958; Fain, 1981/1982; Harken, 1976/1977; Hutchinson, 1971; Jones, 1954; Lowe, 1977; McClendon, 1977; Milbrodt, 1982; Partney, 1972; Pursell, 1976; von dem Bussche, 1969).

Curriculum purposes. Based on professional and career experiences of former students, as revealed by employment data, curriculum plans can be made--existing courses can be modified and new courses can be developed (Newton, 1981; Pace, 1941). Career activities of graduates can be investigated which may reflect advantages and disadvantages of the educational program (Ware & Meyer, 1981). By evaluating program adequacy in preparing graduates for future employment, areas in need of curriculum revision may be determined in order to better meet the needs of students (Hodgkins, 1977). Alumni can also give program evaluators information about skills appraisal, an assessment of the skills needed for success in their current positions, as well as the need for education for mobility within the field (Newton, 1981; Wise, Hengstler, & Braskamp, 1981).

Alumni evaluation of the curriculum can provide specific information about course effectiveness and the proper sequence of courses (Kirk, 1982). These evaluations give instructors feedback on the relevance of material taught (O'Connor, 1965) and indicate what curricular experiences should be retained, eliminated, or revised (Fain, 1981/1982). Academic data can also identify student trends which relate to curriculum, such as choice of major (Bower & Renkiewicz, 1977). Demographic data can identify student needs. This

information can be used to identify areas for curriculum revision to better meet these needs (O'Connor, 1965).

Instructional purposes. Information concerning instructional purposes, another subset of program planning and development, can be derived from academic and demographic data. Academic data can help improve the effectiveness of instruction by providing information about better instructional or systems methods (Kirk, 1982; Weber & Cooper, 1978). Academic data such as alumni ratings of individual faculty members can be a source of evaluative information for rating teaching performance (Wise, Hengstler, & Braskamp, 1981). This information can diagnose the need for staff development (Hord & Hall, 1978) and provide a research base for predicting teacher effectiveness (Shalock, Garrison, Girod, & Meyers, 1978). Alumni can also provide input in evaluating grading standards as well as give instructors feedback on the reasonableness of their standards (O'Connor, 1965).

The Graduate Program Self-Assessment Service provides quality indicators for the educational processes stage of program functioning, which is often omitted in graduate program reviews. Educational processes include assessments of teaching performance as well as faculty-student relations and the learning climate (Clark, 1977). Finally, demographic data can provide input in assessing the degree to which instruction is adapted to meet student needs (O'Connor, 1965).

Resource allocation purposes. A third major concern under program planning and development is that of fiscal decision making and resource allocation. Data from follow-up studies can be used to support

resource allocation decisions and provide a context for developing budgets (Ewell, 1983a). Findings about career plans and achievements can be used to guide policy decisions. Salter (1979) suggested incorporating a career experiences survey into campus policies and decision making. For example, data on the relationship of the undergraduate major to use of the career center, job satisfaction, income, and respondents' reports on how they viewed their undergraduate experiences could provide the campus with a valuable planning and review base. The Graduate Program Self-Assessment Service has developed quality indicators for inputs, another stage of program functioning which includes measurements of financial resources--internal and external--including education and general, financial aid for students, and research (Clark, 1977).

4. Accountability

Another major use of follow-up data is for the purpose of accountability. An educational institution is accountable to the users, accreditation associations, agencies such as the government and university, and to itself. From a perspective of being accountable to the user, O'Connor (1965) defined follow-up as an introspective process by which an educational institution can identify how effectively it meets the needs of its students. He maintained that there has been a tendency to stress evaluation of instruction and administration over the appraisal of student goal attainment. While instructional and

administration evaluation are important, the success of a college in meeting the goals of its students must be considered.

Accreditation groups require follow-up studies as a form of accountability. They may request information on the status and functioning of a program (Clark, 1983), or evidence that ongoing evaluation of graduates is being conducted (Cruickshank, 1977). Accreditation associations also use follow-up information for planning and decision making; as data for recommendations; to evaluate programs, policies, procedures; and to improve conditions (Franchak & Spirer, 1978). The American Home Economics Association requires periodic communication with alumni and follow-up of graduates. This accreditation association requests that the follow-up of graduates provides assessment of their preparation for entry-level professional positions, the relevance of their preparation in relation to the positions they hold, their contributions to the profession, and their professional growth (Haley, 1984).

A third area to which the higher education unit is accountable is agencies such as the government and university. For most institutions, outcomes assessment is almost unavoidable because of federal and state mandates. In response to a demand to show that they make a difference, units are accountable to those who control the use of resources in higher education, such as governing boards which seek ways to allocate resources to the most effective programs (Ewell, 1983a, 1983b). Follow-up data are useful in developing funding requests (Franchak & Spirer, 1978), as well as seeking monetary and nonmonetary support from

the university. Such data are also a means of providing input to policy makers (Dillman, 1978).

While the immediate reason for conducting a follow-up study may be to accommodate external reporting demands of accreditation associations or agencies (Ewell, 1983b), this is only one reason for conducting the study (Newton, 1981). More frequent reasons for conducting a follow-up study are internal--as part of the regular planning cycle, to implement evaluation, to provide data for future directions (Peterson & Uhl, 1977), or to provide justification for existence (Adams, Craig, Hord, & Hall, 1981). The primary user of the follow-up study should be the institution itself. Secondary users should be accreditation associations and other agencies (Franchak & Spirer, 1978).

Employment, academic, and demographic data directly or indirectly relate to all four areas of accountability: the user, accreditation associations, agencies, and the unit itself. A brief review of the ways these data relate to accountability in general, with respect to career guidance, educational guidance, and program planning and development follows.

Career guidance. One area of accountability is career guidance. Employment data can provide information for evaluation of student placement and mobility trends (Paul, 1975), as well as be instrumental in evaluating the competency of placement services (O'Connor, 1965). Furthermore, employment data can determine whether or not graduates find employment in fields related to their educational preparation (Yocum, 1980). Employment and academic data can identify alumni

occupational status and achievement to determine if college education has any relation to the jobs held (Hutchinson, 1971). Finally, employment data can appraise the effectiveness of career guidance and identify outstanding guidance counselors (O'Connor, 1965).

Educational guidance. A second area of accountability of interest to the user, accreditation associations, agencies, and the educational institution itself, is educational guidance. Employment and academic data can provide an account of the school's success in preparing students for employment (Franchak & Spirer, 1978). Specifically, questionnaire items and scales can be used to determine alumni judgments about the value of their educational experience for employment (Clark, 1983). Information for evaluation of the graduates, such as percent employed, salary, and job satisfaction, can also be provided (Paul, 1975). Employment data are one way to ensure effective occupational upgrading. Finally, academic data can be useful in appraising the effectiveness of educational guidance and identifying outstanding advisors (O'Connor, 1965).

Program planning and development. A third area of accountability is program planning and development. With regard to program planning and development, employment, academic, and demographic follow-up data can be used to create accountability structures to ensure that outcomes approach institutional goals (Ewell, 1983a). Employment and demographic data can provide insight concerning the degree to which objectives and competencies are being realized. Academic data that measure graduates' satisfaction with their program can also be used as an

indication of whether program objectives are being met (Flowers, 1978). As well as evaluating the attainment of the institution's mission, the suitability of the objectives can be evaluated (Newton, 1981). Areas where change is needed and points of contention about institutional policy, goals, and priorities can be identified (Baird, 1980).

Follow-up data can also be useful in establishing or clarifying goals and objectives. The establishment and assessment of goals and objectives is necessary for effective planning and decision making (Franchak & Spirer, 1978). For institutions wishing to identify or formulate institutional goals, Educational Testing Service has developed an institutional goals inventory (Peterson & Uhl, 1977), which can be used to implement an accountability process. The American College Testing Program's Evaluation/Survey Service can also help institutions determine goals and objectives.

Follow-up data are a powerful management resource for improving the institution and measuring the effectiveness of change (Baird, 1980). Employment, academic, and demographic data can provide information for improved decision making related to planning and policy formation, and functioning in the institution (Bower & Renkiewicz, 1977; Franchak & Spirer, 1978; Reynolds & Sponaugle, 1982). The information also permits institutions to compare themselves with similar institutions and identify areas needing change (Baird, 1980), as well as to monitor changes in their program over the years. Follow-up data are also useful in providing information for developing comprehensive educational plans.

Follow-up information plays a central role in providing evidence of the service provided by a program and in identifying the effectiveness of a program (McKinney & Oglesby, 1971). It is also useful in assessing needs for, and testing the feasibility of, new programs (Reynolds & Sponaugle, 1982). Of the three major uses of alumni ratings (teaching performance of individual professors, assessment of skills needed for success in their current profession, and assessment of their major department), Wise, Hengstler, and Braskamp (1981) noted that the greatest potential use of alumni ratings appears to lie with program and department reviews. Sharp and Krasnegor (1966) also found follow-up studies to be a useful tool in assessing programs. In fact, Paul (1975) actually defined follow-up as a periodic feedback mechanism for program accountability.

Employment, academic, and demographic data can be used to evaluate or account for educational services. Academic data which measure graduates' satisfaction and dissatisfaction with the program in general as well as various program elements have implications for the user, accreditation associations, agencies, and the educational institution (Flowers, 1978). Program effectiveness can also be determined by identifying the effectiveness of graduates of the program (Shalock, Garrison, Girod, & Meyers, 1978). Employment activities of former students (Pace, 1941) and academic data such as the self-reported professional accomplishments (Clark, 1983) can indicate graduates' effectiveness.

Another indication of program effectiveness can be identified by assessing a wide range of programmatic impacts on students (as evidenced by employment and academic data combined with demographic data) and then comparing student achievement with the institution's goals and objectives. Employment and academic data could assess the students' preparation for professional work (Lyle, 1957), and academic data could evaluate student success in preparation for further education (Ewell, 1982a). Under employment and academic data sections, alumni could be asked their opinion about professional preparation as it relates to their professional development and what has happened to them since graduation (Best, 1977). Partney (1972) conducted a follow-up study to provide future graduates with competencies relevant to a variety of employment opportunities as a part of the process of evaluating the curriculum. Employment and academic data will help identify what should be emphasized in a program to ensure that future graduates have competencies relevant to societal demands (Abbott, 1981).

Other areas of accountability under program planning and development, including graduates' satisfaction with the quality of the instructional system, would be available from academic data. Graduates' evaluation of the adequacy of physical resources could also be obtained from academic data. Furthermore, employment and academic data could indicate a basis from which to allocate resources to the most effective programs (Ewell, 1983a). This information could provide support and justification for budgets and programs.

5. Public Relations

Another major use of follow-up information is for use in public relations by the institution (Kostelnik, 1984), in communication with the community and for recruitment of potential students and faculty. In communication with alumni, follow-up provides a link between graduates and an institution, and helps build good alumni relations (Hodgkins, 1977; Hoppock, 1976; Nelson, 1964; Salter, 1979). By using follow-up data, current students would be more likely to become involved in future follow-up studies (Newton, 1981). One of the reasons Pace (1941) conducted his classic study They Went to College was to stimulate alumni interest. A major reason for conducting the University of Michigan Alumni Survey ("Alumni rate education," 1983) was to provide input for supporting communication efforts and to develop alumni relations.

Follow-up data can be used to update addresses of graduates for alumni fund-raising efforts and to maintain contact with alumni (Hodgkins, 1977; Hoppock, 1967; Salter, 1979). This information can enable more effective solicitation programs to be developed (Mills, 1982). Employment, academic, and demographic data can specifically be used to develop a comprehensive data bank file which can be used as background information for university publications, alumni newsletters, and other publications and reports (Hoppock, 1976; Salter, 1979). The data will also permit an institution to learn about the interests and needs of alumni so they can be better served (Mills, 1982).

Follow-up information can assist in upgrading the image of a program and publicizing the purposes or primary objectives of the program in the community (McKinney & Oglesby, 1971; Paul, 1975). Employment and academic data can be used to influence people's attitudes about how well the educational institution prepares students (Franchak & Spirer, 1978; McKinney & Oglesby, 1971), as well as educate the public about particular programs, policies, or issues (Reynolds & Sponaugle, 1982).

Follow-up information is valuable in building effective recruitment programs (Ewell, 1983a). Employment, academic, and demographic follow-up data can be used to expand information about programs sent to prospective students and their families. Alumni judgments about the value of their educational experiences for employment, self-reported professional accomplishments of graduates, satisfaction with various program elements, and judgments about the adequacy of physical and financial resources, would be of interest (Clark, 1983).

Follow-up information could be used in the form of newspaper articles, brochures, bulletin boards, and group conferences for recruitment (Hoppock, 1976; Salter, 1979). Employment data could be used by advisors or placement personnel in developing career profiles or case histories of former students in each program for recruitment or orientation material. Specifically, findings such as what graduates do in their jobs, what graduates see as further career options, and what experiences have helped them realize their goals could be of interest for orienting prospective and new students (Newton, 1981). Advisors

could also realistically guide prospective students by knowing where graduates got their first jobs (Hoppock, 1976).

An effective presentation of the success of recent graduates in finding employment or furthering their professional development can increase interest in the institution among high-quality students (Ewell, 1983b). Documentation of the benefit of education at a particular institution is a valuable recruitment as well as guidance tool (Newton, 1981). With information on employment and academic successes of alumni, prospective students will have some basis on which to choose a program of study (Ewell, 1983b).

Demographic data combined with academic and employment follow-up data can be helpful in determining what kinds of students should be recruited (Ewell, 1983a). Follow-up studies can identify the difficulties and potential difficulties of students and can also document their success and achievements, both of which are important in developing effective recruitment strategies. With information on special problems of particular student populations, such as older or part-time students, the institution may be able to develop special recruitment materials for these students. The institution can help prospective students from these groups more effectively prepare themselves for college work and/or assure these students that appropriate support services are available to meet their needs. One university developed a recruitment strategy based on reviewing the success of its minority graduates and by stressing the kinds of high school preparation required to perform effectively (Ewell, 1983b). Potential faculty can

also be recruited with information on the quality of the institution and other faculty members.

The Role of Graduates in Follow-Up Study

One way to determine the value of an educational program is to study graduates, or the products, of a program (Fifield & Watson, 1968; Mann & Tims, 1960). Kells (1983) maintained that it is valuable to receive information from graduates as well as about them. Therefore, graduates' reactions and suggestions should be sought. According to Nelson (1964), the graduate may be the most significant indicator of the effectiveness of an educational institution. The institution must therefore be aware of the status, adequacy, and success of the graduate, the institution's product.

Although enrolled students provide an important perspective in assessing departmental quality (Braskamp, Wise, & Hengstler, 1979), alumni may provide more appropriate ratings in evaluating certain aspects of programs, such as career guidance (Wise, Hengstler, & Braskamp, 1981). In fact, Clark, Hartnett, and Baird (1976) maintained that recent alumni have a better perspective about program procedures, requirements, and content than current students. In addition, alumni tend to be more objective than faculty members.

Because they have gone through the educational system, alumni are in a position to evaluate their experiences and provide information about the competencies needed and used as employed graduates (Pursell, 1976/1977). University administrators appear to have confidence in alumni ratings. Clark (1977) surveyed department chairpersons and

reported that almost 60% considered alumni responses to be "very important" information in departmental reviews and evaluations for departmental use.

Since a graduate is the most important product of an educational institution and probably one of the better determinants of a program's effectiveness, von dem Bussche (1969) maintained that a program's effectiveness can be determined by studying the professional work of its graduates. Spafford (1949) went as far as stating that the success and failure of an institution's graduates provide a measure for determining whether the institution's goals are being met. Nelson (1964) disagreed with Spafford and contended that the success or failure of graduates cannot totally be a result of having attended a particular institution or not. Rather, he maintained that human behavioral research data must be interpreted and used carefully.

In using graduates' appraisals to evaluate a program, researchers should be aware of the feed-forward problem, an aspect of socialization (Katz, Raths, Mohanty, Kurachi, & Irving, 1981). Graduates may recommend experiences and activities that were provided but were resisted, not attended to, or not learned by them at the time. The feed-forward problem is an aspect of socialization.

Follow-up data used to ascertain teacher effectiveness should also be interpreted and used carefully. Although graduates' evaluations can be used to evaluate instructors, it should be remembered that teachers who are rated low may be excellent. In terms of using students or graduates to evaluate courses, it should also be remembered that

students tend to rate courses according to how they feel about the instructor (Franchak & Spirer, 1978). Finally, alumni program ratings should be interpreted in light of years since graduation and time of program changes. Alumni may give an accurate indication of the way they experienced a program, but the program may have changed since they graduated (Clark, 1983).

Human Ecology/Home Economics Follow-Up Studies

Many human ecology/home economics follow-up studies have been conducted. However, relatively few have examined graduates' assessment of preparation for professional positions by their undergraduate program as addressed by this study. A review of selected human ecology/home economics follow-up studies that deal with this question follows.

Kostelnik (1984) conducted a follow-up study of students who graduated from the Child Development Program in the College of Human Ecology at Michigan State University between 1980 and 1983. A purpose of the study was to assess graduates' satisfaction with their undergraduate education from the Department of Family and Child Ecology. Graduates rated the child development program as extremely useful in relation to their employment.

In a study of Oklahoma State University home economics graduates, Fain (1981/1982) found that there was a significant difference between job satisfaction and the opinions of graduates about their professional preparation programs offered by the Division of Home Economics at Oklahoma State University. She also found a significant difference

between the number of years since graduation from Oklahoma State University and opinions about the professional preparation programs. Job satisfaction appeared to be related to how graduates perceived their professional preparation programs. Graduates who had higher job satisfaction mean scores had positive reactions to statements about their professional preparation programs. In contrast, those who had lower job satisfaction scores had negative opinions to statements about their professional preparation programs. Of the graduates who had positive opinions about their professional preparation programs, the proportion of 1979 graduates was more than double for either the 1974 or 1976 graduates.

A survey of Michigan State University College of Human Ecology 1978 dietetics graduates was conducted (Uhl, 1980) to assist in curriculum review. Information was obtained about the employment and educational status of the graduates and their perceptions about the dietetics program. With regard to satisfaction with preparation for employment, graduates rated 15 of the 17 subject areas as preparing them "well" or "adequately" for employment. The remaining two subject areas were rated "less than adequate." Overall, graduates reported they were well prepared for employment by the dietetics curriculum.

In a study of the employment status and opinions of home economics graduates toward their professional preparation, Yocum (1980) surveyed home economics education baccalaureate graduates in Alabama from 1973 through 1977. Information relative to graduates' opinions of the extent to which their respective institutions prepared them for

employment were assessed. The majority of respondents indicated they had been prepared "very well" or "extremely well" in foods, clothing, and personal and family living. Areas respondents perceived their poorest preparation to be in art, consumer economics, housing, and resource management. Overall, graduates held strong, positive attitudes about their employment positions.

As reported in "Satisfaction of Home Economics Department Graduates With Their Career Preparation," Lowe (1977) surveyed 1966 through 1975 graduates of the Home Economics Department at California Polytechnic State University, San Luis Obispo. The purpose of the study was to determine whether or not graduates were satisfied with their preparation for home economics careers. Opinions concerning preparation were analyzed by year of graduation and area of study. Questions concerning instruction, facilities and equipment, advising, placement, and work experience were asked in relation to satisfaction with career preparation.

Lowe (1977) found that graduate satisfaction with the home economics program fluctuated over the years, with 1967 graduates being the most satisfied with the home economics program and 1968 graduates the least satisfied. Although graduates in the area of teaching were the most satisfied with their preparation, followed by general home economics and then dietetics/food administration majors, little difference in satisfaction was evident. Concerning particular aspects of the program, graduates were satisfied with the general home economics curriculum, instruction, and facilities and equipment in

preparing them for careers. However, graduates indicated a lack of satisfaction with advising, work experience, and job-placement assistance in the Home Economics Department.

McClendon (1977) conducted a follow-up study of Florida Agricultural and Mechanical University clothing and home economics education students who graduated between 1965 and 1975. A purpose of the study was to assess graduates' perceptions of the effectiveness of the home economics courses in preparing them for professional positions. A majority of the home economics education graduates who were employed felt academically prepared for their current professional positions. In contrast, the majority of the currently employed clothing graduates did not feel well prepared for their positions. In relation to their current employment positions, graduates rated specialization courses highly beneficial and home economics core courses beneficial.

The purpose of a study by Bates (1973) was to determine the relevancy of the home economics and related courses as perceived by graduates from three Arizona universities. Students who graduated between 1968 and 1972 were surveyed. Results indicated that graduates rated almost half of the courses as "beneficial" or "adequate" to develop professional and personal competencies.

As a means of evaluating the home economics curriculum, Clemens (1971) surveyed members of the American Home Economics Association's home economist in business section listed in a 1970 membership directory. The group was surveyed to determine how graduates evaluate their preparation for employment. She found nearly half of the home

economists rated their undergraduate education as "very adequate" or "adequate." It was also determined that nearly half of the respondents were very satisfied or satisfied with their choice of major in home economics.

In a follow-up study of The Florida State University home economics graduates, von dem Bussche (1969) sought to determine the contribution of the college program to preparation for careers in specific areas of home economics. Graduates from 1960 to 1964 rated their programs. Slightly more than half of the graduates considered their college preparation to be very helpful and adequate in relation to their professional life. By department, the majority of graduates from clothing and textiles, food and nutrition, and home and family life rated the contribution of the college program in preparation for a career in home economics very helpful and adequate. Lower ratings were made by graduates of the Departments of Home Economics Education and General Home Economics, the majority of whom rated their professional preparation as helpful but not adequate.

A follow-up study by Norton (1964) surveyed home economics graduates of the University of New Hampshire from 1953 to 1962. These graduates were asked to rate the effectiveness of the university's program of home economics in preparing them for professional and family life. Slightly more than half rated their professional preparation as "adequate and very helpful," and the rest rated their preparation for family living as "adequate and very helpful." The subjects indicated a need for more emphasis on the practical aspects of the program.

One of the purposes of the study conducted by Cross (1960) was to determine how Columbia University graduates felt about their preparation for teaching home economics. The study revealed that a majority of the respondents felt that they had adequate preparation. Areas in which graduates felt inadequately prepared for teaching were food production, housing, home improvement, and community relationships.

College and university divisions of home economics in the southern region of the United States participated in a study designed to evaluate the effectiveness of the programs in meeting the needs of students for professional endeavors (Stephens, 1957). Data were secured through two questionnaires directed to administrators and graduates of the divisions. Findings indicated that the general education programs were not adequately meeting the needs of the students. Findings also indicated some weaknesses in the basic home economics programs.

Lyle (1957) conducted a follow-up study of home economics graduates at Iowa State College between 1933 and 1952. In answer to the question "How do you rate the education you obtained as preparation for professional work?" the majority of those who had used their professional training thought it had been "very helpful and adequate." Others rated it "helpful but not adequate."

Abernathy and McFarland (1954) conducted a follow-up study at the University of Minnesota to obtain graduates' attitudes toward college experiences for use in curricular decisions. Data were secured from graduates and nongraduates of the College of Agriculture, Forestry, and

Home Economics. McFarland and Abernathy reported that close relationships were found between curriculum experiences and the first and present job activities of home economics graduates. The majority of respondents reported that many of the on-the-job tasks had been related to their school training. They also rated their total programs as having been "very useful and valuable" or as "useful and valuable" in preparing them for their work. Dropouts gave much less favorable evaluations than those who had completed their programs.

Uses of This Study

Results of this study can be used for purposes as indicated in this chapter: career guidance, educational guidance, program planning and development (including curriculum, instructional, and resource allocation purposes), accountability (including career guidance, educational guidance, and program planning and development), and public relations. Periodic follow-up of graduates can provide information on changes over time, which will indicate areas of improvement from previous studies and new areas for review. Periodic study will also help produce evidence for cause and effect. Opinions expressed by graduates surveyed are limited to the College of Human Ecology at Michigan State University. Other institutions interested in the results should exercise caution in generalizing these findings.

CHAPTER III

METHODOLOGY

This research is a component of the larger College of Human Ecology 1978-79 and 1982-83 alumni follow-up study conducted by Associate Dean Norma Bobbitt and the author. Data from that survey were used by the researcher to assess baccalaureate graduates' perceptions of the adequacy of undergraduate program preparation for employment. This chapter includes descriptions of the design of the study, instrumentation, operational definitions, sample, analysis of nonrespondents, techniques of data collection, and procedures for data analyses.

Design of the Study

The research design for this study was explanatory, exploratory, and descriptive, with the purpose of accurately describing recent and longer-term graduates of the College of Human Ecology and assessing their perceptions of the adequacy of preparation for employment by their undergraduate program. All individuals completing requirements for a baccalaureate degree in the College of Human Ecology during the academic years 1978-79 and 1982-83 were surveyed to permit analysis of departments in the College. Graduates of the academic years 1978-79 and 1982-83 were surveyed because these years represent recent and long-term graduates. Students who graduated in 1978-79 were chosen because of an

ability to evaluate their preparation in light of intervening employment and educational experiences. Graduates from 1982-83 were surveyed because of their recent perspective on undergraduate experiences.

Data were collected by a self-administered mail questionnaire because of its capability of obtaining a high response rate as well as accurate answers. Subjects can be easily located and reached over a geographically dispersed area. Other advantages are that it requires few people to administer and entails lower costs than the interview method.

A cross-sectional design was selected because of the high costs of time and money associated with longitudinal studies. However, a longitudinal design was approximated by examining cross-sectional data from two groups of students who graduated in two different academic years.

Instrumentation

The self-administered instrument, College of Human Ecology 1978-79 and 1982-83 Alumni Survey (see Appendix A), was developed by Bobbitt and the author. The purpose of the study was identified by the American Home Economics Association's Accreditation Documents for Undergraduate Programs in Home Economics (Haley, 1984). Guidelines for periodic follow-up of graduates were modified from this document as follows.

The follow-up of graduates provides assessment of:

IA. their preparation for professional positions

IB. their preparation for entry-level professional positions

IIA. their assessment of career advising

IIB. their preparation for career advancement

III. their preparation for advanced study

IV. the relevance of their preparation in relation to positions held

V. their contributions to the profession through professional organizations

VI. their professional growth

An extensive review of follow-up instruments was conducted. Follow-up study instruments previously used in the College of Human Ecology at Michigan State University (Bayle, 1976; College of Home Economics, 1969; Dannison & Van Dussen, 1982; Everett, 1973; Hughes, 1978; Kostelnik, 1984; Marcus, 1975; Uhl, 1980) and many other educational institutions were reviewed. Follow-up instruments provided by commercial organizations such as Educational Testing Service, the American College Testing Program, and National Center for Higher Education Management Systems were also considered. Other follow-up instruments reviewed include those developed by placement offices, the American Home Economics Association, and business and industry.

After reviewing existing follow-up instruments, a list of possible categories of questions was identified, based on the American Home Economics Association accreditation objectives (Haley, 1984). Questions related to these categories were listed and tracked in anticipation of data analysis. Bobbitt and the author presented the study objectives, a list of questions, and possible means of tracking the

questions to the College of Human Ecology Executive Committee for their input concerning topics they deemed to be of importance in meeting their needs in planning, evaluating, and projecting change. On the basis of the Executive Committee's suggestions, further decisions were made regarding final selection of questions. Duplicate information available from student records was eliminated in order to reduce the length of the questionnaire.

The resulting draft of the questionnaire, which consisted of questions modified from existing instruments, was reviewed by experts in the areas of question construction, questionnaire design, data processing, computer programming, and data analysis. Based on their suggestions, another draft was developed. Before surveying the target group, the draft was field tested twice, once by three graduates representing the three departments and once by 13 seniors representing each of the majors. These individuals were not included in the target sample. Based on the suggestion of C. G. Eberly, Assistant Director of Admissions and Scholarships (personal communication, April 28, 1984), each respondent was interviewed concerning adequacy of the directions, clarity of the questions, and length of time required to complete the questionnaire. Comments obtained from field testing were reviewed with Associate Dean Bobbitt. Common suggestions were incorporated into the final draft of the questionnaire. Franchak and Spirer (1978) indicated that although field testing is often overlooked or given little attention, it saves time by improving the response rate, reducing missing data, and increasing the reliability of the instrument.

To ensure reliability, Babbie (1983) suggested several points. First, construct an instrument that asks relevant questions the respondent is likely to be able to answer. Second, be clear on what is asked so the subject's own unreliability can be reduced. Third, incorporate specificity. Fourth, ask for the same information more than once by using the same or similar questions. Last, use measurements that have been proven reliable in previous research.

Babbie's points on reliability were utilized in development of the instrument to ensure reliability. By conducting a pretest of the instrument on students and graduates in each major, subjects identified questions they felt unable to answer. Based on their suggestions, which also helped promote clarity and specificity, appropriate changes were made in the questionnaire. A panel of evaluation experts were consulted to ensure the inclusion of clear, relevant questions. Several questions relating to adequacy of preparation for professional positions, a dependent variable in this analysis, were asked to promote reliability. Finally, questions were adapted from Educational Testing Service's (Clark, 1983) alumni questionnaires which have been tested for reliability and validity. Educational Testing Service also helped promote the reliability of the College of Human Ecology 1978-79 and 1982-83 Alumni Survey by reviewing the instrument and making recommendations for revision.

According to Babbie (1983), survey research is generally strong on reliability because of the standard instrument which eliminates unreliability in observations. To document the reliability of this

instrument, Cronbach's alpha was computed on items measuring attitude or opinion. Baird (1976) indicated that self-reported factual information is very reliable. In fact, self-reported grade point averages usually correlate about .85 with transcript records, and reports on employment or personal information are rarely found to be inaccurate. Validity has been promoted by pilot testing the instrument and consulting experts. According to Babbie (1983), the validity of a survey research measurement is inherently high because each person is asked the same question by a standardized instrument.

The final version of the self-administered mail questionnaire, College of Human Ecology 1978-79 and 1982-83 Alumni Survey, consisted of 32 questions which were categorized into three major sections: academic information, employment information, and demographic information. Specifically, the employment section was designed to obtain information of concern to the present research on employment status, type of employment, primary employment activity, and income as it related to first and current positions of the baccalaureate graduates. This section also assessed baccalaureate graduates' perceptions of the adequacy of preparation by their undergraduate program for first and current positions.

Additional data that had not been requested in the questionnaire, such as sex, grade point average, and year of graduation, were obtained from an Alumni/Donor Records master file list and the Registrar's final degree list. The instrument included fixed alternative, Likert-type,

and open-ended questions. In concordance with the Michigan State University Committee on Research Involving Human Subjects (UCRIHS) requirements, the instrument and a brief proposal were submitted for approval.

Compared to other follow-up questionnaires, the College of Human Ecology 1978-79 and 1982-83 Alumni Survey has many strengths because developers of the instrument had an opportunity to learn from previous efforts. As previously stated, input from experts and potential users was sought, the instrument was field tested twice, measures were taken to ensure validity, and the questionnaire was tested for validity. Other strengths of this instrument include the careful attention which was paid to writing the questions, constructing the questionnaire, and implementing the survey based on procedures which have been very effective in the past. By developing a questionnaire which was tailored to objectives of the study, results were especially relevant to the purpose of the study. Another strength of the instrument is the inclusion of composite measures which permits development of indexes, an efficient data-reduction device that provides a more comprehensive and accurate picture. The questionnaire also analyzed employment outcomes of graduates, which, according to Kessler (1979), has been done by few studies.

Operational Definitions[a]

Employment Status. A baccalaureate graduate's affirmative or negative response to the question, "Are you currently employed?" (Appendix A, Item 14). This was used as an independent variable in Hypothesis 1.

Type of Employment. Seven response choices are included in the statement, "Indicate your first/current type of employment": university or college; elementary, intermediate, or secondary school; Cooperative Extension Service; nonprofit agency or institution; business or industry; government; self-employment/private practice (Appendix A, Item 17). For purposes of analysis, some groups were collapsed and the following categories were created: education (including university or college and elementary, intermediate, or secondary school) (Items 17a & b); Cooperative Extension Service and government (Items 17c & f); nonprofit agency or institution and self-employment/private practice (Items 17d & g); and business or industry (Item 17e). Since responses for the first position had a higher reliability on perceived adequacy of preparation for professional positions, the question was analyzed for first type of employment. This was used as an independent variable in Hypotheses 2 and 3.

Primary Employment Activity. Based on the seven home economics occupational clusters, graduates were asked to indicate their primary

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[a]Questions were numbered for clarification in writing the report. The instrument was not originally numbered because of design considerations.

activity for their first/current position(s) (Appendix A, Item 18). The occupational clusters are administration or management; design, manufacturing, or processing; marketing, merchandising, or sales; media; scientific or professional; service; education; and other. Since responses for the first position had a higher reliability on perceived adequacy of preparation for professional positions, the first primary employment activity was analyzed. Because different first primary employment activities emerged for each department, these activities were collapsed by department. First primary employment activities for FCE graduates were grouped as administration or management (Item 18a); design, manufacturing or processing, marketing, merchandising or sales, scientific or professional, and other (Items 18b, c, e, & h); service (Item 18f); and education (Item 18g). No FCE graduates had a first primary employment activity in media (Item 18d).

Categories of first primary employment activities that emerged for FSHN graduates were administration or management (Item 18a); marketing, merchandising or sales, service, education, and other (Items 18c, f-g); and scientific or professional (Item 18e). No FSHN graduates reported having a first primary employment activity in design, manufacturing, or processing (Item 18b); or media (Item 18d). Administration or management (Item 18a); design, manufacturing, or processing (Item 18b); marketing, merchandising, or sales (Item 18c); and media, scientific or professional, service, education, and other (Items 18d-h) are four first primary employment activities that became evident for HED

graduates. The independent variable, first primary employment activity, was employed in Hypothesis 5.

Advanced Study. A respondent was identified as having pursued advanced study if the individual answered the question "If you have pursued study beyond the bachelor's degree, to what extent did your MSU undergraduate degree prepare you for advanced study?" (Appendix A, Item 3). This was used as an independent variable in Hypotheses 3, 4, and 5.

Income. The independent variable income (Appendix A, Item 20), as used in Hypothesis 6, originally consisted of eight income categories: less than $10,000; $10,000-$14,999; $15,000-$19,999; $20,000-$24,999; $25,000-$29,999; $30,000-$34,999; $35,000-$39,999; and $40,000 or above. The categories were reduced to three: less than $10,000; $10,000-$14,999; and $15,000 or above due to limited responses in the original categories.

Department. As used in Hypotheses 1, 2, 4, 5, and 7, the independent variable department was measured by Item 30 (Appendix A). Respondents indicated one of 13 areas in which they majored. Majors were collapsed into departments. Child development and teaching, family and consumer resources, family ecology, home economics education, family ecology/communication arts, and consumer-community services or family community services (Items 30a-f) comprise majors offered in FCE. FSHN offers the dietetics, foods or foods and nutrition, and nutrition or nutritional sciences (Items 30k-m) majors. Majors in HED are clothing and textiles, retailing of clothing and textiles or merchandising

management, interior design, and human environment and design (Items 30g-j).

Year of Graduation. Measurements on the independent variable year of graduation were obtained from student records. This variable was employed in Hypothesis 7.

Perceived Adequacy of Preparation for Professional Positions. The mean score of each individual's responses to the three questions "How would you rate (preparation for professional employment) in your MSU undergraduate major/program?" (Appendix A, Item 1j), "How would you rate your MSU undergraduate experience in improving your ability to (function as a professional on the job)?" (Appendix A, Item 2d), and "To what extent did your MSU undergraduate degree prepare you for your first position?" (Appendix A, Item 19) formed an index which was used as the dependent variable for Hypotheses 1, 2, 3, 4, 5, 6, and 7. To permit construction of this index, the order of responses for Items 1j and 2d were altered from excellent, good, fair, poor, no opinion to excellent, good, no opinion, fair, poor. This more closely approximated the responses of Item 19: not at all; some, but not much; adequately; quite a bit; a great deal.

Concerning Item 19, only responses regarding preparation for the first position as opposed to the current position were averaged in the index, since responses for the first position had a higher reliability than responses for the current position. Cronbach's alpha and standardized item alpha indicated that alpha equals .70 for Items 1j, 2d, and 19 (first position) compared to an alpha of .02 for Items 1j,

2d, and 19 (current position). The difference in reliability may be explained by the perception that the current position is not as related to perceived adequacy as is the first position. From the graduates' perspective, at least, functioning in the first position may rely more on their college experience, whereas functioning in the current position may depend more on previous employment experience. Graduates may perceive that functioning in their current position has no relationship to perceived adequacy of preparation for professional positions.

Description of the Sample

The study population consisted of all bachelor's degree graduates of the College of Human Ecology during the academic years 1978-79 and 1982-83. The population was surveyed to permit analysis of departments in the College. Ewell (1983b) maintained that a survey of the student population is preferred over a sample because it eliminates the need to make assumptions about how the sample corresponds to the population, sampling strategies do not have to be devised, and most important, responses can be broken down into departmental or divisional levels where the information is more often of greater use to decision makers. Franchak and Spirer (1978) concurred that the best method for gathering information is to survey the population as did Taylor (1971), who posited that the entire population is more desirable in an institutional setting because academic deans usually prefer information on all of the graduates versus a select sample. For alumni studies, Clark (1983) also recommended surveying all students who graduated in the year(s) selected for study. In a review of higher education research

studies, Taylor (1971) found that about one-quarter of the follow-up studies sampled subjects while the remainder studied the entire population.

Fain (1981/1982) conducted a follow-up study of Oklahoma State University home economics graduates and selected the sample by the number of years ago that the graduates had completed their programs. Michigan State University College of Human Ecology subjects were also selected by the number of years ago that they had graduated. Using 1983-84 as year one, the academic years 1982-83 and 1978-79 were selected, representing students who graduated 1 and 5 years ago. Abrahamson (1983) indicated that the population should be defined in relation to study objectives. In other words, the decision about whom to study should be based on whose opinions are relevant to the purpose of the study (Clark, 1983).

Wolosin (1972) suggested surveying people who have been out of school for a while to obtain an assessment of the program that is "mediated by intervening experience and a sense of perspective of the students' college years" (p. 1). McKinney and Oglesby (1971) maintained that former students must be out of school for a sufficient amount of time, at least 1 year, to be able to reflect on the relevance and helpfulness of their previous educational experience. Furthermore, Ewell (1983b) suggested conducting a survey when the item of interest is happening to the individual, which permits a better identification of intangibles such as feelings and attitudes.

Since the purpose of this study was to assess graduates' perceptions of the adequacy of preparation for employment by their undergraduate program, it was decided to survey students who had graduated 1 year ago and 5 years ago. Kells (1983) maintained that all graduates of the last 5 years provide relevant information to improve current programs. Longer-term alumni (1- to 5-year graduates) can best answer questions about their postgraduate education and occupational experiences since they begin to follow relatively stable career directions (Ewell, 1983b).

Names of individuals who graduated from the College of Human Ecology during the academic years 1978-79 and 1982-83 were obtained from the Registrar's final degree list. Addresses of the graduates were provided by Alumni/Donor Records. Discrepancies between the two sources were checked and reconciled. A list of individuals with inaccurate nonforwardable addresses was sent to faculty and administrators to update these addresses.

Techniques of Data Collection

Data were collected from 1978-79 and 1982-83 graduates of the College of Human Ecology baccalaureate degree program by a self-administered mail questionnaire. The self-administered method was selected because of its ability to cost efficiently survey a large number of subjects (Williamson, Karp, Dalphin, & Gray, 1982). According to Dillman (1978), it is probably the only method to survey college alumni who are geographically dispersed around the world. Other advantages are that it has the potential of obtaining a high response rate

(Williamson et al., 1982), ensures uniform and reliable results, and enables flexible analysis. It also requires few people to administer and costs less than the interview method.

The mail survey was implemented based on Dillman's (1978) Total Design Method, which theoretically views social research as a process of social exchange. This method emphasizes detailed attention to each part of the survey process. The Spring 1984 edition of the College of Human Ecology Alumni Association newspaper, the Ecologue, carried a brief notice about the upcoming survey with the intention of increasing the return rate.

The initial mailing consisted of a cover letter, a 3" x 5" card, the questionnaire, and a return envelope. The cover letter (Appendix B) explained what the study was about and emphasized its importance, attempted to convince the respondent that his/her response was essential, identified a due date, assured confidentiality and explained the purpose of the identification number, reemphasized the purpose of the study, explained the means of obtaining a copy of the results, and made provisions for answering questions. The cover letter and all other correspondence were dated the day they were to be mailed. Names and addresses of each respondent were individually typed on the cover letter to achieve greater personalization, the College's letterhead stationery was used to distinguish it from mass mailings, and each cover letter was hand signed. A 3" x 5" bold-typed card was added to emphasize the due date.

The first mailing was conducted September 4, 1984. All mailings were mailed on Tuesdays so that all questionnaires could be received within the same week they were mailed, including those that needed to be forwarded. According to Dillman (1978), Tuesday mailings are preferred to Mondays because of the weekend build-up of mail at the post office.

One week later, September 11, 1984, a reminder/thank-you postcard (Appendix C) was sent to everyone. The card indicated that a questionnaire had been sent a week ago and why it had been sent. It thanked early respondents, emphasized why everyone's response was important, and gave provisions for replacing the questionnaire if it had been misplaced. The reminder/thank-you postcard was also individually signed.

Three weeks after the initial mailing, a modified cover letter, 3" x 5" card, replacement questionnaire, and return envelope were sent to nonrespondents. The second cover letter (Appendix D) was shorter in length, indicating that their questionnaire had not yet been received. It restated the importance of each respondent to the study and how they were selected. Again, the letter was hand signed. Another 3" x 5" card was included to indicate the new due date. "Please Forward" was typed on all correspondence to achieve a higher response rate, as recommended by Franchak and Spirer (1978). Although Dillman (1979) specified a third follow-up should be sent by certified mail, a decision was made not to conduct any further mailings.

Undeliverable addresses were referred to Alumni/Donor Records for updating or reference addresses. When Alumni/Donor Records could not provide current or reference addresses, College of Human Ecology faculty were again requested to provide updated addresses for these individuals. It is possible that a significant percentage of nonresponse is due to inaccurate addresses (Lansing & Morgan, 1971). Although some questionnaires that do not reach the respondents are returned, many are thrown away or forwarded to a second outdated address.

Each questionnaire was processed and examined as it was returned. This helped maintain a list of those needing to be recontacted. It also helped identify potential problems that could be corrected in a follow-up letter. Of the 922 (100.0%) questionnaires mailed, 47 (5.1%) were known to have inaccurate or nonforwardable addresses. Four (0.4%) of the returned questionnaires were unusable. An adjusted base of 871 resulted from subtracting the names of 47 graduates who had undeliverable addresses and omitting the four unusable surveys (see Table 1, columns A and B). The total number of usable, returned questionnaires was 540 or 62% (see Table 1, column C).

Analysis of Nonrespondents

Although Babbie (1983) maintained that a response rate of at least 60% is "good," it is important to have some indication of the representativeness of the respondents, and hence, the generalizability of the results. To determine whether or not bias was present in the College of Human Ecology 1978-79 and 1982-83 Alumni Survey, demographic characteristics of nonrespondents were compared to demographic

characteristics of respondents. This information was obtained from student records. The technique of comparing demographic characteristics of respondents to those of nonrespondents to determine nonresponse bias was chosen because it was suggested in the literature and has been utilized in studies such as the 1979 AHEA Membership Survey (Fanslow, Andrews, Scruggs, & Vaughn, 1980).

Table 1: Response Rate of Follow-Up Questionnaire

Questionnaires	A N	B Percent of Total	C Percent Usable
Total mailed	922	100.0	--
Undeliverable	47	5.1	--
Unusable	4	0.4	--
Adjusted base	871	94.5	100.0
Total usable responses	540	58.6	62.0

To determine whether or not nonrespondents differed significantly from respondents, the chi-square technique was employed. Expected values were the proportions from the College of Human Ecology 1978-79 and 1982-83 Alumni Survey multiplied by the number of nonrespondents. Table 2 shows results of the chi-square test, proportions for respondents, frequencies for respondents in the nonrespondents study, and expected values. Table 2 indicates that there is a statistically significant difference between respondents and nonrespondents. In the cases of department, year of graduation, and grade point average, data

Table 2: Chi-square Value Reflecting Relationship Between College of Human Ecology 1978-79 and 1982-83 Alumni Survey Respondents and Nonrespondents

Characteristic[a]	Respondents (Proportion)[b]	Nonrespondents (Number)[c]	Expected Values (Number)	X^2 Value
30. Department				
Family and Child Ecology (FCE)	0.28	77	30.24	12.07*
Food Science and Human Nutrition (FSHN)	0.27	67	26.31	2 df
Human Environment and Design (HED)	0.45	238	93.46	
31. Year of Graduation				
1978-79	0.51	232	209.64	9.02*
1982-83	0.49	150	172.36	1 df
33. Grade Point Average				
Less than 2.49	0.15	87	67.53	22.55*
2.50 to 2.99	0.36	155	145.43	3 df
3.00 to 3.49	0.35	111	124.30	
3.50 to 4.00	0.15	29	44.75	

[a] Items are numbered to correspond to questions as they appear in the survey.

[b] Proportions are the number of responses to the question divided by the actual number (N = 540) of respondents.

[c] Based on 382 nonrespondents.

*$p < 0.05$.

from the respondents did not show the same distribution of characteristics compared to the total graduates.

After examining the findings that suggest bias exists for these three variables, additional study of nonresponse bias was done. A further review of the literature indicated that the comparison of demographic data to determine nonresponse bias is technically less valid than other methods (Bower & Renkiewicz, 1977). Whipple and Muffo (1982) maintained that a comparison of known demographics of nonrespondents to respondents overlooks the fact that important attributes under investigation in the study may be independent of the available demographic data. From this perspective, nonresponse bias may not exist, especially since a high response rate was achieved.

Characteristics of Respondents and Nonrespondents

Concerning bias that can arise due to nonresponse, the only consistent finding identified by Kanuk and Berenson (1975) is that respondents tend to be better educated than nonrespondents. Wallace (1954) reported almost no difference in occupation and a number of other socioeconomic characteristics between respondents and nonrespondents. In contrast, Robins (1963) discovered respondents had higher-level occupations, but found no significant differences in social or personality variables. Compared to Robins, however, Ognibene (1970) found respondents to be higher in leadership, gregariousness, and reading habits.

Based on the assumption that late respondents are more similar to nonrespondents than early respondents, Donald (1960) and Frary, Elson, and Gerken (1981) found that late respondents are more negative in their responses. However, Whipple and Muffo's (1982) study indicated the opposite; on-time respondents were found to have less favorable responses. The lack of conclusive evidence about characteristics of respondents compared to nonrespondents points out the need to follow up nonrespondents to mail surveys with the purpose of increasing the response rate. This technique was employed in the present study by the use of the thank-you/reminder postcard and second mail package. Another technique to ensure generalizability of the results is to analyze nonresponse bias based on important attributes other than demographic data.

Analysis of Data

Responses on the returned, usable questionnaires were edited for incomplete or inconsistent responses and errors. Judgments about coding the open-ended responses into categories were verified by the research directors. Inconsistencies in coding were identified and rectified until consensus between coders was achieved. Coding for open-ended and close-ended questions was spot-checked by a subgroup of the coders for quality control. If intercoder reliability was less than 90%, coders were retrained. All data were keypunched and mechanically verified by the Computer Center's Data Preparation Service at Michigan State University. Consistent with the study objectives and hypotheses, the Statistical Package for the Social Sciences (Nie, Hull,

Jenkins, Steinbrenner, & Bent, 1975) program was used for analysis of the data. Variance of the dependent variable through the use of the statistic analysis of variance (ANOVA) was examined for the whole sample and for separate subgroups created on the basis of independent variables (Babbie, 1983). The probability of a Type I error was set at .05 for all hypotheses.

CHAPTER IV

FINDINGS

This study assessed baccalaureate graduates' perceptions of the adequacy of preparation for employment by their undergraduate program. The particular variables were chosen because they answered the research objectives, were suggested in the review of literature, and were of interest to the author. Based on the research objectives and review of literature, the following hypotheses were established and tested:

Research Objective 1: To assess baccalaureate graduates' perceptions of the adequacy of their preparation by their undergraduate program in relation to employment status, type of employment, primary employment activity, advanced study, and income category.

Ho 1: There is no significant difference among department, employment status, and graduates' perceptions about the adequacy of their preparation for professional positions.

Ho 2: There is no significant difference among type of employment, department, and graduates' perceptions about the adequacy of their preparation for professional positions.

Ho 3: There is no significant difference among type of employment, advanced study, and graduates' perceptions about the adequacy of their preparation for professional positions.

Ho 4: There is no significant difference among department, advanced study, and graduates' perceptions about the adequacy of their preparation for professional positions.

Ho 5: There is no significant difference among primary employment activity, department, and graduates' perceptions about the adequacy of their preparation for professional positions.

Ho 6: There is no significant difference among income, advanced study, and graduates' perceptions about the adequacy of their preparation for professional positions.

Research Objective 2: To compare the perceptions of graduates by their department and year of graduation as they relate to perceptions about employment preparation.

Ho 7: There is no significant difference among department, year of graduation, and graduates' perceptions about the adequacy of their preparation for professional positions.

The analysis of variance statistical procedure was used to test the hypotheses. Results of the tests of hypotheses are presented and discussed within the content of the research objectives. Application of the results to the human ecological framework is also presented.

Research Objectives and Hypotheses

The purpose of the first research objective was to assess baccalaureate graduates' perceptions of the adequacy of their preparation by their undergraduate program in relation to employment status, type of employment, primary employment activity, advanced study, and income category. Six hypotheses were generated. Each null hypothesis is presented separately and discussed.

Hypothesis 1

Ho 1: There is no significant difference among department, employment status, and graduates' perceptions about the adequacy of their preparation for professional positions.

Findings. The first part of the hypothesis, which states that there is no significant difference between the department in which students graduated and how they perceive the adequacy of preparation

for professional positions, was rejected. However, the remaining section of the hypothesis was not rejected. There was no significant difference between graduates' employment status and perceptions about professional preparation, nor for interaction between department and employment status and perceived adequacy of preparation.

Results of Hypothesis 1. The analysis of variance disclosed a significant difference for the effect of department, F (2,471) = 5.36, $p < .05$, regardless of employment status. Graduates' perceptions regarding adequacy of preparation for professional positions varied by department. There were relatively large differences in department mean scores. FCE graduates had the highest mean score (M = 3.25, N = 133) for perceived adequacy of professional positions, followed by FSHN (M = 3.07, N = 113) and then HED (M = 2.88, N = 231).

Mean scores for the two categories of employment status, employed and unemployed, were almost the same at 3.02 (N = 422) and 3.09 (N = 55), respectively. The analysis of variance indicated no significant difference for employment status, F (1,471) = .05, $p > .05$. Regardless of the effect of department, graduates' perceived adequacy of professional preparation did not vary by employment status.

For interaction between department and employment status (see Figure 4), employed FCE graduates (M = 3.25, N = 114) perceived greater adequacy of professional preparation than did unemployed FCE graduates (M = 3.21, N = 19), although the mean difference of .04 was minimal. Surprisingly, unemployed FSHN graduates (M = 3.25, N = 16) perceived greater adequacy of professional preparation than did employed FSHN

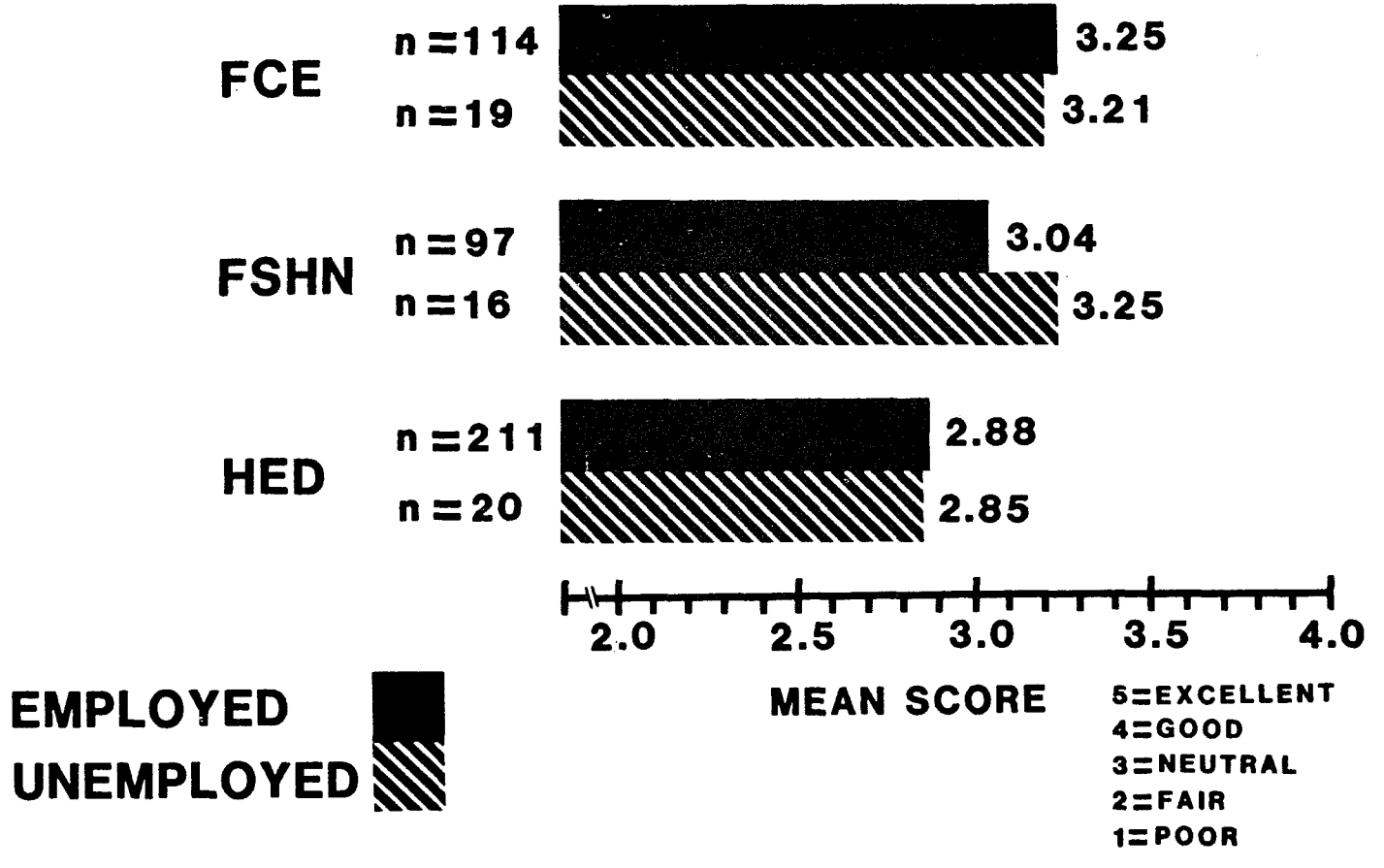

Figure 4: Perceived adequacy of preparation for professional positions as a function of department and employment status.

graduates (M = 3.04, N = 97) with a substantial mean difference of 0.21. As with FCE graduates, employed HED graduates (M = 2.88, N = 211) perceived greater adequacy of professional preparation than did unemployed HED graduates (M = 3.25, N = 16), although the mean difference of 0.03 was also slight. The analysis of variance disclosed no statistically significant interaction between department and employment status, F (2,471) = .26, p > .05. Graduates' perceptions concerning professional preparation did not vary for departments and employment status in interaction (see Table 3).

Table 3: Analysis of Variance of the Effects of Department and Employment Status on Perceived Adequacy of Preparation for Professional Positions

Source of Variation	df	Mean Square	F	Significance of F
Main Effects	2	4.00	3.65	.013
Department	2	5.86	5.36	.005
Employment Status	1	.05	.05	.830
Interaction	2	.29	.26	.768
Department & Employment Status	2	.29	.26	.768
Explained	5	2.51	2.30	.044
Residual	471	1.09		
Total	476	1.11		

Hypothesis 2

Ho 2: There is no significant difference among type of employment, department, and graduates' perceptions about the adequacy of their preparation for professional positions.

Findings. The initial part of the hypothesis was rejected. There was a significant difference between the type of employment graduates hold and their perceptions about the adequacy of preparation for professional positions. The latter section of the hypothesis was not rejected. In this analysis there was no significant difference between the department in which students graduated and their perceptions about adequacy of professional preparation. Nor was there any significant difference between type of employment and department in interaction as related to perceptions of adequacy of preparation.

Results of Hypothesis 2. The analysis of variance indicated a significant difference for type of employment (education, Cooperative Extension Service/government, nonprofit agency or institution/self-employment/private practice, and business or industry), F (3,464) = 5.45, $p < .05$, regardless of department. Graduates' perceptions toward their professional preparation varied by their type of employment. Graduates who were employed in education had the highest mean score (M = 3.38, N = 81) for perceived adequacy of professional positions. Individuals who worked for nonprofit agencies or institutions, were self-employed, or in private practice, had the second highest mean score (M = 3.28, N = 99) followed by Cooperative Extension Service/government employees (M = 3.23, N = 31) and then business employees (M = 2.81, N = 265).

Perceived adequacy mean scores for FCE, FSHN, and HED graduates were 3.25 (N = 133), 3.07 (N = 113), and 2.88 (N = 230), respectively. Analysis of variance disclosed no significant difference for department, F (2,464) = .54, p > .05. Regardless of the effect of employment type, graduates' perceptions about their professional preparation did not vary by department. Because the response rate for the question type of employment was less than the overall response rate to the questionnaire, the main effect of department was not significant.

As shown in Figure 5, interaction between type of employment and department was analyzed. For employment in education, from highest to lowest, mean scores for FCE, HED, and FSHN were 3.54 (N = 53), 3.50 (N = 10), and 2.85 (N = 18). For Cooperative Extension Service/government employment, mean scores followed the same order by department. Means for FCE, HED, and FSHN were 3.58 (N = 8), 3.11 (N = 9), and 3.10 (N = 14), respectively. For nonprofit/self-employment/private practice, FCE had the highest mean score on perceived adequacy for professional positions (M = 3.32, N = 35) followed by FSHN (M = 3.31, N = 16) and then HED (M = 3.11, N = 18). In business employment, FSHN graduates perceived the highest adequacy for professional positions (M = 2.87, N = 35) followed by HED (M = 2.82, N = 193) and then FCE (M = 2.68, N = 37). When tested, analysis of variance revealed no significant interaction between type of employment and department, F (6,464) = 1.29, p > .05. Graduates' perceived adequacy of preparation for professional positions did not vary for type of employment and department in interaction (see Table 4).

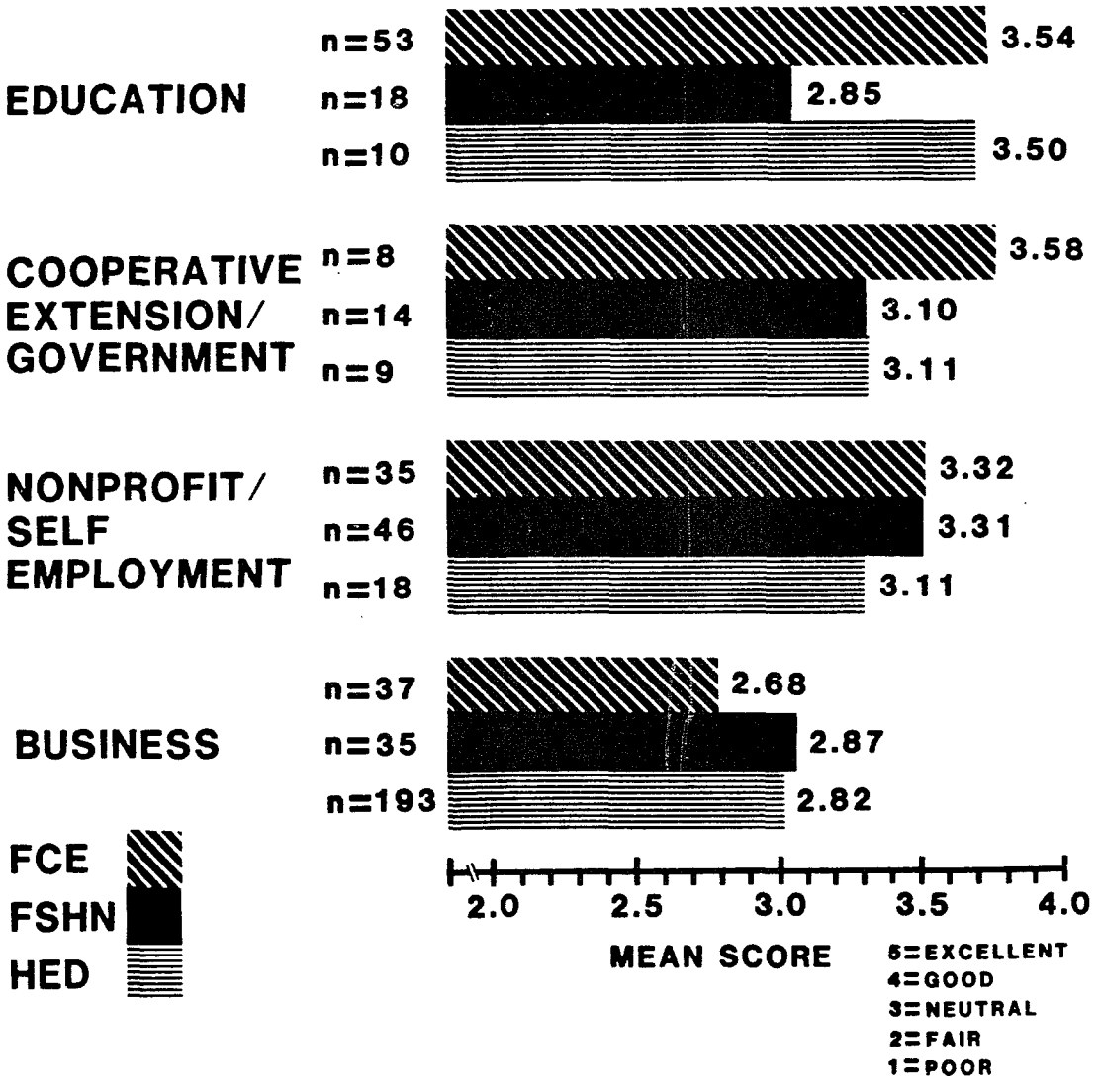

Figure 5: Perceived adequacy of preparation for professional positions as a function of type of employment and department.

Table 4: Analysis of Variance of the Effects of Type of Employment and Department on Perceived Adequacy of Preparation for Professional Positions

Source of Variation	df	Mean Square	F	Significance of F
Main Effects	5	6.37	6.08	.001
Type of Employment	3	6.76	5.46	.001
Department	2	.57	.54	.582
Interaction	6	1.35	1.29	.259
Type of Employment x Department	6	1.35	1.29	.259
Explained	11	3.63	3.47	.001
Residual	464	1.05		
Total	475	1.11		

Hypothesis 3

Ho 3: There is no significant difference among type of employment, advanced study, and graduates' perceptions about the adequacy of their preparation for professional positions.

Findings. Only the first part of the hypothesis was rejected. There was a significant difference between the type of employment graduates held and their perceptions about preparation for professional positions. Sections of the hypothesis dealing with pursuit of advanced study and perceptions about professional preparation in addition to the interaction between the type of employment and whether or not graduates had pursued advanced study as it relates to perceived adequacy of preparation were not rejected.

Results of Hypothesis 3. The analysis of variance indicated a significant difference for the effect of type of employment, F (3,468) = 9.48, $p < .05$, regardless of having pursued advanced study or not. Graduates' perceptions varied by type of employment concerning adequacy of preparation for professional positions. Relatively large differences in type of employment mean score were evident. The highest mean score was for graduates employed in education (M = 3.38, N = 81). In descending order, other type of employment mean scores were 3.28 (N = 99) for nonprofit agencies or institutions or self-employment or private practice, 3.23 (N = 31) for Cooperative Extension Service or government employees, and 2.81 (N = 265) for graduates working in business.

There was no significant difference for the effect of advanced study, F (1,468) = .06, $p > .05$, regardless of the effect of type of employment. Respondents who had pursued advanced study had a slightly higher mean score (M = 3.07, N = 216) than persons who had not pursued advanced study (M = 2.99, N = 260). Graduates' perceptions about their professional preparation did not vary by whether or not they had pursued advanced study.

For type of employment and advanced study in interaction (see Figure 6), education employees who had pursued advanced study had a higher mean score (M = 3.40, N = 47) than education employees who had not pursued advanced study (M = 3.35, N = 34). The same pattern existed for nonprofit employees, those who were self-employed, or those in private practice. Individuals who had pursued advanced

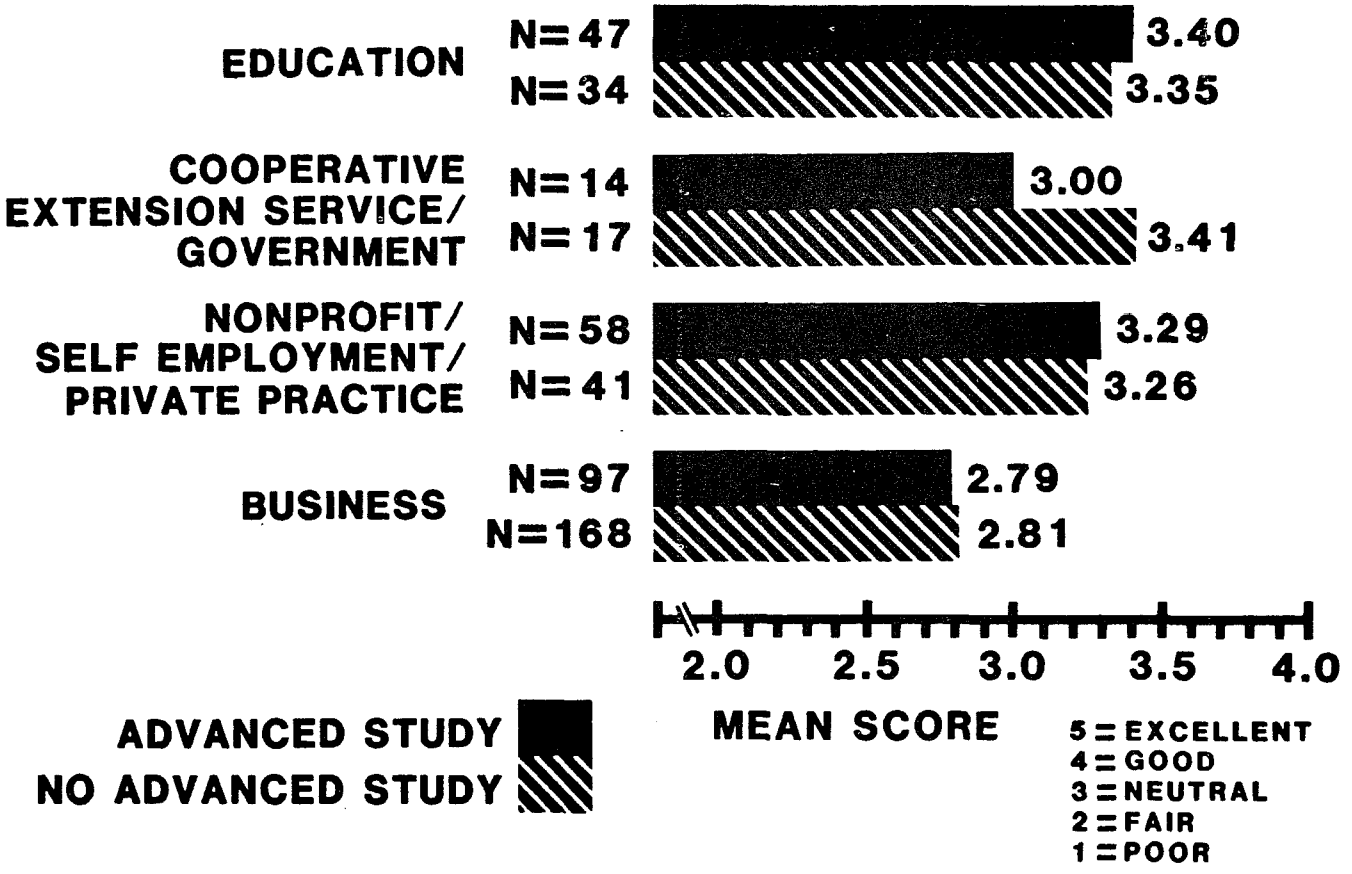

Figure 6: Perceived adequacy of preparation for professional positions as a function of type of employment and advanced study.

study had a higher mean score (M = 3.29, N = 58) than did the same employees who had not pursued advanced study (M = 3.26, N = 41).

In contrast, graduates employed in Cooperative Extension Service/ government and business followed the opposite pattern. Those who had not pursued advanced study had higher mean scores than persons who had pursued advanced study. For Cooperative Extension Service/government employees who had not pursued advanced study (M = 3.41, N = 17), the mean difference was the greatest at 0.41 points higher than for employees who had pursued advanced study (M = 3.00, N = 14). For business employees the difference in mean scores (0.02) was the least for all types of employment. Business employees who had pursued advanced study had a perceived adequacy mean score of 2.81 (N = 168) compared to 2.79 (N = 97) for those who had not pursued advanced study. The analysis of variance did not reveal a significant interaction between type of employment and advanced study, F (3,468) = 0.43, p > .05. Graduates' perceived adequacy of preparation for professional positions did not vary for the interaction of type of employment and advanced study (see Table 5).

Hypothesis 4

Ho 4: There is no significant difference among department, advanced study, and graduates' perceptions about the adequacy of their preparation for professional positions.

Findings. The hypothesis was rejected for the main effect of department. It was not rejected for the effect of advanced study, nor for department and advanced study in interaction.

Table 5: Analysis of Variance of the Effects of Type of Employment and Advanced Study on Perceived Adequacy of Preparation for Professional Positions

Source of Variation	df	Mean Square	F	Significance of F
Main Effects	4	7.69	7.29	.001
Type of Employment	3	9.99	9.48	.001
Advanced Study	1	.06	.06	.814
Interaction	3	.45	.43	.735
Type of Employment x Advanced Study	3	.45	.43	.735
Explained	7	4.59	4.35	.001
Residual	468	1.06		
Total	475	1.11		

Results of Hypothesis 4. There was a significant difference for the effect of department, F (2,471) = 5.22, $p < .05$, regardless of advanced study. Graduates' perceptions varied by department regarding adequacy of preparation for professional positions. There were relatively large differences in mean scores by department. FCE graduates felt the best prepared (M = 3.25, N = 133), followed by FSHN (M = 3.07, N = 113), and then HED graduates (M = 2.88, N = 231).

The mean difference for graduates who had or had not pursued advanced study was minimal (0.08). Graduates who had studied beyond the bachelor's degree felt better prepared with a mean score of 3.07 (N = 217) than did graduates who had not pursued advanced study (M = 2.99, N = 260). When tested, the analysis of variance did not indicate a

significant difference for the effect of advanced study, F (1,471) = 0.11, $p > .05$. Regardless of the effect of department, graduates' perceptions concerning professional preparation did not vary by advanced study.

For interaction between department and advanced study, FCE and FSHN graduates who studied beyond the bachelor's degree perceived themselves to be better prepared than did their counterparts who had not pursued advanced study, with mean differences of 0.13 and 0.15, respectively. As shown in Figure 7, FCE graduates who had pursued advanced study had a mean score of 3.31 (N = 69) compared to 3.18 (N = 64) for those who had not engaged in advanced study. For FSHN graduates who had studied beyond the bachelor's degree, there was a mean score of 3.14 (N = 61) compared to 2.99 (N = 52) for the same group who had not pursued advanced study. HED graduates followed a different pattern. Those who had not studied beyond the bachelor's degree felt better prepared for professional employment (M = 2.91, N = 144) than did HED graduates who had pursued advanced study (M = 2.82, N = 87), although the mean difference of 0.09 was slight. The analysis of variance disclosed no statistically significant interaction between department and advanced study, F (2,471) = 0.73, $p > .05$. For department and advanced study in interaction, graduates' perceptions regarding the adequacy of professional preparation did not varv (see Table 6).

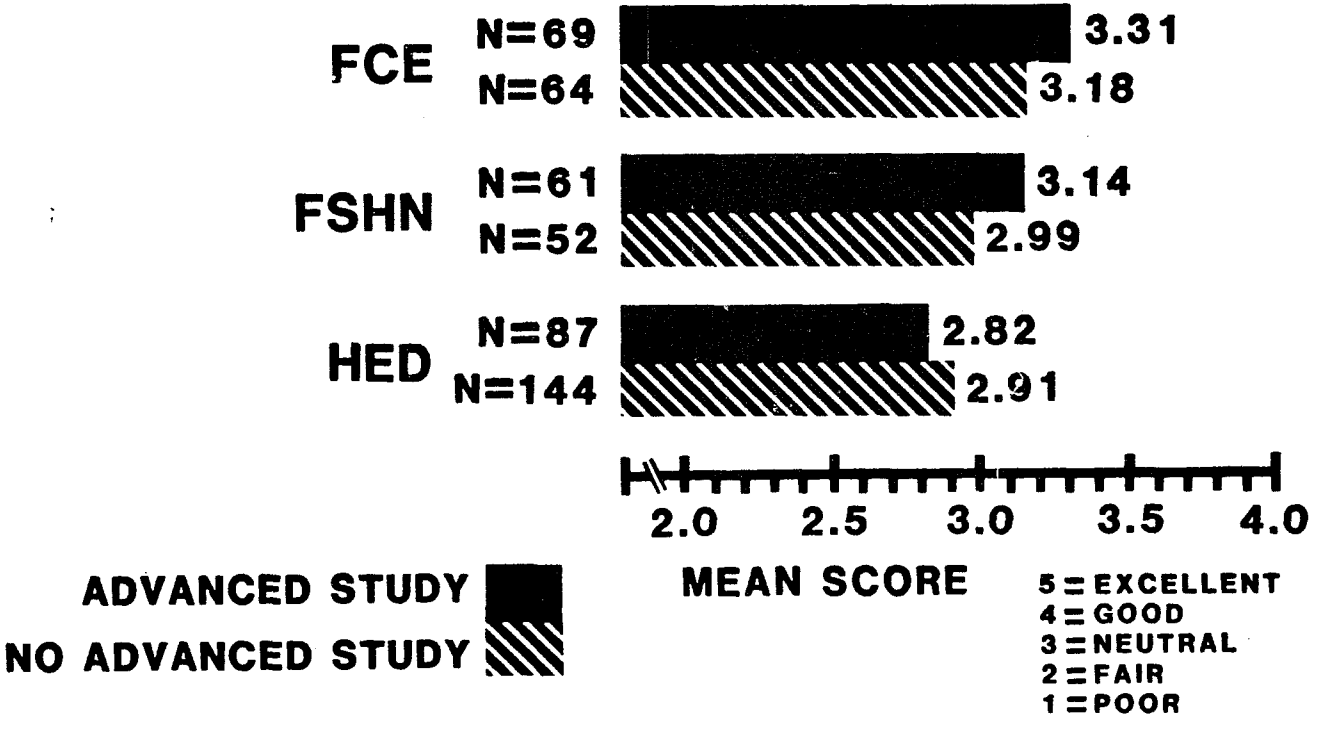

Figure 7: Perceived adequacy of preparation for professional positions as a function of department and advanced study.

Table 6: Analysis of Variance of the Effects of Department and Advanced Study on Perceived Adequacy of Preparation for Professional Positions

Source of Variation	df	Mean Square	F	Significance of F
Main Effects	3	4.01	3.69	.012
Department	2	5.70	5.22	.006
Advanced Study	1	.12	.11	.741
Interaction	2	.79	.73	.485
Department x Advanced Study	2	.79	.73	.485
Explained	5	2.73	2.50	.030
Residual	471	1.09		
Total	476	1.11		

Hypothesis 5

Ho 5: There is no significant difference among primary employment activity, department, and graduates' perceptions about the adequacy of their preparation for professional positions.

Findings. The hypothesis was rejected for FCE and FSHN department graduates. There was a significant difference between the primary employment activity for FCE and FSHN graduates and how they perceived their preparation for professional positions. The null hypothesis was not rejected for HED department graduates. Because primary employment activities were different for each department, this analysis was conducted separately by department.

Results of Hypothesis 5. The analysis of variance indicated a significant difference for FCE graduates' primary employment activity,

F (3,128) = 6.35, $p < .05$ (see Table 7). FCE graduates' perceived adequacy of professional preparation varied by their primary employment activity (administration; marketing, scientific, and other; service; and education). From highest to lowest, FCE graduates whose primary employment activity was education indicated a mean score of 3.64 (N = 65). Mean scores for primary employment activities of administration; service; and marketing, scientific, and other were 3.03 (N = 23), 2.96 (N = 18), and 2.67 (N = 26) (see Figure 8).

Table 7: Analysis of Variance of the Effect of Primary Employment Activity for FCE Graduates on Perceived Adequacy of Preparation for Professional Positions

Source of Variation	df	Mean Square	F	Significance of F
Main Effects	3	7.04	6.35	.001
FCE Primary Employment Activity	3	7.04	6.35	.001
Explained	3	7.04	6.35	.001
Residual	128	1.17		
Total	131	1.24		

As shown in Table 8, the analysis of variance disclosed a significant difference for FSHN graduates' primary employment activity, F (2,110) = 7.03, $p < .05$. FSHN graduates' perceived adequacy of professional preparation varied by their primary employment activity (administration; marketing, service, education, and other; and scientific).

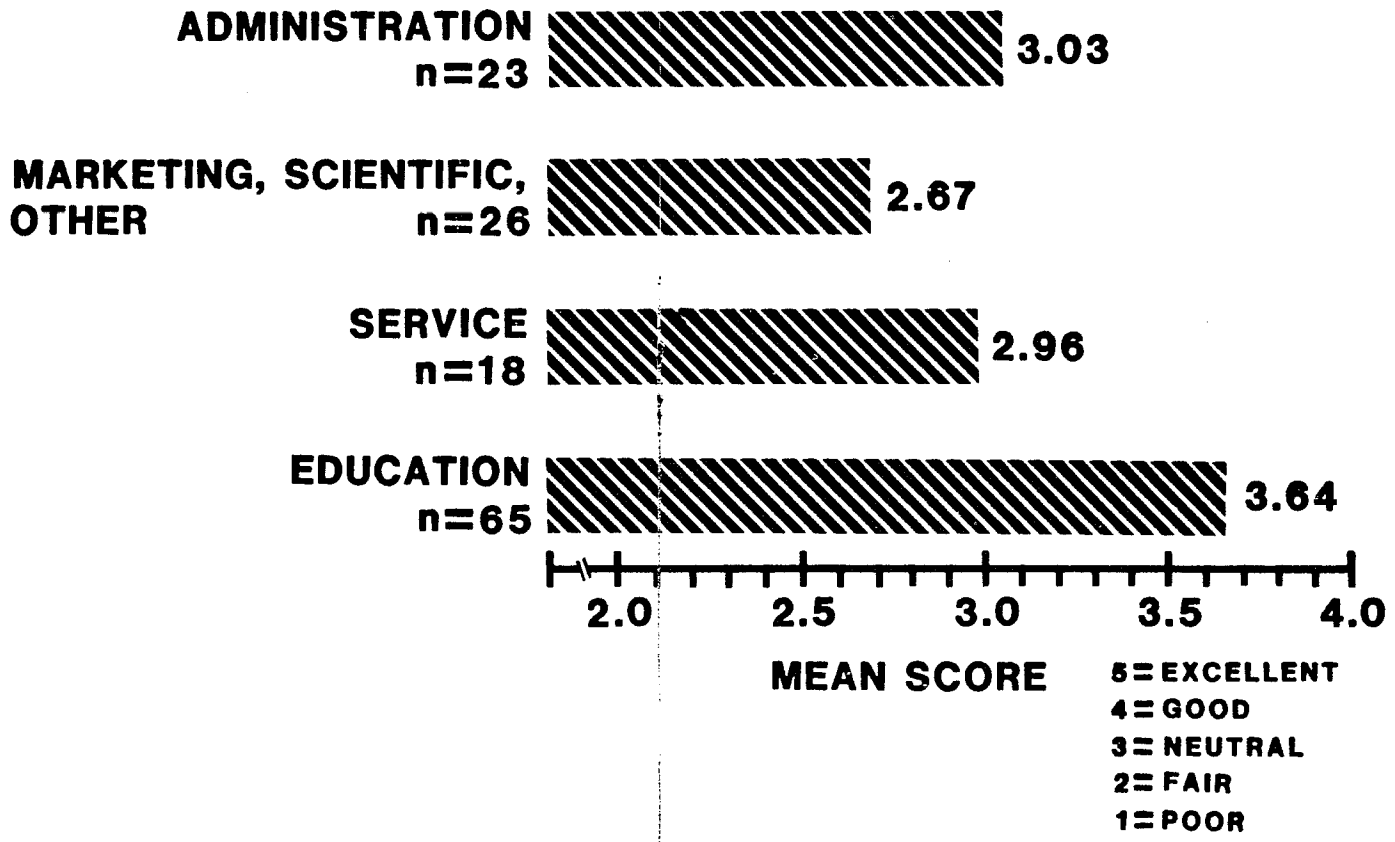

Figure 8: Perceived adequacy of preparation for professional positions as a function of FCE graduates' primary employment activities.

FSHN graduates whose primary employment activity was scientific indicated a mean score of 3.49 (N = 43). Mean scores for primary employment activities of marketing, service or other, and administration were 2.87 (N = 38) and 2.76 (N = 32) (see Figure 9).

Table 8: Analysis of Variance of the Effect of Primary Employment Activity for FSHN Graduates on Perceived Adequacy of Preparation for Professional Positions

Source of Variation	df	Mean Square	F	Significance of F
Main Effects	2	6.07	7.03	.001
FSHN Primary Employment Activity	2	6.07	7.03	.001
Explained	2	6.07	7.03	.001
Residual	110	.86		
Total	112	.95		

As shown in Figure 10, HED graduates whose primary employment activity was marketing indicated the highest mean score for perceived adequacy of professional preparation (M = 3.00, N = 84). In descending order, mean scores for primary employment activities of administration; media, scientific, service, education, or other; and design were 2.89 (N = 87), 2.77 (N = 31), and 2.62 (N = 29). When tested, however, analysis of variance disclosed no statistically significant difference for HED graduates' primary employment activity, F (3,227) = 1.07, p >

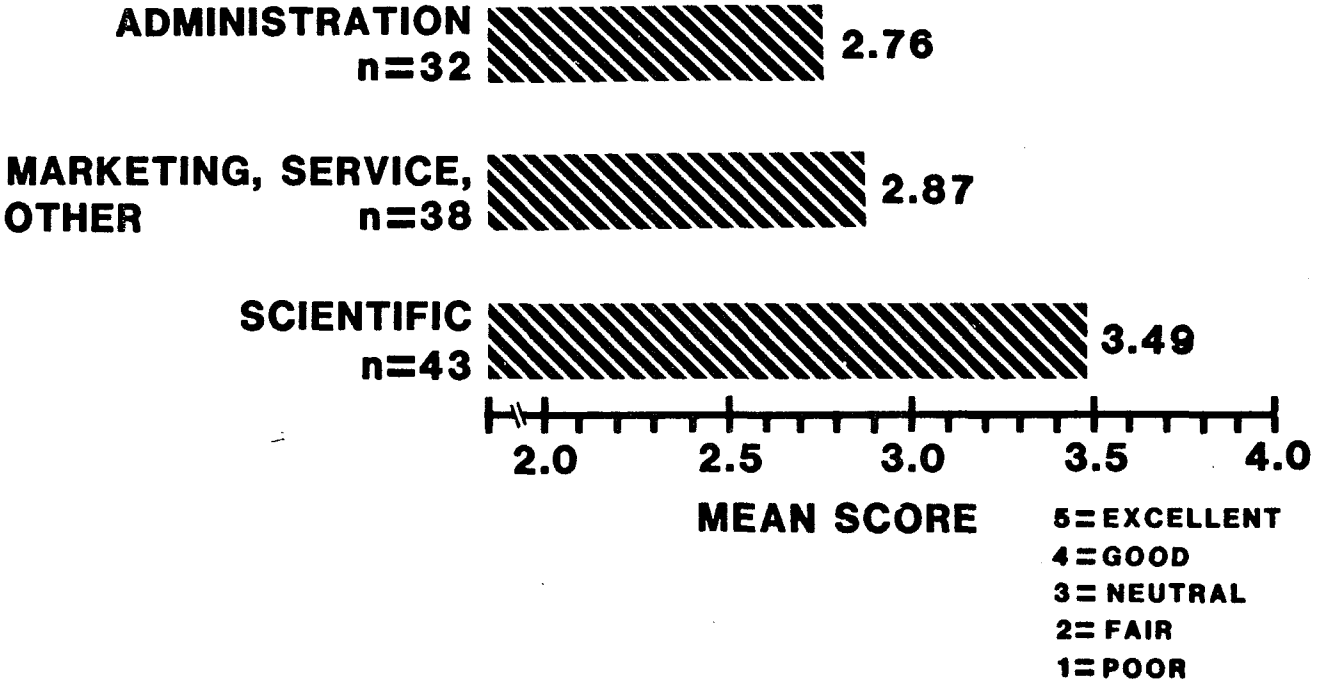

Figure 9: Perceived adequacy of preparation for professional positions as a function of FSHN graduates' primary employment activities.

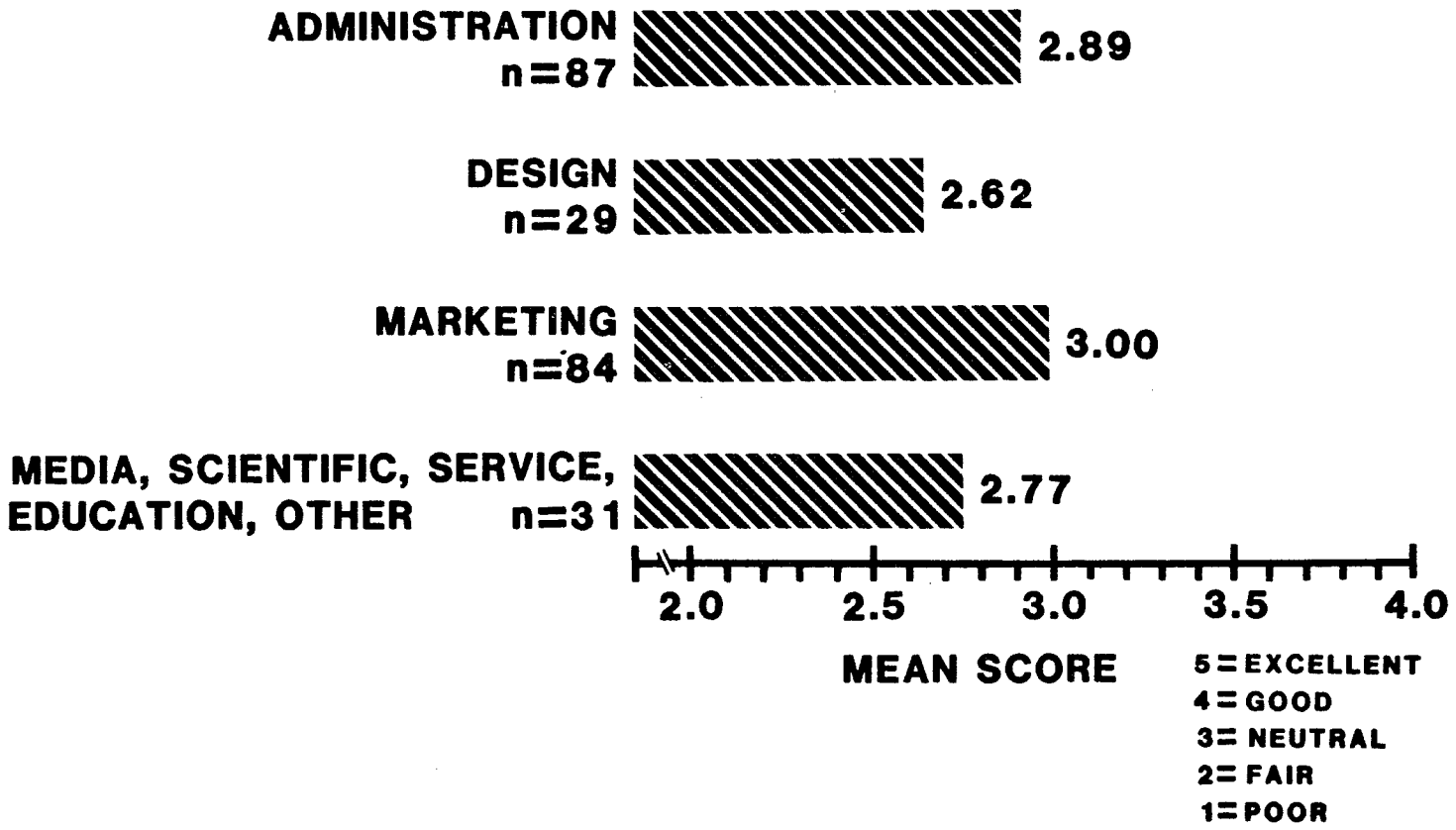

Figure 10: Perceived adequacy of preparation for professional positions as a function of HED graduates' primary employment activities.

.05 (see Table 9). HED graduates' perceived adequacy of professional preparation did not vary by their primary employment activity.

Table 9: Analysis of Variance of the Effect of Primary Employment Activity for HED Graduates on Perceived Adequacy of Preparation for Professional Positions

Source of Variation	df	Mean Square	F	Significance of F
Main Effects	3	1.14	1.07	.362
HED Primary Employment Activity	3	1.14	1.07	.362
Explained	3	1.14	1.07	.362
Residual	227	1.07		
Total	230	1.07		

Hypothesis 6

Ho 6: There is no significant difference among income, advanced study, and graduates' perceptions about the adequacy of their preparation for professional positions.

Findings. The hypothesis was rejected for the main effect of income. It was not rejected for the effect of advanced study, nor for interaction between income and advanced study.

Results of Hypothesis 6. According to the analysis of variance, there was a significant difference for the main effect of income, $F(2,461) = 3.23$, $p < .05$, regardless of advanced study. Graduates' perceptions varied by income regarding adequacy of preparation for professional positions. Graduates who earned $15,000 and above

felt the best prepared (M = 3.22, N = 128). Surprisingly, persons earning less than $10,000 felt the next best prepared (M = 3.02, N = 167), followed by graduates in the income category $10,000 to $14,999 ($M$ = 2.91, N = 172).

Although there was a mean difference of only 0.08, graduates who had pursued advanced study felt better prepared (M = 3.08, N = 212) than graduates who had not studied beyond the bachelor's degree. The analysis of variance did not indicate a significant difference for the effect of advanced study, F (1,461) = 0.67, $p > .05$. Regardless of the effect of income, graduates' perception did not vary by advanced study regarding professional preparation.

Analysis was conducted for income and advanced study in interaction. For the income categories of less than $10,000 and $15,000 and above, graduates who had pursued study beyond the bachelor's degree felt better prepared for professional employment than did graduates in these income categories who had not pursued advanced study. Although there was a mean difference of only 0.08, graduates earning less than $10,000 who had pursued advanced study had a mean score of 3.06 (N = 73) compared to 2.98 (N = 94) for those who had not studied beyond the bachelor's degree. The largest mean difference (0.29) in advanced study was for graduates earning $15,000 and above. Persons who had studied further had a mean score of 3.38 (N = 57) compared to 3.09 (N = 71) for those who had not pursued advanced study. In contrast, graduates earning between $10,000 and $14,999 who had not pursued advanced study had a higher mean score (M = 2.95, N = 90) compared to those who

had studied beyond the bachelor's degree (M = 2.88, N = 82), with a 0.07 mean difference (see Figure 11). When tested, the analysis of variance did not reveal a statistically significant interaction between income and advanced study, F (2,461) = 1.05, $p > .05$. Graduates' perceptions concerning professional preparation for income and advanced study in interaction did not vary (see Table 10).

Table 10: Analysis of Variance of the Effects of Income and Advanced Study on Perceived Adequacy of Preparation for Professional Positions

Source of Variation	df	Mean Square	F	Significance of F
Main Effects	3	2.58	2.35	.072
Income	2	3.55	3.23	.040
Advanced Study	1	.73	.67	.414
Interaction	2	1.15	1.05	.350
Income x Advanced Study	2	1.15	1.05	.350
Explained	5	2.01	1.83	.106
Residual	461	1.10		
Total	466	1.11		

The second research objective was to compare the perceptions of graduates by department and year of graduation as they relate to perceptions about employment preparation. The following hypothesis was generated.

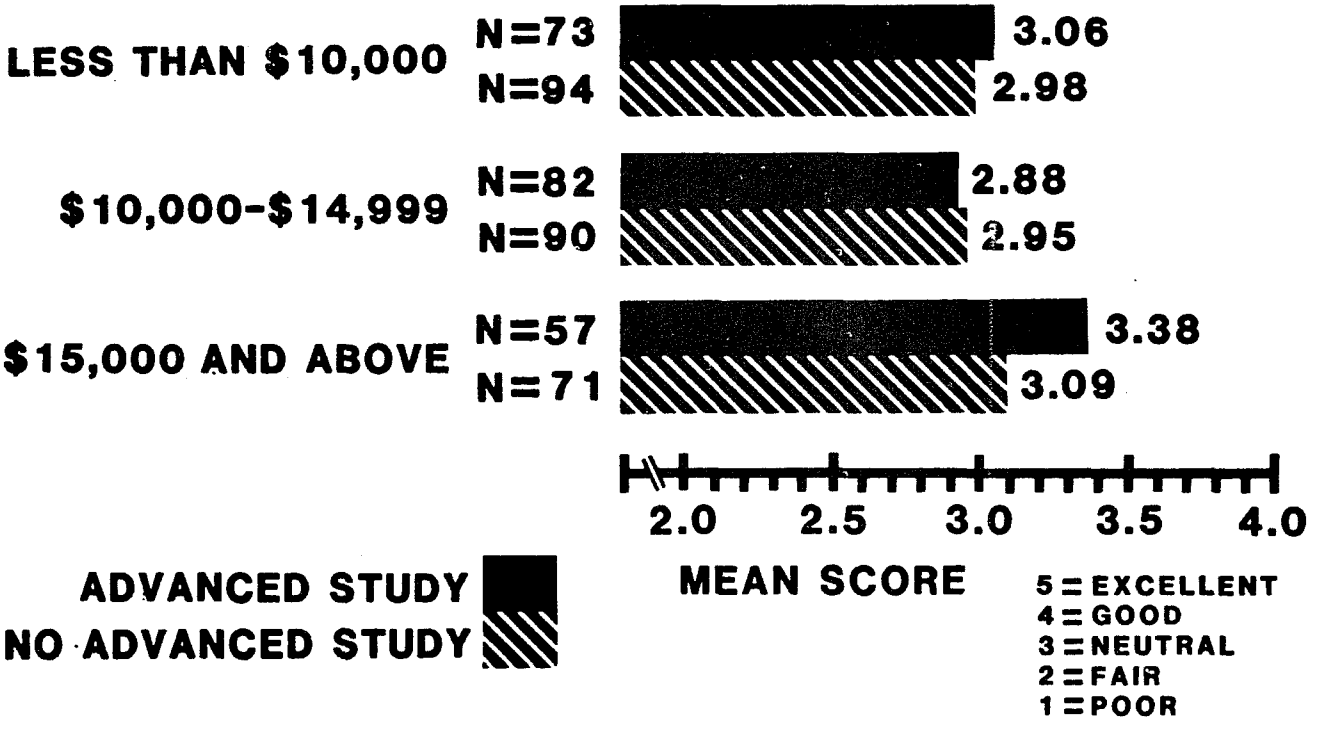

Figure 11: Perceived adequacy of preparation for professional positions as a function of income and advanced study.

Hypothesis 7

Ho 7: There is no significant difference department, year of graduation, and graduates' perceptions about the adequacy of their preparation for professional positions.

Findings. The hypothesis was rejected for the main effect of department. It was not rejected for year of graduation, nor department and year of graduation in interaction.

Results of Hypothesis 7. According to the analysis of variance, there was a significant difference by department, F (2,471) = 6.21, $p < .05$, regardless of year of graduation. Graduates' perceptions varied by department regarding adequacy of preparation for professional positions. FCE graduates had the highest mean score (M = 3.25, N = 133) for perceived adequacy of professional preparation, followed by FSHN (M = 3.07, N = 113), and then HED (M = 2.88, N = 231).

The mean score of perceived adequacy for professional preparation for 1978-79 graduates was 2.96 (N = 260), while the mean score for 1982-83 graduates was 3.10 (N = 217). The analysis of variance indicated no significant difference by year of graduation, F (1,471) = 3.60, $p > .05$. Regardless of the effect of department, graduates' perceptions did not vary by year of graduation concerning professional preparation.

For interaction between department and year of graduation, as shown in Figure 12, 1982-83 FCE graduates (M = 3.49, N = 49) perceived greater adequacy of professional preparation than did 1978-79 FCE graduates (M = 3.11, N = 84) with a mean difference of .38. From 1978-79 (M = 2.97, N = 63) to 1982-83 (M = 3.20, N = 50), FSHN graduates saw

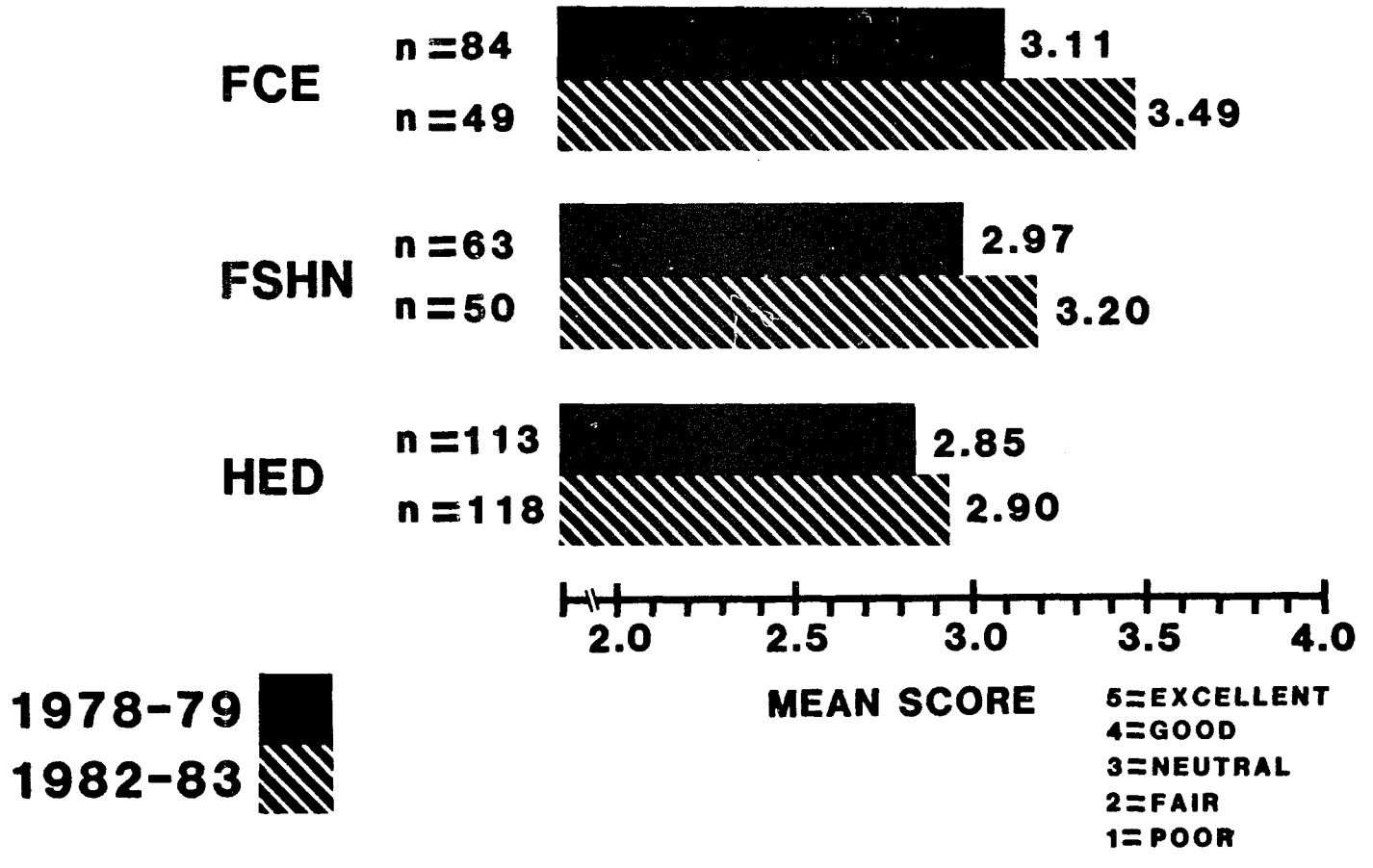

Figure 12: Perceived adequacy of preparation for professional positions as a function of department and year of graduation.

a modest improvement (0.23) in perceived adequacy of professional preparation, while HED graduates showed relatively little difference in perceived adequacy of professional preparation (0.05). The mean score for 1978-79 was 2.85 (N = 113), whereas the mean score for 1982-83 was 2.90 (N = 118). It appears that for 1982-83, FCE graduates felt better prepared than FSHN graduates, who in turn felt better prepared than HED graduates. When tested, however, analysis of variance disclosed no statistically significant interaction between department and year of graduation, F (2,471) = 1.04, p > .05. For department and year of graduation in interaction, graduates' perceived adequacy of professional preparation did not vary (see Table 11).

Table 11: Analysis of Variance of the Effects of Department and Year of Graduation on Perceived Adequacy of Preparation for Professional Positions

Source of Variation	df	Mean Square	F	Significance of F
Main Effects	3	5.27	4.87	.002
Department	2	6.72	6.21	.002
Year of Graduation	1	3.89	3.60	.058
Interaction	2	1.12	1.04	.356
Department x Year of Graduation	2	1.12	1.04	.356
Explained	5	3.61	3.34	.006
Residual	471	1.08		
Total	476	1.11		

Application of the Human Ecological Framework

Graduates' responses to the College of Human Ecology 1978-79 and 1982-83 Alumni Survey resulted in findings as presented in this chapter. Figure 13 illustrates the process as it applies to the human ecological framework. By responding to the survey (which was in the form of material from the natural environment), graduates (HEU) made their perceptions known about the adequacy of preparation by their undergraduate program (HBE and HCE). Their perceptions were analyzed in relation to employment status, type of employment, primary employment activity, advanced study, and income, all of which represent human behavioral and cultural environments. Furthermore, perceptions about professional preparation were examined with respect to department and year of graduation (HBE and HCE).

These perceptions were transferred to the College of Human Ecology (HBE and HCE) as input. If the College of Human Ecology acts on the feedback received from its graduates, the information will be passed on as output to present and future human ecology students (HEU). The cycle will continue if students who become graduates take the opportunity to feed back information to the College.

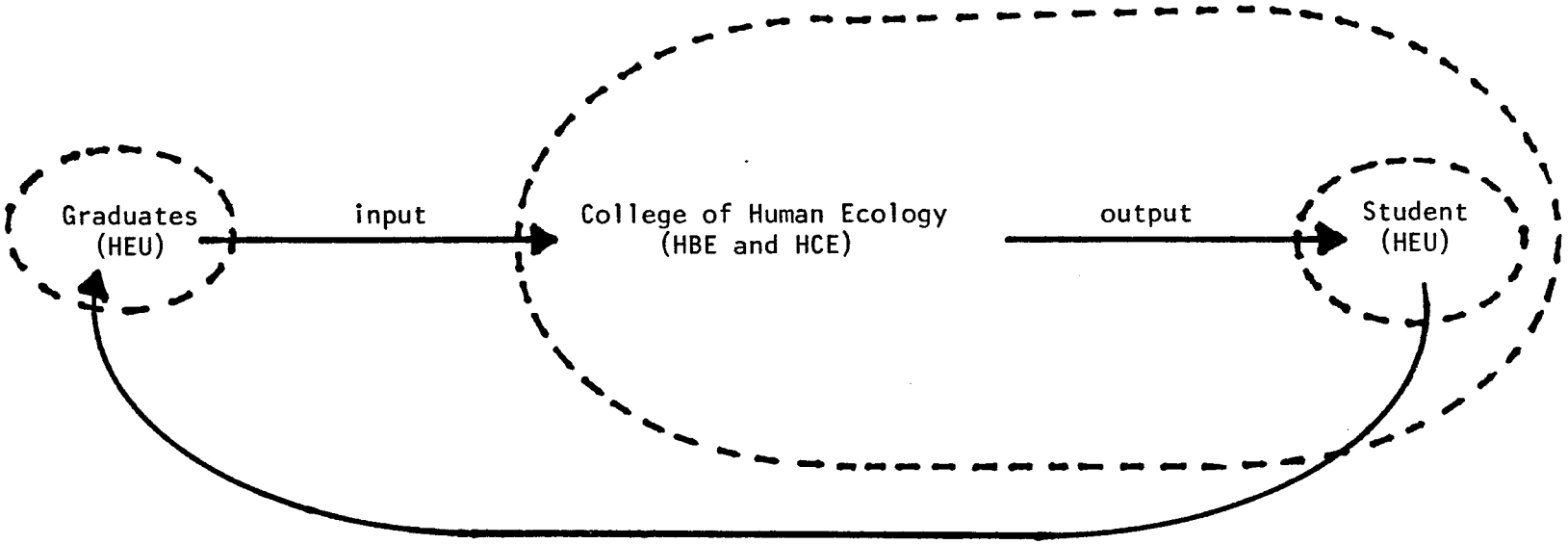

Figure 13: Application of the Human Ecological Framework.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

This chapter includes a summary of the study findings as well as conclusions and implications for practice, theory, and research.

Summary of the Study

The purpose of this study was to compare baccalaureate graduates' perceived adequacy of preparation for professional positions in relation to employment status, type of employment, primary employment activity, advanced study, and income. In addition, it assessed baccalaureate graduates' perceived adequacy of preparation for professional positions by department and year of graduation. This research incorporated the human ecological approach as its conceptual approach. Although the human ecological approach can be used in a variety of perspectives in this study, the research design employed the ecological approach by primarily focusing on College of Human Ecology graduates (HEU) as they reflect upon their role as students in assessing the academic programming of the College of Human Ecology (HBE and HCE).

This research is a component of the larger College of Human Ecology 1978-79 and 1982-83 alumni follow-up study. A survey research design was employed which used a self-administered mail questionnaire. Data were collected by a self-administered mail questionnaire because

of its capability of obtaining a high response rate as well as accurate answers. Subjects can be easily located and reached over a geographically dispersed area through the use of a mail questionnaire. Other advantages are that it requires few people to administer and entails lower costs than the interview method. This instrument was developed by Bobbitt and the author, and questions were modified from various sources such as ETS, ACT, and NCHEMS. The instrument was field tested twice, and steps were taken to ensure reliability and validity.

The study population consisted of baccalaureate degree recipients of the College of Human Ecology who graduated during the academic years 1978-79 and 1982-83. The 1982-83 graduates were chosen because of their recent perspective on undergraduate experiences. Graduates from 1978-79 were chosen because of an ability to evaluate their preparation in light of intervening occupational and educational experiences. The mail survey was implemented based on Dillman's (1978) Total Design Method and resulted in a 62% response rate.

Two-way analysis of variance was used to test the hypotheses with the following results:

1. There was a significant difference for department, regardless of employment status. Students who were graduates of the FCE department believed they were better prepared for employment than did FSHN graduates, who in turn felt better prepared than students who graduated from HED. No significant difference resulted for the effect of employment status. Graduates' perceptions about professional preparation did not vary by whether or not they were employed. Nor did graduates'

perceptions vary for interaction between department and employment status.

2. An important finding is that for the effect of type of employment, regardless of department, there was a significant difference in the way graduates assessed their preparation for professional employment. Education employees felt they were best prepared, followed by graduates in nonprofit agencies or institutions, self-employment or private practice; Cooperative Extension Service/government; and then business employees. There was no significant difference for department, regardless of the effect of type of employment. Graduates' perceptions about professional preparation did not vary by the department from which they graduated. Nor did graduates' perceptions vary for type of employment and department in interaction.

3. In the analysis of the effects of type of employment, advanced study, and their interaction, there was a significant difference for type of employment. The same pattern as above was followed in terms of perceptions about preparation for employment by type of employment. Graduates employed in education felt the best prepared for employment. Individuals who worked for nonprofit agencies or institutions, were self-employed, or in private practice felt the next best prepared, followed by Cooperative Extension Service/government employees, and then graduates involved in business. No significant difference resulted for having pursued advanced study or not, regardless of type of employment. Graduates' perceptions about professional preparation did not vary by whether or not they had pursued advanced study. Nor

did graduates' perceptions about professional preparation vary for interaction between type of employment and advanced study.

4. There was a significant difference in perceived adequacy of preparation for professional positions by department, regardless of the effect of advanced study. Students who graduated from FCE felt the best prepared for employment by their undergraduate program. FSHN graduates considered themselves the next best prepared. Of the three departments, HED baccalaureate recipients felt the least prepared for professional employment. There was no significant difference between whether graduates pursued study beyond the bachelor's degree or not, regardless of the effect of department. Graduates' perceptions about professional preparation did not vary by whether or not they had pursued advanced study. Neither did graduates' perceptions about professional preparation vary for department and advanced study in interaction.

5. Categories for primary employment activities were unique for each department. Therefore, the analysis was conducted separately by department. There was a significant difference for the primary employment activity of FCE graduates. FCE graduates who were engaged in education believed they were better prepared for employment than graduates in any other primary employment activity. Graduates whose primary employment activity was administration felt the next best prepared, followed by FCE graduates who were involved in service, and then marketing, scientific, and other.

A significant difference also existed for FSHN graduates' primary employment activities. Students who graduated from the FSHN department and whose primary employment activity was scientific believed they were better prepared for jobs than FSHN graduates with other primary employment activities. FSHN graduates involved in marketing, service, or other activities felt the next best prepared, followed by those in administration. No significant difference resulted for HED graduates' primary employment activities.

6. Regardless of the effect of advanced study, there was a significant difference for income. Graduates who earned $15,000 and above felt the best prepared for professional employment. Surprisingly, baccalaureate recipients earning less than $10,000 felt the next best prepared for employment, followed by graduates earning between $10,000 and $14,999. Regardless of the effect of income, there was no significant difference for the effect of advanced study. Graduates' perceptions about professional preparation did not vary by whether or not they had pursued advanced study. Neither did graduates' perceptions vary for income and advanced study in interaction.

7. For the effect of department, regardless of year of graduation, there was a significant difference. FCE graduates believed they were better prepared for employment than graduates from any other department. Graduates from FSHN felt they were the next best prepared. Compared to the other two departments, HED graduates believed they were the least prepared. No significant difference was disclosed for year of graduation, regardless of the effect of department. Graduates'

perceptions about professional preparation did not vary by the year they graduated. Nor did graduates' perceptions vary for interaction between department and year of graduation.

Conclusions

Conclusions are limited to 1978-79 and 1982-83 graduates of the College of Human Ecology.

1. Graduates' perceptions about adequacy of preparation for professional positions varied by department. FCE graduates perceived that they were better prepared than FSHN graduates, who in turn felt better prepared than students who graduated from the HED department. A possible explanation is that FCE graduates are actually better prepared than FSHN graduates, who are in turn better prepared than HED graduates. A further interpretation is that graduates of FCE have more realistic expectations about the job market. FSHN and then HED graduates may have less realistic expectations about employment opportunities which prejudice their opinions about professional preparation.

Two of the studies reviewed supported this conclusion and one did not. Lowe (1977) found little difference in satisfaction with preparation for home economics careers by area of study, whereas McClendon (1977) and von dem Bussche (1969) did find differences in perceptions about professional preparation by major. McClendon's finding that home economics education graduates were more satisfied than clothing graduates parallels results of this study that FCE graduates felt better prepared than HED graduates. Home economics education majors study in

the FCE department and clothing majors study in the HED Department of the College of Human Ecology.

Ratings made by subjects in von dem Bussche's study do not approximate results of this study since her study revealed that clothing and textiles, food and nutrition, and home and family life graduates had higher ratings. Similar majors would be found, respectively, in the HED, FSHN, and FCE departments in the College of Human Ecology. Lower ratings concerning preparation were made by home economics education and general home economics graduates in the von dem Bussche study. Majors similar to these would be found in the FCE department in the College of Human Ecology.

Results of the College of Human Ecology 1978-79 and 1982-83 Follow-Up Study (MacDonald & Bobbitt, 1985) lend support to this conclusion. Concerning the research question in the larger study, "How well are graduates prepared for professional positions?" there was a significant difference by department in graduates' perceptions about improving abilities, course content, and teaching. By department, FCE rated improvement in abilities (solve issues facing families, view the family as an ecosystem, use a human ecological approach) and teaching the highest, followed by FSHN and then HED. Only in the case of course content was this pattern of ratings by department (as replicated in the present study) altered. FSHN graduates rated course content the highest, followed by FCE. HED maintained its previous position in rating course content the lowest of the three departments.

2. Graduates' perceptions about professional preparation varied by type of employment. Graduates engaged in education had the highest perceptions about professional preparation. This was followed by graduates whose type of employment was in a nonprofit agency or institution, self-employment, or private practice; the Cooperative Extension Service or government; and then business or industry. It is possible that graduates in education felt the best prepared because they received more practical experience, such as student teaching. Another potential explanation is that jobs in education may be more easily identifiable than those in the other three categories. This could influence perceptions about preparation by the undergraduate program.

3. Graduates' perceptions about professional preparation varied by their primary employment activity. Categories of primary employment activities were different for each department. Significant differences were found for FCE and FSHN but not for HED. Perceived adequacy from highest to lowest for primary employment activities of FCE graduates were education; administration; service; and marketing, service, and other. A possible explanation is that FCE graduates have more preparation for education than for other employment activities. In fact, of the six majors surveyed, two of the majors deal directly with formal education--Child Development and Teaching, and Home Economics Education. MacDonald and Bobbitt (1985) indicated that most FCE graduates have education as their first (59.6%, $\underline{N}$ = 81) and current (44.9%, $\underline{N}$ = 31) primary employment activity. Another explanation is that FCE graduates knew more about education than administration and service and

knew the least about marketing, scientific, and other, which affected their perceptions about professional preparation.

The same rationalizations could be proposed for FSHN graduates' primary employment activities. Ratings of professional preparation were respectively high to low by scientific or professional; marketing, service, other; and administration activities. FSHN graduates may be better prepared for scientific or professional activities, which could influence their perceptions of professional preparation. As shown in the College of Human Ecology follow-up study (MacDonald & Bobbitt, 1985), most of the FSHN graduates had scientific or professional involvement (41.4%, N = 48) as their first primary employment activity. For the current primary employment activity, however, most of the FSHN graduates were involved in administration or management (36.9%, N = 24), followed by scientific or professional activities (21.5%, N = 14). As with FCE, FSHN graduates may know the most about scientific or professional; followed by marketing, service, other; and then administration activities.

Fain's (1981/1982) finding that there was a significant difference between job satisfaction and graduates' opinions about professional preparation may be instrumental in understanding the second and third conclusions. In the study of Oklahoma State University home economics graduates, job satisfaction appeared to be related to how graduates perceived their undergraduate professional program. Graduates with higher job satisfaction had positive reactions to statements about their professional preparation, whereas graduates with lower job

satisfaction had negative opinions regarding statements about their preparation. College of Human Ecology graduates with the type of employment or primary employment activity who rated their professional preparation higher may simply be more satisfied with their employment.

4. Graduates' perceptions about preparation for professional employment varied by income. As might be expected, the highest paid graduates who earned $15,000 and above had the highest mean score for professional preparation. Surprisingly, graduates in the lowest income category (less than $10,000) had the next highest perceived adequacy, followed by graduates in the middle income category ($10,000 to $14,999). The group of graduates earning less than $10,000 may include a substantial number of individuals with part-time jobs. These people may be happier with their part-time status (which influences their perceptions about professional preparation) than people in the $10,000 to $14,999 income category, who may be trying to earn more money and are not. There is no evidence of previous studies dealing with the finding concerning how much human ecology/home economics graduates earn in relation to perceived adequacy of preparation for professional positions.

Implications

Assessment of baccalaureate graduates' perceptions of the adequacy of preparation for employment by their undergraduate program has many implications for practice, theory, and research.

Practice

As previously indicated in this report, there are limited data available concerning the effectiveness of the Michigan State University College of Human Ecology academic programs in relation to employment as perceived by graduates. Results of this study can be used to improve College faculty and administrators' knowledge of the program's usefulness to the graduates. This information can be useful in helping guide decision making concerning the College curricula.

There are practical implications for the major findings of this study. As indicated by the results of this study and supported by other research, FCE graduates had the most favorable perceptions about preparation for professional positions, followed by FSHN and then HED graduates. These results should be made available to the Undergraduate Education Committees that review curriculum.

Concerning the second and third major findings, there was a significant difference in perceived adequacy of preparation for professional positions by type of employment for each department and primary employment activity for FCE and FSHN graduates. Graduates engaged in types of employment and primary employment activities with lower perceptions about professional preparation may have more limited perceptions about their careers before graduating. To enable students to have more accurate and realistic perceptions about different types of employment and primary employment activities, greater efforts could be made to expose students to career information and advising that are available in the College and University. Career information can also

be made more available through career fairs, guest speakers, and more clinical, field study, and internship experiences.

With regard to the fourth major finding, that persons in the highest income category had the highest perceptions about professional preparation, persons in the lowest income category had the next highest perceived adequacy, and graduates in the middle income category had the lowest perceptions about preparation for professional positions, further study is needed to understand these results. As indicated in the College of Human Ecology follow-up study (MacDonald & Bobbitt, 1985), graduates have shown a great deal of progress in their careers salary-wise since incomes have risen higher than the inflation rate. By examining salaries in relation to the Consumer Price Index, it can be seen that they have exceeded the rate of inflation. With inflation alone, from 1978-79 to 1982-83, salaries would have risen $5,000 at the most. If an individual's salary was $10,000 in 1978, it could have risen to $14,800 ($10,000 x 1.48 = $14,800) in 1982 based solely on inflation. Instead, salaries have exceeded the rate of inflation and have risen in increments of $10,000 during that time period.

As indicated in the review of literature, there are many uses for employment data as it is related to academic programming. In summary, this study and additional research can provide employment data for career guidance, program planning and development, accountability, and public relations. Data can be used in career guidance for improving job placement programs and career development offices, and advising current students based on former students' employment experiences.

Employment data can be used in program planning and development for curriculum development such as determining areas in need of curriculum revision based on graduates' preparation for employment. Also under program planning and development, employment data can be used for resource allocation purposes. For example, findings about graduates' career goals and actual achievements can be used to guide policy decisions.

Employment data can provide information related to accountability of career guidance, educational guidance, and program planning and development. For accountability of career guidance, graduates' occupational status and achievements can be identified to determine what relationship their college education has to jobs held. To assess accountability of educational guidance, graduates' judgments about the value of their educational experiences for employment can be determined. Program planning and development accountability can be assessed by graduates' employment activities and identification of competencies in demand. Finally, employment data can be used in public relations material to show how well the institution prepares its students.

Theory and Research

This study also has implications for theory and research. It provides an example of how the human ecological framework can be applied to future follow-up studies. Many other applications of the human ecological approach can be made. Results of implementing Dillman's (1978) Total Design Method by the larger study can be used to improve his methodological model. Furthermore, the larger study

resulted in producing a model questionnaire which has improved on previous follow-up study questionnaires.

Findings of this study will supplement findings from other follow-up studies to expand the base of knowledge about human ecology/home economics graduates. The study will also provide baseline data for future comparative studies at the College of Human Ecology. Since follow-up studies should be an ongoing process, as well as part of a larger system of study in evaluating educational programs (Little, 1970), this research could provide impetus for developing a data-based management information system at the College of Human Ecology. Since periodic follow-up of graduates is an accreditation guideline of the American Home Economics Association (AHEA), AHEA may wish to adopt a standardized questionnaire similar to the one used in this study, which would permit AHEA accredited institutions to compare results to other institutions. Standardized data collected from human ecology/ home economics institutions could also permit AHEA to develop a management information system.

Issues addressed by this study are of significance to students, faculty, administrators, and accrediting agencies. The follow-up study can mean potential changes in the program to students. The study can provide feedback to faculty and administrators concerning the quality of the job they are doing. Administrators can also use the information as a basis for making changes and better meeting students' needs. For accrediting agencies, the follow-up study is an evaluation of past performance and an indicator of future performance.

APPENDICES

APPENDIX A

COLLEGE OF HUMAN ECOLOGY 1978-79 AND 1982-83

ALUMNI SURVEY

31 Year of Graduation
32 Sex
33 GPA

College of Human Ecology
1978-79 and 1982-83
ALUMNI SURVEY

Michigan State University
East Lansing, Michigan

Questions were numbered for clarification in writing the report. The instrument was not originally numbered due to design considerations.

COLLEGE OF HUMAN ECOLOGY
1978-79 AND 1982-83 ALUMNI SURVEY

ACADEMIC INFORMATION

Circle one number for each item.

	Excellent	Good	Fair	Poor	No opinion
1. How would you rate the experiences in your MSU undergraduate major/program?					
a. Intellectual challenge	1	2	3	4	5
b. Course/curricular advising	1	2	3	4	5
c. Career advising	1	2	3	4	5
d. MSU Main library holdings	1	2	3	4	5
e. College of Human Ecology library holdings	1	2	3	4	5
f. Specialized facilities (labs, studios)	1	2	3	4	5
g. Quality of course content	1	2	3	4	5
h. Adequacy of teaching by faculty	1	2	3	4	5
i. Opportunity to participate in decisions that affected your major/program	1	2	3	4	5
j. Preparation for professional employment	1	2	3	4	5
k. Course evaluation methods (tests, papers)	1	2	3	4	5
l. Faculty critique of your class work	1	2	3	4	5
m. Faculty accessibility to students	1	2	3	4	5
n. Flexibility to meet needs of individuals	1	2	3	4	5
o. Development of different points of view	1	2	3	4	5
p. Other _____	1	2	3	4	5
2. How would you rate your MSU undergraduate experience in improving your ability to do the following?					
a. Solve issues facing families	1	2	3	4	5
b. View the family as an ecosystem	1	2	3	4	5
c. Use a human ecological approach	1	2	3	4	5
d. Function as a professional on the job	1	2	3	4	5
e. Other _____	1	2	3	4	5
3. If you have pursued study beyond the bachelor's degree, to what extent did your MSU undergraduate degree prepare you for advanced study?	1	2	3	4	5
4. If you participated in a clinical, field study or internship experience as part of your MSU undergraduate major, evaluate your experience.					
a. Faculty assistance in preparation for the experience	1	2	3	4	5
b. Opportunity to develop professional skills	1	2	3	4	5
c. Variety of assignments/activities	1	2	3	4	5
d. Faculty supervision	1	2	3	4	5
e. Employer supervision	1	2	3	4	5
f. Space/equipment available for your use	1	2	3	4	5
g. Other _____	1	2	3	4	5

5. **If you could attend college again, would you choose the same major?**

   Why? _____

Circle one number for each item.

No	Doubtful	Uncertain	Probably	Yes
1	2	3	4	5

6. **How important were the following reasons for pursuing a bachelor's degree at MSU?**

	Unimportant	Slightly unimportant	Slightly important	Somewhat important	Very important
a. Cost	1	2	3	4	5
b. Admissions standards	1	2	3	4	5
c. Size	1	2	3	4	5
d. Social atmosphere	1	2	3	4	5
e. Location	1	2	3	4	5
f. Type of programs available in the College of Human Ecology	1	2	3	4	5
g. Academic reputation of the College of Human Ecology	1	2	3	4	5
h. Academic reputation of the university	1	2	3	4	5
i. Academic reputation of the major	1	2	3	4	5
j. Availability of scholarship or financial aid	1	2	3	4	5
k. Advice of parents or relatives	1	2	3	4	5
l. Advice of high school personnel	1	2	3	4	5
m. To be with friends	1	2	3	4	5
n. Other _____	1	2	3	4	5

Fill in the blanks.

7. **What do you feel were the strengths of your major?** _____

8. **What do you feel were the weaknesses of your major?** _____

9. **What suggestions would you offer in terms of future revisions of your major?** _____

What are the majors for your study beyond the bachelor's degree?

10. ***Write the major of each degree you received in the space provided to the right.***

	Name of Major
a. Associate's	
b. Second Bachelor's	
c. Certificate (teaching, etc.)	
d. Specialist	
e. Master's	
f. Doctorate (Ph.D., Ed.D., etc.)	
g. Professional	

11. **In what professional organizations do you hold membership?** _____

Fill in the blanks.

_____

_____

_____

12. **What contact have you had with the College of Human Ecology since graduating?**

Circle one number for each item.

	Yes	No
a. Interaction with faculty	1	2
b. Attendance at an alumni activity	1	2
c. Participation in a College of Human Ecology student club activity	1	2
d. Participation in a College of Human Ecology class	1	2
e. Read the *Ecologue* newsletter	1	2
f. Other _____	1	2

13. **Which of the following do you think the College of Human Ecology Alumni Association should sponsor or continue to sponsor?**

a. Alumni mentor program	1	2
b. Professional meeting receptions	1	2
c. Distinguished lecture series	1	2
d. Newsletter (*Ecologue*)	1	2
e. Open house (homecoming, spring)	1	2
f. Outstanding alumni awards	1	2
g. Regional alumni meetings	1	2
h. Student scholarships	1	2
i. Senior receptions	1	2
j. Other _____	1	2

EMPLOYMENT INFORMATION

Circle one number for each item.

	Yes	No
14. **Are you currently employed?**	1	2

15. **If not employed, why not?**

a. Actively seeking employment	1	2
b. A full-time student	1	2
c. A full-time intern/trainee	1	2
d. A full-time homemaker	1	2
e. Temporarily unemployed	1	2
f. Other _____	1	2

Circle numbers in the "first position" column to indicate your first job after graduating with a MSU undergraduate degree. If your current job is your "first job," mark only the first position column. If you have not had a first or current position, skip to "Demographic Information" section, page 5.

Circle one number in each applicable column.

	First position	Current position
16. Was your first/current position(s) . . .?		
a. Full-time	1	2
b. Part-time	1	2
17. Indicate your first/current type of employment.		
a. University or college	1	1
b. Elementary, intermediate, or secondary school	2	2
c. Cooperative Extension Service	3	3
d. Nonprofit agency or institution	4	4
e. Business or industry	5	5
f. Government	6	6
g. Self-employment/private practice	7	7
18. Indicate the primary activity for your first/current position(s).		
a. Administration or management	1	1
b. Design, manufacturing or processing	2	2
c. Marketing, merchandising or sales	3	3
d. Media	4	4
e. Scientific or professional	5	5
f. Service	6	6
g. Education	7	7
h. Other _____	8	8
19. To what extent did your MSU undergraduate degree prepare you for your first/current position(s)?		
a. Not at all	1	1
b. Some, but not much	2	2
c. Adequately	3	3
d. Quite a bit	4	4
e. A great deal	5	5
20. Indicate the approximate annual income of your first/current employment position(s). Report salary before deductions.		
a. Less than $10,000	1	1
b. $10,000 - $14,999	2	2
c. $15,000 - $19,999	3	3
d. $20,000 - $24,999	4	4
e. $25,000 - $29,999	5	5
f. $30,000 - $34,999	6	6
g. $35,000 - $39,999	7	7
h. $40,000 or above	8	8

21. **How did you learn of your first/current position(s)?**

Circle one number for each item in each applicable column.

	First position		Current position	
	Yes	No	Yes	No
a. Field experience as a student	1	2	1	2
b. Place of employment as a student	1	2	1	2
c. University placement office	1	2	1	2
d. Faculty advisor	1	2	1	2
e. Professional organization publications	1	2	1	2
f. Employment agency	1	2	1	2
g. Media advertisements	1	2	1	2
h. Application to employer	1	2	1	2
i. Faculty referral	1	2	1	2
j. Referral by friend or relative	1	2	1	2
k. Other _____	1	2	1	2

22. **Indicate whether the reasons listed below were important in choosing your first/current position(s).**

Circle one number for each item in each applicable column.

	First position		Current position	
	Yes	No	Yes	No
a. Salary and fringe benefits	1	2	1	2
b. Convenient work hours	1	2	1	2
c. Geographical location	1	2	1	2
d. Management/training/internship program	1	2	1	2
e. Individually challenging and/or rewarding work	1	2	1	2
f. Career potential/advancement	1	2	1	2
g. Opportunity to contribute to the profession	1	2	1	2
h. Prefer outside employment to homemaking responsibilities	1	2	1	2
i. Supplement family income	1	2	1	2
j. Sole provider for self, or self and dependents	1	2	1	2
k. Only job offer	1	2	1	2
l. To follow spouse	1	2	1	2

Fill in the blanks.

23. **What is the name/address of your current employer?**

Name _____

Address _____

_____

_____

24. **What is your current job title?**

Title _____

DEMOGRAPHIC INFORMATION

Circle one number.

25. **What is your age?**

a. 25 or under	1
b. 26 - 30	2
c. 31 - 35	3
d. 36 - 40	4
e. over 40	5

26. **What is your current marital status?** *Circle one number.*

a. Single, never married	1
b. Married	2
c. Divorced, widowed	3

27. **How do you describe yourself?**

a. American Indian, Eskimo, or Aleut	1
b. Black or Afro-American	2
c. White or Caucasian	3
d. Mexican American or Chicano	4
e. Puerto Rican	5
f. Other Hispanic or Latin American	6
g. Oriental or Asian American	7
h. Other	8

28. **How many children do you have?**

a. None	1
b. 1-2	2
c. 3-4	3
d. 5 or more	4

29. **What is the size of the community in which you live?**

a. Metropolitan area of 500,000 or more	1
b. Metropolitan area of 50,000-499,999	2
c. Urban area of 25,000-49,999	3
d. In or near city of 10,000-24,999	4
e. In or near town of 2,500-9,999	5
f. Rural area with no population center as large as 2,500	6

30. **What was your undergraduate major?**

a. Child Development and Teaching	1
b. Family and Consumer Resources	2
c. Family Ecology	3
d. Home Economics Education	4
e. Family Ecology — Communication Arts	5
f. Consumer-Community Services or Family Community Services	6
g. Clothing and Textiles	7
h. Retailing of Clothing and Textiles or Merchandising Management	8
i. Interior Design	9
j. Human Environment and Design	10
k. Dietetics	11
l. Foods or Foods and Nutrition	12
m. Nutrition or Nutritional Sciences	13

What is your name? (optional) _____

In the space below, share any comments you would like to make about the college, your department, or major.

Survey questions were developed and adapted by Ellen C. MacDonald, College of Human Ecology Ph.D. candidate and Dr. Norma S. Bobbitt, Associate Dean, College of Human Ecology, from Educational Testing Service, Princeton, New Jersey; American College Testing Service, Iowa City, Iowa; National Center for Higher Education Management Systems, Boulder, Colorado; *Professional Preparation and Employment Status of Selected Oklahoma State University Home Economics Graduates: A Follow-Up Study* (Fain, 1982), and *1979 American Home Economics Association Membership Survey*. July, 1984.

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APPENDIX B

FIRST COVER LETTER

MICHIGAN STATE UNIVERSITY

COLLEGE OF HUMAN ECOLOGY • OFFICE OF THE DEAN
HUMAN ECOLOGY BUILDING

EAST LANSING • MICHIGAN • 48824-1030

September 4, 1984

Ms. Jane Doe
123 Mac
E. Lansing, MI 48823

Dear Ms. Doe:

The College of Human Ecology is concerned about improving the quality of education for current and future students. As a graduate of the College of Human Ecology you have an important perspective about your program. In addition, the College is interested in you and wants to know what you are doing so as to meet your needs as an alumnus/a. We would also like to update our mailing list for the Ecologue to share information and keep you up to date with what is happening at the College of Human Ecology.

As an individual, unique and important, you are being asked to give your opinion about your undergraduate program. You were selected because you graduated with a bachelor's degree from the College of Human Ecology in the academic year of 1978-79 or 1982-83. So that the results truly represent the experiences of the graduates of each major in the College, it is important that your questionnaire be completed and returned by September 18, 1984.

You may be assured that individual responses will be kept completely confidential. The questionnaire has an identification number for mailing purposes only. If, however, you wish to indicate your name, you have the option of doing so. Your individual identity will not be retained since all information will be pooled and presented by major or class.

Results of this study will be utilized by administrators, faculty and staff in future program planning. Survey results will also be used by Ellen MacDonald, a Ph.D. candidate, for her dissertation topic on follow-up surveys. As we participate in various accreditation activities, this information will be helpful in communicating the nature and quality of our programs. You may receive a copy of the results by writing "copy of results requested" on the back of the return envelope, and printing your name and address below it. Please do not put this information on the questionnaire itself.

We would be happy to answer any questions you might have. Please write or call Ellen MacDonald collect at (517) 353-7799 or Norma Bobbitt, (517) 355-7690.

Thank you for your assistance.

Sincerely,

Norma Bobbitt, Ed.D.
Associate Dean

Ellen MacDonald, Specialist
Academic Program Evaluation

APPENDIX C

REMINDER POSTCARD

September 11, 1984

Last week a questionnaire was mailed to you regarding your undergraduate program at the College of Human Ecology. If you already completed and returned the questionnaire, please accept our thanks. If not, please do so as soon as possible. It is extremely important that your response be included in the study so that the results accurately represent the opinions of College of Human Ecology graduates.

If you did not receive the questionnaire, please call collect (517) 353-7799 or (517) 355-7690 and we will send another one immediately.

Sincerely,

Norma Bobbitt, Ed.D.
Associate Dean

Ellen MacDonald, Specialist
Academic Program Evaluation

APPENDIX D

SECOND COVER LETTER

MICHIGAN STATE UNIVERSITY

COLLEGE OF HUMAN ECOLOGY • OFFICE OF THE DEAN
HUMAN ECOLOGY BUILDING

EAST LANSING • MICHIGAN • 48824-1030

September 25, 1984

Jane Doe
123 Mac Ave.
E. Lansing, MI 48823

Dear Ms. Doe:

About three weeks ago we wrote to you seeking your opinion about the quality of education at the College of Human Ecology. As of today we have not yet received your completed questionnaire.

We are writing to you again because of the significance each questionnaire has to the usefulness of this study. You were selected because you graduated with a bachelor's degree from the College of Human Ecology in the academic year 1978-79 or 1982-83. So that the results truly represent the experiences of the graduates of each major in the College, **it is important that your questionnaire be completed and returned by October 9, 1984.**

In the event that your questionnaire has been misplaced, a replacement is enclosed.

Your cooperation is greatly appreciated.

Sincerely,

Norma Bobbitt, Ed.D.
Associate Dean

Ellen MacDonald, Specialist
Academic Program Evaluation

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