8-1-1974

A Study of Male Professional Physical Education Student Retention at the University of North Dakota From 1970 Through 1973

Edward H. Gilroy

A STUDY OF MALE PROFESSIONAL PHYSICAL EDUCATION STUDENT RETENTION AT THE UNIVERSITY OF NORTH DAKOTA FROM 1970 THROUGH 1973

by
Edward H. Gilroy

Bachelor of Science, University of North Dakota, 1964

A Thesis

Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

Master of Science

Grand Forks, North Dakota

August
1974

This thesis submitted by Edward H. Gilroy in partial fulfillment of the requirements for the Degree of Master of Science from the University of North Dakota is hereby approved by the Faculty Advisory Committee under whom the work has been done.

W. C. Koenig
(Chairman)

John L. Sunday

Clyde M. Maxfield

William Johnson
Dean of the Graduate School

Permission

Title A STUDY OF MALE PROFESSIONAL PHYSICAL EDUCATION STUDENT RETENTION AT THE UNIVERSITY OF NORTH DAKOTA FROM 1970 THROUGH 1973

Department Physical Education

Degree Master of Science

In presenting this thesis in partial fulfillment of the requirements for a graduate degree from the University of North Dakota, I agree that the Library of this University shall make it freely available for inspection. I further agree that permission for extensive copying for scholarly purposes may be granted by the professor who supervised my thesis work or, in his absence, by the Chairman of the Department or the Dean of the Graduate School. It is understood that any copying or publication or other use of this thesis or part thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the University of North Dakota in any scholarly use which may be made of any material in my thesis.

Signature Edward H. Gilroy

Date July 26, 1974

ACKNOWLEDGEMENTS

I would like to acknowledge a number of individuals whose guidance and support made possible the completion of this study. A special thanks to Dr. Walter Koenig for his continued help as Chairman of my committee. To Dr. John Quaday and Dr. Clyde Morris, my sincere appreciation for the time willingly contributed as members of my committee. A special thanks also to Mr. Bill Bolonchuk for his advice and direction with preliminaries involved in this thesis.

A sincere thanks is extended to my wife, Judy, for her continued interest and support.

TABLE OF CONTENTS

LIST OF TABLES

ABSTRACT

There was some concern among certain staff members of the Men's Physical Education Division at the University of North Dakota about the "disappearance" of physical education majors. The enrollment for certain junior and senior major classes for the fall semester, 1973, was lower than expected and the prospects for the second semester were similar.

The HPER-107, Introduction to Physical Education, course was originally designed as a first semester freshman course for prospective majors. Most of the staff members agreed that enrollment figures for HPER-107 had been normal, or above, for the last three or four years. The question arose as to what had happened to those students who had enrolled in HPER-107 during the years previous. Did these students transfer, drop-out, or switch to another field of study, and, secondly, what kind of students were enrolling in the course---majors, minors, non-majors, freshmen, sophomores, etc?

The purpose of the study, therefore, was to determine the relationship between the number of students who enrolled in HPER-107 (from the fall semester 1970 through the spring semester 1973) and the number who graduated or were continuing toward a degree in physical education.

A questionnaire was constructed, and each subject's cumulative record was searched. From the cumulative records the following data were collected:

1. The subject's class status (e.g. junior) while enrolled in HPER-107.

2. The subject's original reason (e.g. major requirement) for enrolling in HPER-107.

3. The subject's current class status (i.e. for the school year 1973-74).

4. The subject's current status (e.g. drop-out) as pertaining to his being a physical education major at the University of North Dakota.

The Kolmogorov-Smirnov one sample test was applied to the obtained data. Each of the four questions for each of the 6 semesters was analyzed individually.

The main conclusion was that a significant number of students, who enrolled in HPER-107 from the fall semester 1970 through the spring semester 1973, were freshmen physical education majors who were continuing toward, or had already graduated with, a degree in physical education at the University of North Dakota. A secondary conclusion was that for four of the six semesters studied, the expected rate of advancement (i.e. from freshman to senior) was not significant at the .05 level of confidence.

CHAPTER I

INTRODUCTION

There was some concern among certain staff members of the men's physical education division at the University of North Dakota about the "disappearance" of physical education majors. The enrollment for certain junior and senior major classes for the fall semester 1973-74 was lower than expected and the prospects for the second semester were similar. Most of the staff members agreed that the size of the HPER-107 Introduction to Physical Education classes had been above average or at least normal during the three years previous. The HPER-107 course was originally designed as a first semester freshman course for prospective majors, in order to give them an overview of the field of physical education.

Clayton (1) expressed his thoughts concerning the introductory course as follows:

> Some students, no doubt, will not wish to continue, because physical education isn't what they conceived it to be---and it is important for these students to discover the fact early. Others will begin forming a constructive attitude leading toward mastery of the many skills needed by health and physical educators.

If the enrollment was normal for the HPER-107 courses during the previous three years, many of those students should have progressed to the point where they would be taking junior and

senior major courses during the fall semester of 1973. This was not the case, and a couple of questions arose as to what had happened to those students who enrolled in HPER-107 during the years previous. Did these students transfer, drop out, or switch to another field of study, and, secondly, what kind of students were enrolling in the course---majors, minors, non-majors, freshmen, sophomores, etc.? The physical education department did not have the answers.

Statement of the Problem

The problem of this study was to select a sample HPER-107 enrollment from semester classes two or three years previous and study the initial status (i.e. when they enrolled in HPER-107) and present status of each student. Theoretically, a student who enrolled in the 1970-71 fall semester HPER-107 class should have been a freshman physical education major and should now be a senior working toward a degree in physical education during the school year 1973-74. The project was designed to see if this expectation was true and to pinpoint certain deviations from that trend.

Purpose

The purpose of this study was to determine the relationship between the number of students who enrolled in the HPER-107 course and the number who graduated or were continuing toward a degree in physical education.

Hypothesis

The research hypothesis stated that there was a relationship

between the HPER-107 course and eventual graduation with a degree in physical education.

Delimitations

The study was delimited to include 128 college males who enrolled in the HPER-107 Introduction to Physical Education course from the fall semester 1970 to the spring semester 1973 at the University of North Dakota.

Limitations

1. Some of the subjects who originally enrolled in the HPER-107 courses may have dropped the course before the grade sheets were compiled.

2. Certain subjects who were categorized as dropouts or transfers may eventually return to the University of North Dakota and continue toward a degree in physical education.

Review of Related Literature

The review of literature was undertaken in the following areas: physical education majors, dropouts, transfers, and the selection of the major field.

There were no studies found involving physical education majors that followed the exact purpose or procedures of this paper and only a very few were even closely related. A great deal of literature reported on the phenomena of dropouts and no effort was made here to exhaust the entire area. There were countless articles and studies on transfer students. However, the bulk of these dealt with students who were transferring from a two year college to a

four year college and hence, were not pertinent to this study. As with the physical education majors, there was a decided lack of work completed on why students select certain majors, why they change majors, and how many change majors during the course of their college careers.

Physical Education Majors

Karlgaard (2) studied male physical education majors at the University of North Dakota and concluded that there was a significant difference between majors above the 50th percentile (as ranked by the faculty) and majors below the 50th percentile in the following areas---(1) heighth, (2) parental income, (3) grade level the decision was made to major in physical education, (4) scholastic achievement during high school and his first three semesters at college, and (5) certain personality traits including dominance, capacity for status, sociability, and responsibility.

Nelson (3) studied the question of which physical or attitudinal tests would discriminate between female freshman students who would successfully complete a four year program in physical education and those who would not graduate. Six years later the files of these former students (at Ohio State University) were checked and the subjects grouped into the following categories---graduates (N = 23) and non-graduates (N = 80). The latter group was comprised of students who withdrew for other than academic reasons (N = 32), and students who withdrew for academic reasons (N = 42). Six of the non-graduating subjects were not included in the latter two

categories due to incomplete data. It appeared that among these students, those who successfully completed their four year career in college could be described as being the same in their performance on physical skills as their non-graduating classmates but showed a tendency to produce higher scores in Achiever Personality, Intellectual Quality, and a higher predicted grade point average. These tendencies may indicate productive areas for research but could not be interpreted as being strong enough to use to screen potential majors.

Kenyon (4) observed pyschosocial and cultural characteristics unique to prospective teachers of physical education. He concluded thusly:

> Prospective male physical education teachers, in contrast to other prospective teachers, have a more weakly formulated, somewhat traditionalistic philosophy of education; have a slightly lower social class background, are more dogmatic and rigid in their thinking, and tend to possess different social values.

Leyman (5) investigated the validity of (1) the pre-admission measures as predictors of freshman grade-point average (FGPA) and, (2) the pre-admission measures and FGPA as predictors of sophomore grade-point average (SGPA) of women physical education major students enrolled at State University College, Cortland, New York. Because of the nature of the major field a motor ability test was included as one of the pre-admission measures. The validity of this measure as a predictor of freshman physical education activity course grade-point average was also considered. The summary of the results showed:

1. The high school average and the entrance examination measures were significant predictors of FGPA.

2. The motor ability measure was a significant predictor of freshman activity course grade-point average.

3. Freshman grade-point average was the best single predictor of SGPA.

Dropouts

In an analogous longitudinal study of attrition among college students, Panos and Astin (6) emphasized the inability to accurately predict whether or not a student will drop out of college. The authors concluded that:

> The large known differences among institutions in attrition rates are a function more of differences in their entering students than of differences in measurable characteristics of their environment.

Bard (7) commented on the dropout problem as follows:

> Of the one million freshmen beginning college in America each fall, only about half will see commencement. This dropout problem is one of the largest unsolved mysteries of higher education.

Bard continued that there were, of course, the obvious problems---academic incompetence, a financial bind, marriage, or impatience to pursue a career. But, he added, many college dropouts defy all reason and there was a conviction among educators that many of the best minds drop out. He listed certain emotional problems---immaturity, rebellion and nonconformity, worry and anxiety, social inadequacy, inability to adapt to

changing conditions, lack of independence and responsibility, and sometimes even a more severe mental disorder. Bard believed that at least fifty percent of the students who left college did so because of one of the aforenamed emotional difficulties. However, he concluded, the age old problem of academic pressures was perhaps chiefly responsible for decimating student ranks.

Bayer (8) selected 38 pyschological and demographic variables to test in predicting educational outcomes. In relation to the educational progress of senior college males, mathematics aptitude emerged as the single most important predictor among the large number of personal and background factors employed in this study. For males, marriage and parenthood were also important determinants of subsequent progress through college. Socio-economic variables tended to contribute surprisingly little weight in the prediction equation. Bayer summarized: "....those engaged in research in higher education have been largely unsuccessful in isolating a set of background and environmental variables which are highly related to attrition among college students."

Bachmier (9) investigated factors related to the persistence of freshmen who enrolled at the University of North Dakota during the fall of 1955. He discovered that, by the end of the eighth consecutive semester, 68.9 percent of the original 689 students had either withdrawn, or were enrolled but had not graduated.

In a nationwide sample of freshmen, Iffert (10) found that approximately 40 percent of college students graduated within four years from the college they first entered and estimated that another

20 percent graduated later from the institution of original entry, or from some other institution. A full 28 percent withdrew during or at the end of the freshman year.

Max (11) followed the careers of freshmen entering the senior colleges of the City University in the fall of 1960. He found that 48 percent of the freshmen who entered during the fall of 1960 graduated within four years in the college they first entered. Seventy-one percent graduated within 7 years. The reasons most often listed as first in importance for dropping out were lack of interest in college, marriage, maternity, and low grades.

Rossman and Kirk (12) compared the relationship between persisters, voluntary withdrawals, and failures among enrolling freshmen at the University of California. The voluntary withdrawals were found to score higher on verbal ability tests than the persisters. They also found that between one-third and one-fourth of this group returned to the California campus and eventually graduated.

Stordahl (13) investigated a sample of undergraduates at Northern Michigan University who might have been expected to return in the fall of 1966, but did not do so. Factors considered to have had the greatest influence on the decision of these former students to drop out of college fell into three categories: (1) non-academic reasons including employment, financial problems, military service for men, and marriage for women; (2) factors which might be associated with low motivation for college; namely, a lack of interest in studies and discouragement by low grades and; (3) general

dissatisfaction.

Hannah (14), in his dropout study, concluded that the evidence indicated that college personnel were little involved with leavers during the process of withdrawal and that they participated infrequently in the discussions through which the final decision to leave was made. He found that 77 percent of the decisions to withdraw were made during vacations or when school was not in session. There was, therefore, a major need to create conditions that fostered more frequent contact between potential dropouts and college personnel and permitted more participation of college persons early in the discussions.

Kamens (15) sampled 99 colleges and the evidence revealed that larger schools have greater impact on students' occupational commitments than smaller schools, and hence showed lower dropout rates.

Starr, Betz, and Menne (16) investigated the satisfaction levels of non-dropouts, dropouts with passing grades, and dropouts with poor grades. The differences in satisfaction involved dimensions that measured academic aspects of the university and feelings of personal worth. Students who had to drop out because of inadequate performance were the least satisfied. Except for their feelings about compensation for effort expended, however, the satisfaction of these students did not differ significantly from that of students who, though performing adequately, also had left the environment. These findings suggested that student satisfaction was an important factor in student tenure.

DeVecchio (17) attempted to determine if certain scholastic aptitudes or academic motivation tests could be used to distinguish non-returning from returning community college freshmen. When compared to returning students, those freshmen who withdrew, earned lower scores on the academic motivation scale and four of the six scholastic aptitude scales. Additionally, non-returning students attended small high schools, had lower high school grade point averages, and indicated a preference to complete fewer years of college than returning students.

Transfers

Fosberry (18) studied reasons why students transfer. In the school she studied, 32 percent transferred (this did not include junior college transfers). Students' reasons for transferring can be listed in order of frequency---(1) lack of sufficient intellectual stimulation, (2) change in major field selection, (3) desire to be with fiance or spouse, (4) financial needs, (5) weak department in major field, (6) lack of adequate social life, (7) health, (8) desire to be closer to home, (9) parental wish, and (10) academic failure. The interviewees were unanimous in agreeing that no advice or experience could have predicted their desire to transfer.

Kuh, Redding, and Lesar (19) noted that most studies on the subject of transferring listed (1) financial considerations (2) academic concerns (such as recent changes in curriculum interest), and (3) general dissatisfaction as the major reasons for transferring. They felt that part of the problem was that students seemed to select

their first college in a somewhat haphazard manner. In their own study, the authors found that financial difficulty was ranked first, followed by a change of the proposed major field, and third marriage. Since both the counseled and non-counseled students were reasonably well satisfied with their choice of transfer schools, it appeared that counseling the transfer did not facilitate the selection of a more satisfactory transfer institution.

Stordahl (13) found that students felt that a desire to be closer to home had the most influence on their decision to transfer. This factor was considered particularly important by the younger students. Considerable importance was also given to general dissatisfaction and curricular concerns. Less significance was attached to the desire to attend a larger or less expensive college.

Kuznik (20) studied the phenomena surrounding students who transferred from a four year college to a junior college. The data implied that a sizeable number of reverse transfer students had experienced academic difficulty at the four year school.

Taylor and Hanson (21) examined the relationships between persistence and/or transfer from a college of engineering and vocational interests. They found that persisting and transferring from a college of engineering were related to the direction and form of interest change. Transferring reflected the influence of a new environment on interests.

Selection of Major Field

Medalia (22) undertook a comprehensive study on the selection of

the major field of study. He discovered that freshmen were given to understand that their initial choice of major was not an irrevocable commitment, but served mainly administrative purposes (i.e. furnished the degree-granting schools with some idea of the number of students they must plan for; provided a basis for assigning faculty advisors to freshmen, and helped the student select his first year program). Students were often advised that they could change their major readily, and that such changes were not an infrequent occurrence, particularly at the end of the freshman, or midway through the sophomore year. A student must diagnose his own situation and choose his own speciality. The college's formal assistance in this choice process limited itself chiefly to furnishing the student with a course catalogue and/or brochure. The student had only the haziest notion of his field's academic requirements in relation to his interests and abilities and an abstract picture of the occupational role for which it would supposedly fit him. Yet, despite the paucity of knowledge concerning his major by the student, only one-fifth of incoming freshmen (23 percent) said they "are not really decided about their choice of major subjects," even though almost none of them had even taken a course in their prospective major.

Cook (23) expressed the opinion that the occupations which were available to American youth had become more numerous and complex. Accordingly, college students today had more difficulty in selecting their field of study. Of the total number of students who entered Auburn University in the summer and fall of 1959, about 32 percent

had changed their major one or more times by the fall of 1962.

MacIntosh (24) found that 30 percent of the students in his study conducted at the University of Pennsylvania changed their major during the first year in college.

Gamble (25) reported that nearly 43 percent of the students at Penn State, who enrolled in the fall of 1957, made at least one change in their major before graduation. The primary categories of reasons included the influence of parents, relatives, and friends, vocational interests, personal desires, and social interest. The students who changed their major one or more times also expressed some changes in attitudes. Of the 33 different attitudes expressed, 79 percent were positive. Feelings which were categorized as negative were expressed by 21 percent. All of these negative attitudes were related to courses or staff in their former major or college.

Summary of Related Literature

The literature revealed that dropouts, transfers, and students who switched majors were commonplace to many universities and colleges throughout the nation. The studies also tended to point out that the reasons for these particular "happenings" were extremely varied and difficult to pinpoint. For almost every school studied, the reasons for dropping out, transferring, and changing the major field of study were different. The literature also reflected the fact that predictive factors and counseling procedures to help prevent these problems were difficult to define.

CHAPTER II

METHODOLOGY

Questionnaire

The questionnaire (Appendix A, p.49) was constructed by the investigator and consisted of four questions. Each question had four possible responses and each subject was categorized by one of these responses for each of the four questions. The four responses for each question were ranked in the order in which the most frequencies were expected. The "expected" rankings were based on the subjective opinions of the researcher. For example, for Question I (subject's status in school during the fall semester 197_-7_), it was expected that the greatest number of frequencies would fall beside response 1. (i.e., freshman), followed by response 2. (i.e. sophomore) and so forth. Each of the four questions had its responses ranked in this manner.

Validity

The criteria for the questionnaire were determined by what information was needed to achieve the purpose of the study. For example, Question I (subject's status in school during the fall semester 197_-7_) was intended to determine if the HPER-107 enrollment was mainly freshmen as expected, or whether there was a large influx of upper-classmen. This knowledge would have affected the size of this year's junior and senior classes. The second question,

subject's original reason for enrolling in HPER-107, enabled the investigator to establish what types of students were enrolling in the course. If, for example, it was found that the majority of the students enrolled because of a minor requirement, the assumption that the majority of students were majors would be invalid, and the expectations of junior and senior class size would have to be revised. The third question asked was related to the subject's current class status. As previously stated, these classes should have been predominantly freshmen and, therefore, 3 years later, these students should be seniors. If the information gained in the study revealed that the majority were freshmen while enrolled, but were only juniors three years later, or on the other hand, if the majority had already graduated, there may be important implications. The fourth question (subject's current status) determined the "path" each student took after completion of the HPER-107 course. From the answers obtained here, it could be determined that certain students were continuing toward a degree or had already graduated with a degree in physical education. Some had changed their major field of study, and others either dropped out or showed an inclination to transfer. The implications may have been interesting, for example, if the survey showed that 20 of 30 students in a class eventually transferred to another school. When these four questions were linked together and analyzed statistically, they presented results that met the purpose of the project. Through use of the questionnaire, it was also possible to pinpoint the deviations from the normally expected trend. Therefore, face validity was

accepted for the questionnaire.

Sampling procedure

The finite population of 6 HPER-107 classes from the fall semester 1970 to the spring semester 1973 were selected as the group to study. The decision to use these particular classes was prompted by the fact that they were the most pertinent to the current problem.

The lists of the 128 students who registered for HPER-107 during the 6 semesters were obtained from the Registrar's Office (see Appendix B, p. 51).

Test procedure

The investigator received permission from the registrar to search the cumulative records of the 128 students who enrolled in the selected classes. For the most part, the cumulative records were considered "an unimpeachable" source in terms of reliability. For example, the records showed the class status (e.g. freshman, sophomore) of each subject during the semester enrolled, and what his current class status was during 1973-74. However, it was somewhat difficult to determine the original reason for enrollment from the cumulative records. The major field of study was not recorded until graduation. The procedure used for this question was as follows:

1. if the subject's records showed that he subsequently enrolled in many physical education major courses, response number 1 was checked (requirement for major credit),

2. if he subsequently enrolled in only a few major courses, response number 2 was checked (requirement for a minor requirement),

3. if HPER-107 was the only physical education course on his record, response number 3 was checked (general interest),

4. if his record was obliterated because he "dropped out" of school that semester and no grades were given, response number 4 was checked (reason unknown),

5. if there still appeared to be some discrepancy, and the subject was still registered at the University of North Dakota, the researcher telephoned the subject to determine the correct response.

Response number 3 for Question IV (possible transfer) was checked only when a student had dropped out of UND and some other university had requested a copy of the transcript. There was no way of knowing whether the student actually enrolled or not.

To summarize, the reliability of the records search was considered an unimpeachible source when applied to Questions I, III, and IV. When applied to Question II (subject's original reason for enrolling in HPER-107) the responses were not as reliable.

In order to collect the data, each subject was assigned one questionnaire. After the 128 questionnaires were completed the responses were transferred to a special score card (Appendix B, p. 51).

Experimental design

A single group design was employed in this study along with the finite population from the HPER-107 course from the fall semester 1970 through the spring semester 1973.

Inferences from this study were limited to these groups alone and not to any other HPER-107 class. The data collected were discrete, the scale of measurement employed was ordinal, and the type of statistics

was descriptive. The level of confidence selected for testing was the .05 level.

The following hypotheses were established to test for each of the four questions, for each of the semester groups.

H_o - There were no significant differences in the frequencies of responses.

H_1 - There were significant differences in the frequencies of responses.

CHAPTER III

RESULTS

Weber and Lamb (26) suggested that for a single group design where the data were measured on an ordinal scale, the Kolmogorov-Smirnov one-sample test should be applied.

Siegal (27) explained the method of applying the Kolmogorov-Smirnov test.

f = number of subjects classified by that response number

$F_o(x)$ = the expected cumulative distribution under H_o (subjective opinion of the researcher)

$S_n(x)$ = cumulative distribution of observed classifications

$F_o(x)-S_n(x)$ = absolute deviation of each sample value from its paired expected value

D = maximum deviation

A detailed example of the calculations used in the Kolmogorov-Smirnov one-sample test can be found in Appendix C, p. 56.

Each question was analyzed individually for each semester that was surveyed. Tables 1 through 4, inclusively, contain analyses of the fall semester class of 1970-71. Significance at the .05 level of confidence (N = 42) occurred when any D value was greater than .210.

TABLE 1

FREQUENCY OF RESPONSES FOR QUESTION I
CLASS STATUS, FALL SEMESTER 1970-71

1.	freshmen	28
2.	sophomores	7
3.	juniors	5
4.	seniors	2

Table 1 revealed the frequency count for Question I. There were 28 freshmen enrolled in HPER-107 during the fall semester 1970-71. This compared with 7 sophomores, 5 juniors, and 2 seniors. The calculated D value of .417 was significant at the .05 level of confidence. Therefore, the null hypothesis (H_0) was rejected and the alternate hypothesis (H_1) was accepted. There was a significant difference in the frequencies of responses with respect to class status.

TABLE 2

FREQUENCY OF RESPONSES FOR QUESTION II
ORIGINAL REASON FOR ENROLLMENT IN
HPER-107, FALL SEMESTER 1970-71

1.	major credit	33
2.	minor credit	1
3.	general interest	6
4.	unknown	2

Table 2 showed that 33 subjects enrolled in HPER-107, during the fall semester 1970-71, because of a major requirement. One student enrolled for a minor credit, 6 for general interest, and for 2 subjects the reason was unknown. The D value of .536 was significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was rejected and the alternative hypothesis (H_1) was accepted. There was a significant difference in the frequencies of responses with respect to the original reason for enrollment.

TABLE 3

FREQUENCY OF RESPONSES FOR QUESTION III
CURRENT CLASS STATUS (1973-74)

1.	senior	17
2.	received degree	14
3.	junior	1
4.	freshman-sophomore	10

An analysis of responses to Question III may be found in Table 3. Table 3 revealed that of the subjects who enrolled in HPER-107 during the fall semester 1970-71, 17 were currently seniors (i.e. during the school year 1973-74), 14 had received their degree, one was currently a junior, while 10 were still either freshmen or sophomores. The D value was computed at .238. This figure was significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was rejected and the alternative hypothesis (H_1) was accepted. There was a significant difference in the frequencies of responses with respect to the subjects' current class status.

TABLE 4

FREQUENCY OF RESPONSES FOR QUESTION IV
CURRENT STATUS (1973-74)

1.	continuing or graduated with a degree in P.E. at UND	23
2.	continuing or graduated with a degree in another field at UND	6
3.	possible transfer	4
4.	dropped out of UND	9

The results of Question IV may be found in Table 4. Table 4 showed that 23 subjects of this particular class were continuing or had graduated with a degree in physical education. Six students were pursuing or had already received a degree in another area, 4 students may have transferred, and 9 subjects had dropped out. The D value of .298 was significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was rejected and the alternative hypothesis (H_1) was accepted. There was a significant difference in the frequencies of responses with respect to the current status of the subjects.

Summarizing, the HPER-107 class for the fall semester 1970-71 showed a significant difference in the frequencies of responses at the .05 level of confidence for all four questions analyzed.

Tables 5 through 8 contain analyses of the spring semester 1970-71 class. Significance at the .05 level of confidence (N = 12) occurred when any D value was greater than .375.

TABLE 5

FREQUENCY OF RESPONSES FOR QUESTION I
CLASS STATUS, SPRING SEMESTER 1970-71

1. freshmen	7
2. sophomores	3
3. juniors	1
4. seniors	1

Table 5 included the frequency count for Question I. There were 7 freshmen enrolled in HPER-107 during the spring semester 1970-71. This compared with 3 sophomores, 1 junior, and 4 seniors. The D value of .333 was not significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was accepted and the alternate hypothesis (H_1) was rejected. There was no significant difference in the frequencies of responses with respect to class status.

TABLE 6

FREQUENCY OF RESPONSES FOR QUESTION II
ORIGINAL REASON FOR ENROLLMENT IN HPER-107,
SPRING SEMESTER 1970-71

1. major credit	7
2. minor credit	2
3. general interest	3
4. unknown	0

Table 6 disclosed that 7 students out of 12 were enrolled in HPER-107 during the spring semester 1970-71 because of a major requirement. Two students enrolled because of a minor credit, 3 for general interest and all the reasons for enrollment were known. The D value (.333) was not significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was accepted while the alternative hypothesis (H_1) was rejected. There was no significant difference in the frequencies of responses with respect to the original reason for enrollment.

TABLE 7

FREQUENCY OF RESPONSES FOR QUESTION III
CURRENT CLASS STATUS (1973-74)

1.	senior	3
2.	received degree	4
3.	junior	3
4.	freshman-sophomore	2

An analysis of responses to Question III may be found in Table 7. Table 7 revealed that of the subjects who enrolled in HPER-107 during the spring semester 1970-71, 3 were seniors during the school year 1973-74, 4 had already received his degree, 3 were juniors, while 2 were still either freshmen or sophomores. The D value of .083 was not significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was accepted and the alternate hypothesis (H_1) was rejected. There was no significant difference in the

frequencies of responses with respect to the subjects' current class status.

TABLE 8

FREQUENCY OF RESPONSES FOR QUESTION IV
CURRENT STATUS (1973-74)

1.	continuing or graduated with a degree in P.E. at UND	3
2.	continuing or graduated with a degree in another field at UND	5
3.	possible transfer	3
4.	dropped out of UND	1

A summary of the results to Question IV may be found in Table 8. Table 8 divulged that 3 subjects of this particular class were continuing or had graduated with a degree in physical education. Five students were pursuing or had already received a degree in another area, 3 students may have transferred, and 1 student had dropped out. The D value of .167 was not significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was accepted and the alternative hypothesis (H_1) was rejected. There was no significant difference in the frequencies of responses with respect to the current status of the subjects.

An overview of the HPER-107 class for the spring semester 1970-71 showed that for Questions I, II, III, and IV there was no significant difference in the frequencies of responses at the .05 level of confidence.

Tables 9 through 12, inclusively, contain analyses of the fall semester class of 1971-72. Significance at the .05 level of confidence (N = 32) occurred when any D value was greater than .240.

TABLE 9

FREQUENCY OF RESPONSES FOR QUESTION I
CLASS STATUS, FALL SEMESTER 1971-72

1.	freshmen	24
2.	sophomores	5
3.	juniors	2
4.	seniors	1

Table 9 revealed the frequency count for Question I. There were 24 freshmen enrolled in HPER-107 during the fall semester 1971-72. This compared with 5 sophomores, 2 juniors and 1 senior. The calculated D value of .500 was significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was rejected and the alternate hypothesis (H_1) was accepted. There was a significant difference in the frequencies of responses with respect to class status.

TABLE 10

FREQUENCY OF RESPONSES FOR QUESTION II
ORIGINAL REASON FOR ENROLLMENT IN HPER-107,
FALL SEMESTER 1971-72

1.	major credit	19
2.	minor credit	4
3.	general interest	7
4.	unknown	2

Table 10 divulged that 19 subjects enrolled in HPER-107, during the fall semester 1971-72, because of a major requirement. Four students enrolled for a minor credit, 7 for general interest, and for 2 subjects the reason was unknown. The D value of .344 was significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was rejected and the alternative hypothesis (H_1) was accepted. There was a significant difference in the frequencies of responses with respect to the original reason for enrollment.

TABLE 11

FREQUENCY OF RESPONSES FOR QUESTION III
CURRENT CLASS STATUS (1973-74)

1.	junior	15
2.	senior	4
3.	freshman-sophomore	11
4.	received degree	2

An analysis of responses to Question III may be found in Table 11. It should be noted that the researcher's subjective rankings for Question III are subject to revision, depending on the particular semester group being analyzed. For the year 1971-72, it was expected that by the year 1973-74, the majority of the subjects would be juniors, followed by seniors, freshmen-sophomores, and finally, those subjects' who had already received their degree. Table 11 showed that of the subjects who enrolled in HPER-107 during the fall semester 1971-72, 15 were currently juniors (i.e. during the

school year 1973-74), 4 were seniors, and 11 were still either freshmen or sophomores. The D value was computed at .219. This figure was not significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was accepted and the alternative hypothesis (H_1) was rejected. There was no significance difference in the frequencies of responses with respect to the subjects' current class status.

TABLE 12

FREQUENCY OF RESPONSES FOR QUESTION IV
CURRENT STATUS (1973-74)

1.	continuing or graduated with a degree in P.E.	9
2.	continuing or graduated with a degree in another field	7
3.	possible transfer	5
4.	dropped out	11

The results of Question IV may be found in Table 12. Table 12 showed that 9 subjects of this particular class were continuing or had graduated with a degree in physical education. Seven students were pursuing or had already received a degree in another area, 5 students may have transferred, and 11 subjects had dropped out. The D value of .094 was not significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was accepted and the alternative hypothesis (H_1) was rejected. There was no significant difference in the frequencies of responses with respect

to the current status of the subjects.

Summarizing, the HPER-107 class for the fall semester 1971-72 showed a significant difference in the frequencies of responses at the .05 level of confidence for Questions I and II. There was no significant difference in the frequencies of responses for Questions III and IV.

Tables 13 through 16 contain analyses of the spring semester 1971-72 class. Significance at the .05 level of confidence (N = 13) occurred when any D value was greater than .361.

TABLE 13

FREQUENCY OF RESPONSES FOR QUESTION I
CLASS STATUS, SPRING SEMESTER 1971-72

1. freshmen	5
2. sophomores	4
3. juniors	3
4. seniors	1

Table 13 included the frequency count for Question I. There were 5 freshmen, enrolled in HPER-107 during the spring semester 1971-72. This compared with 4 sophomores, 3 juniors, and 1 senior. The D value of .192 was not significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was accepted and the alternative (H_1) was rejected. There was no significant difference in the frequencies of responses with respect to class status.

TABLE 14

FREQUENCY OF RESPONSES FOR QUESTION II
ORIGINAL REASON FOR ENROLLMENT IN HPER-107,
SPRING SEMESTER, 1971-72

1.	major credit	11
2.	minor credit	0
3.	general interest	2
4.	unknown	0

Table 14 disclosed that 11 students out of 13 were enrolled in HPER-107 during the spring semester 1971-72 because of a major requirement. There were no students enrolled because of a minor credit, 2 enrolled for general interest and all reasons for enrollment were known. The D value of .596 was significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was rejected while the alternative hypothesis (H_1) was accepted. There was a significant difference in the frequencies of responses with respect to the original reason for enrollment.

TABLE 15

FREQUENCY OF RESPONSES FOR QUESTION III
CURRENT CLASS STATUS (1973-74)

1.	junior	2
2.	senior	4
3.	freshman-sophomore	5
4.	received degree	2

An analysis of responses to Question III may be found in Table 15. The expected frequencies of responses were ranked in the following order----junior, senior, freshman-sophomore, and received degree. Table 15 revealed, that of the subjects who enrolled in HPER-107 during the spring semester 1971-72, 2 were juniors during the school year 1973-74, 4 were seniors, 5 were either freshmen or sophomores, while 2 had already received their degree. The D value of .096 was not significant at the .05 level of confidence. Therefore, the null hypothesis (H_0) was accepted and the alternative hypothesis (H_1) was rejected. There was no significant difference in the frequencies of responses with respect to the subjects' current class status.

TABLE 16

FREQUENCY OF RESPONSES FOR QUESTION IV
CURRENT STATUS (1973-74)

1.	continuing or graduated with a degree in P.E. at UND	7
2.	continuing or graduated with a degree in another field at UND	2
3.	possible transfer	1
4.	dropped out of UND	3

A summary of the results to Question IV may be found in Table 16. Table 16 divulged that 7 subjects of this particular class were continuing or had graduated with a degree in physical education. Two students were pursuing or had already received a

degree in another area, 1 student may have transferred, and 3 students had dropped out. The D value of .288 was not significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was accepted and the alternative hypothesis (H_1) was rejected. There was no significant difference in the frequencies of responses in respect to the current status of the subjects.

An overview of the HPER-107 class for the spring semester 1971-72 showed that for Question II there was a significant difference in the frequencies of responses at the .05 level of confidence. There was no significant difference in the frequency of responses for Questions I, III, and IV.

Tables 17 through 20, inclusively, contain analyses of the fall semester class of 1972-73. Significance at the .05 level of confidence (N = 16) occurred when any D value was greater than .328.

TABLE 17

FREQUENCY OF RESPONSES FOR QUESTION I
CLASS STATUS, FALL SEMESTER, 1972-73

1. freshmen	14
2. sophomores	0
3. juniors	1
4. seniors	1

Table 17 revealed the frequency count for Question I. There were 14 freshmen enrolled in HPER-107 during the fall semester 1972-73. This compared with no sophomores, 1 junior, and 1 senior.

The calculated D value of .625 was significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was rejected and the alternative hypothesis (H_1) was accepted. There was a significant difference in the frequencies of responses with respect to class status.

TABLE 18

FREQUENCY OF RESPONSES FOR QUESTION II
ORIGINAL REASON FOR ENROLLMENT IN HPER-107,
FALL SEMESTER, 1972-73

1. major credit	15
2. minor credit	0
3. general interest	1
4. unknown	0

Table 18 showed that 15 subjects enrolled in HPER-107, during the fall semester 1972-73, because of a major requirement. No students enrolled for a minor credit, 1 enrolled for general interest, and all reasons for enrollment were known. The D value of .688 was significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was rejected and the alternative hypothesis (H_1) was accepted. There was a significant difference in the frequencies of responses with respect to the original reason for enrollment.

TABLE 19

FREQUENCY OF RESPONSES FOR QUESTION III
CURRENT CLASS STATUS (1973-74)

1.	freshman-sophomore	13
2.	junior	1
3.	senior	1
4.	received degree	1

An analysis of responses to Question III may be found in Table 19. The responses were ranked in the following order---freshman-sophomore, junior, senior, and received degree. Table 19 revealed that of the subjects who enrolled in HPER-107 during the fall semester 1972-73, 13 were currently freshmen-sophomores (i.e. during the school year 1973-74), 1 subject was a junior, 1 subject was a senior, and 1 subject had already received his degree. The D value was computed at .563. This figure was significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was rejected and the alternative hypothesis (H_1) was accepted. There was a significant difference in the frequencies of responses with respect to the subjects' current class status.

TABLE 20

FREQUENCY OF RESPONSES FOR QUESTION IV
CURRENT STATUS (1973-74)

1.	continuing or graduated with a degree in P.E. at UND	10
2.	continuing or graduated with a degree in another field at UND	3
3.	possible transfer	1
4.	dropped out of UND	2

The results of Question IV may be found in Table 20. Table 20 showed that 10 subjects of this particular class were continuing or had graduated with a degree in physical education. Three students were pursuing or had already received a degree in another area, 1 student may have transferred, and 2 students had dropped out. The D value of .375 was significant at the .05 level of confidence. Therefore, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted. There was a significant difference in the frequencies of responses with respect to the current status of the subjects.

Summarizing, the HPER-107 class for the fall semester 1972-73 showed a significant difference in the frequencies of responses at the .05 level of confidence for all four questions analyzed.

Tables 21 through 24 contain analyses of the spring semester 1972-73 class. Significance at the .05 level of confidence (N = 13) occurred when any D value was greater than .361.

TABLE 21

FREQUENCY OF RESPONSES FOR QUESTION I CLASS STATUS, SPRING SEMESTER 1972-73

1.	freshmen	6
2.	sophomores	2
3.	juniors	2
4.	seniors	3

Table 21 includes the frequency count for Question I. There were 6 freshmen enrolled in HPER-107 during the spring semester 1972-73. This compared with 2 sophomores, 2 juniors, and 3 seniors. The D value of .212 was not significant at the .05 level of confidence. Therefore, the null hypothesis (H_0) was accepted and the alternative hypothesis (H_1) was rejected. There was no significant difference in the frequencies of responses with respect to class status.

TABLE 22

FREQUENCY OF RESPONSES FOR QUESTION II
ORIGINAL REASON FOR ENROLLMENT IN HPER-107,
SPRING SEMESTER 1972-73

1. major credit	9
2. minor credit	2
3. general interest	2
4. unknown	0

Table 22 disclosed that 9 students out of 13 were enrolled in HPER-107 during the spring semester 1972-73 because of a major requirement. Two students enrolled because of a minor credit, 2 for general interest, and all the reasons for enrollment were known. The D value (.442) was significant at the .05 level of confidence. Therefore, the null hypothesis (H_0) was accepted while the alternative hypothesis (H_1) was rejected. There was no significant difference in the frequencies of responses with respect to the original reason for enrollment.

TABLE 23

FREQUENCY OF RESPONSES FOR QUESTION III
CURRENT CLASS STATUS (1973-74)

1.	freshman-sophomore	6
2.	junior	3
3.	senior	0
4.	received degree	4

An analysis of responses to Question III may be found in Table 23. The responses were ranked as follows---freshman-sophomore, junior, senior, and received degree. Table 23 revealed that of the subjects who enrolled in HPER-107 during the spring semester 1972-73, 6 were freshmen-sophomores during the school year 1973-74, 3 were juniors, none were seniors, while 4 had already received their degree. The D value of .212 was not significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was accepted and alternative hypothesis (H_1) was rejected. There was no significant difference in the frequencies of responses with respect to the subjects current class status.

TABLE 24

FREQUENCY OF RESPONSES FOR QUESTION IV
CURRENT STATUS (1973-74)

1.	continuing or graduated with a degree in P.E. at UND	5
2.	continuing or graduated with a degree in another field at UND	2
3.	possible transfer	1
4.	dropped out of UND	5

A summary of the results to Question IV may be found in Table 24. Table 24 divulged that 5 subjects of this particular class were continuing or had graduated with a degree in physical education. Two students were pursuing or had already received a degree in another area, 1 student may have transferred, and 5 students had dropped out. The D value of .135 was not significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was accepted and the alternative hypothesis (H_1) was rejected. There was no significant difference in the frequencies of responses with respect to the current status of the subjects.

An overview of the HPER-107 class for the spring semester 1972-73 showed that for Questions I, III, and IV there was no significant difference in the frequencies of responses at the .05 level of confidence. There was, however, a significant different for Question II.

Tables 25 through 27, inclusively, contain analyses of the total frequency counts for all 6 semester classes. Significance at the .05 level of confidence (N = 128) occurred when any D value was greater than .120.

TABLE 25

FREQUENCY OF RESPONSES FOR QUESTION I
CLASS STATUS, WHILE ENROLLED IN HPER-107

1. freshmen	84
2. sophomores	21
3. juniors	14
4. seniors	9

Table 25 revealed the frequency count for Question I. There were 84 freshmen enrolled in HPER-107 during the six semester survey. This compared with 21 sophomores, 14 juniors, and 9 seniors. The calculated D value of .406 was significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was rejected and the alternate hypothesis (H_1) was accepted. There was a significant difference in the frequencies of responses with respect to class status. Using percentages, the figures were as follows---freshmen (65.6), sophomores (16.4), juniors (10.9), and seniors (7.1).

TABLE 26

FREQUENCY OF RESPONSES FOR QUESTION II
ORIGINAL REASON FOR ENROLLMENT

1. major credit	94
2. minor credit	9
3. general interest	21
4. unknown	4

Table 26 showed that 94 subjects enrolled in HPER-107 because of a major requirement. Nine students enrolled for a minor credit, 21 for general interest, and for 4 subjects the reason was unknown. The D value of .484 was significant at the .05 level of confidence. Therefore, the null hypothesis (H_0) was rejected and the alternative hypothesis H_1) was accepted. There was a significant difference in the frequencies of responses with respect to the original reason for enrollment. On a percentage basis, the computations disclosed that 73.4 percent of the subjects enrolled for a major credit, 7.1 percent for a minor credit, 16.4 percent for general interest, and for 3.1 percent of the students the reason was unknown.

The total results for Question III were deemed irrelevant since each semester class would, theoretically, be at different stages in their academic advancement. The question only served to show whether or not an individual semester group was progressing at a normal rate from the "freshmen" level to the "received degree" level.

TABLE 27

FREQUENCY OF RESPONSES FOR QUESTION IV
CURRENT STATUS (1973-74)

1.	continuing or graduated with a degree in P.E. at UND	57
2.	continuing or graduated with a degree in another field at UND	25
3.	possible transfer	15
4.	dropped out of UND	31

The results of Question IV may be found in Table 27. Table 27 showed that 57 subjects of these 6 particular semester classes were continuing or had graduated with a degree in physical education. Twenty-five students were pursuing or had already received a degree in another area, 15 students may have transferred, and 31 subjects had dropped out. The D value of .197 was significant at the .05 level of confidence. Therefore, the null hypothesis (H_o) was rejected and the alternative hypothesis (H_1) was accepted. There was a significant difference in the frequencies of responses with respect to the current status of the subjects. The calculated percentages revealed that 44.5 percent of the population were continuing or had graduated with a degree in physical education, 19.5 percent were pursuing or had already received a degree in another area, 11.7 percent may have transferred, 24.3 percent had dropped out.

Summarizing, the HPER-107 classes for the fall semester 1970-71 through the spring semester 1972-73 showed a significant difference in the frequencies of responses at the .05 level of confidence for all three questions analyzed.

CHAPTER IV

DISCUSSION

The statistical analyses disclosed that, as expected, a significant number of students in the HPER-107 classes from the fall semester 1970 through the spring semester 1973 were freshman physical education majors who were continuing towards a degree in physical education. Although these results were statistically significant, the question remained whether or not the physical education department at the University of North Dakota would be satisfied with a return of 57 students out of the original 128 subjects.

The population of this study compared favorably with the research cited in the related literature in the areas of transfers, dropouts, and students who change their majors. It seemed that the physical education department at the University of North Dakota was not the only teacher education enterprise beset by these problems.

A comparison of the fall and spring enrollments revealed that, for the most part, the spring enrollments were somewhat smaller than the fall enrollments and the deviations from the expected norms were usually greater.

The fall semester 1971-72 class seemed to deviate more from the normally expected than the other 5 semester groups. Only 9 students of an original enrollment of 32 were currently

continuing toward, or had graduated with, a degree in physical education. Since 24 of these students were freshmen in 1971-72, this may account for the paucity of students enrolled in the major classes during the school year 1973-74. Judging by the results of the next two semesters, the high attrition rate in the physical education program of the 1971-72 fall class did not appear to be a trend. Although not substantiated by the statistics, it should be noted, however, that the two semester classes of 1972-73 have not had as much time to develop the abnormal deviations.

It is conceivable that the 31 students who were classified as "dropouts" by this study might eventually return to the University of North Dakota and complete requirements for degrees in physical education. This possibility, in turn, would increase the retention figures for the study. Likewise, it is possible that some of the students who switched majors or transferred might return to the physical education program at UND.

The study disclosed that the majority of the students who enrolled in HPER-107 were freshmen who did so because of a major requirement.

A look at enrollment levels showed that the total yearly enrollment decreased progressively from 54 students in 1970-71, and 45 students in 1971-72, to 29 students in 1972-73. One possible reason, peculiar to the University of North Dakota, may be the fact that the University of Manitoba has relaxed the entrance requirements for its physical education program. The University of North Dakota has traditionally attracted a large

influx of Manitoba physical education students.

Another statistic which may be misleading is the fact that although there were 128 students who enrolled in HPER-107 during the six semesters, only 94 classified themselves as physical education majors. Therefore, in actuality, the program retained 57 of the 94 major students (60.6 percent).

Although Question III of the questionnaire (subject's current class status) was not tabulated for the total six semesters, the statistics revealed that significance at the .05 level occurred only for two of the six semesters. The question was designed to determine if students were moving toward graduation at a normal rate. In other words, if 25 students enrolled in the supposedly freshman HPER-107 course in 1970-71, it might be expected that 25 students would be seniors enrolling in senior courses during the year 1973-74. The statistics disclosed that this was not the case in 4 of 6 semesters studied. Therefore, it appeared that the number of students who enroll in HPER-107 during any given semester should not be used as a long range indicator of future junior and senior class size. Predictions should be made only if the enrollment for the HPER-107 class could be broken down into major and non-major students.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

SUMMARY

There was some concern among certain staff members of the Men's Physical Education Division at the University of North Dakota about the "disappearance" of physical education majors. The enrollment for certain junior and senior major classes for the fall semester, 1973, was lower than expected and the prospects for the second semester were similar.

The HPER-107, Introduction to Physical Education, course was originally designed as a first semester freshman course for prospective majors. Most of the staff members agreed that enrollment figures for HPER-107 had been normal, or above, for the last 3 or 4 years. The question arose as to what had happened to those students who had enrolled in HPER-107 during the years previous. Did these students transfer, drop-out, or switch to another field of study, and, secondly, what kind of students were enrolling in the course - majors, minors, non-majors, freshmen, sophomores, etc.?

The purpose of the study, therefore, was to determine the relationship between the number of students who enrolled in HPER-107, from the fall semester, 1970, through the spring semester, 1973, and the number who graduated, or were continuing toward a degree, in physical education.

A questionnaire was constructed, and each subject's cumulative record was searched. From the cumulative records the following data were collected:

1. The subject's class status (e.g. junior) while enrolled in HPER-107.

2. The subject's original reason (e.g. major requirement) for enrolling in HPER-107.

3. The subject's current class status (i.e. for the school year 1973-74).

4. The subject's current status (e.g. drop-out) as pertaining to his being a physical education major at the University of North Dakota.

The Kolmogorov-Smirnov one sample test was applied to the obtained data. Each of the four questions for each of six semesters was analyzed individually.

CONCLUSIONS

Within the limitations of this study, the following conclusions appear justified:

1. For the total population, there was a significant difference in the frequencies of responses for all questions at the .05 level of confidence.

2. It appeared that, for the HPER-107 classes of the fall semester 1970 through the spring semester 1973, a significant number of the students were (1) freshmen, (2) physical education majors and (3) were still working toward a degree in physical

education.

3. For four of the six semesters studied the expected rate of advancement (i.e. from freshman to senior) was not significant at the .05 level of confidence.

RECOMMENDATIONS

In light of the results and conclusions of the present study, the following recommendations were made:

1. All students who enrolled in HPER-107 should fill out a questionnaire similar to the one used in this study. If this was done, it would be easier to predict enrollment in future major classes.

2. In this day of falling university enrollments the physical education department should endeavour to keep closer "tabs" on major students. A continual selling job may be necessary throughout the full four years.

3. A further study should be undertaken to see if any of the subjects' reasons for dropping out, transferring, or switching majors can be attributed to the nature of the physical education program at the University of North Dakota. If it can be proven that one or two major factors caused the increased dropout rate from the physical education department, certain adjustments could be made.

APPENDIX A

QUESTIONNAIRE

NAME _____

I. Subject's class status in school 197___-7___

1. freshman _____ 3. junior _____
2. sophomore _____ 4. senior _____

II. Subject's original reason for enrolling in HPER-107.

1. Requirement for major credit _____
2. Requirement for minor creidt _____
3. General interest _____
4. Unknown _____

III. Subject's current class status (1973-74)

1. senior _____ 3. junior _____
2. received degree _____ 4. freshman-sophomore _____

IV. Subject's current status (1973-74)

1. Continuing towards or graduated with a degree in physical education at UND _____
2. Continuing towards or graduated with a degree in another field at UND _____
3. Possible transfer _____
4. Dropped out of UND _____

APPENDIX B

A list of the students who enrolled in HPER-107 from the fall semester of 1970 through the spring semester 1973 and how the questionnaire classified them. The number printed under each question column showed what response number each student was classified under.

FALL SEMESTER 1970-71	QUESTION I	QUESTION II	QUESTION III	QUESTION IV
1. Begalle, David Joseph	1	3	4	4
2. Black, Murray Paul	1	1	1	1
3. Branvold, Scott Eugene	4	2	2	2
4. Bryan, Bruce Earl	1	1	1	1
5. Carvell, Peter A.	1	3	2	2
6. Collins, Arthur Joe	2	4	4	4
7. Dorsher, Gerald John	1	1	4	2
8. Ferg, Mark William	2	1	2	2
9. Fraser, George	1	1	4	3
10. Gefroh, Daniel J.	1	1	1	1
11. Gluting, Wayne Robert	1	1	1	1
12. Gordon, Hugh Sangster	2	1	2	1
13. Goresky, Gary William	1	1	1	1
14. Green, Herman	1	1	1	1
15. Jackson, Arthur Jr.	2	1	1	3
16. Jeffryes, Curtis Char	1	3	1	2
17. Johnson, Gregory Nils	1	1	4	3
18. Jones, Evan Gilbert	1	1	1	1
19. Koenig, David William	2	1	2	1
20. Kracht, Jerry Dean	1	3	1	2
21. Kyle, Glen Joseph	1	1	1	1
22. Leclair, James Michael	2	1	2	1
23. Lisowski, Richard Jos	1	1	1	1
24. Mazurak, Steven Lee	1	4	4	4
25. McCaig, James Donald	1	1	1	1
26. McErlane, Patrick C.	3	1	2	1
27. McFarlane, Paul Edward	3	1	2	1
28. Mowbray, Douglas Edwin	3	1	2	1
29. Murie, Craig Robert	2	3	2	3
30. Obirek, Kenneth Frank	1	1	2	1
31. Oughton, Alan Gerald	1	1	1	1
32. Pertile, Joseph Nick	1	1	1	1
33. Porco, Frank Joseph	1	1	2	1
34. Pronozinski, Dale	3	1	2	1
35. Ritchie, Robert Gordon	1	1	4	4
36. Rosenstock, Sheldon A.	3	1	2	1

37.	Samuelson, Fred Allen	1	1	4	4
38.	Stevenson, Chester	1	1	1	1
39.	Tobin, Stephen Richard	1	1	4	4
40.	Wall, Jack Charles	1	1	4	4
41.	Wychreschuk, Russell	1	1	2	1
42.	Zacher, Clayton Scott	4	3	1	4

SPRING SEMESTER 1970-71

43.	Aipperspach, Dennis D.	3	2	1	2
44.	Halstrom, Clair John	2	1	3	3
45.	Hordahl, David Allen	1	3	1	2
46.	Helman, Bob George	2	3	2	2
47.	Jackson, John Calvin	1	3	3	2
48.	Krzyzaniak, Brain J.	1	1	3	3
49.	Morben, Marcus Donn	2	2	1	2
50.	Purpur, Bob A.	1	1	4	4
51.	Romfo, Clayton Dale	4	1	2	1
52.	Shearman, James	1	1	4	3
53.	Skalrood, Lawrence	1	1	2	1
54.	Viminitz, David Joseph	1	1	2	1

FALL SEMESTER 1971-72

55.	Aardahl, Marvin Dale	1	2	4	4
56.	Bakke, Jeffrey Allan	3	1	1	1
57.	Barta, Keith Lynn	2	1	3	4
58.	Blanchard, Frank Loren	2	1	1	2
59.	Burgess, Greg Keith	1	1	3	3
60.	Butler, Donald James	1	1	3	1
61.	Chatley, John Francis	1	3	4	4
62.	Cornog, William John	1	3	4	4
63.	Crawford, Robert Lewis	1	3	3	2
64.	Crockett, Lawrence	2	1	3	1
65.	Detienne, Wayne Eugene	1	2	4	3
66.	Fair, Donald Scott	1	3	3	2
67.	Gaucius, Thomas Willi	1	3	4	4
68.	Grover, Brian Jeffrey	1	3	3	2
69.	Hangsleben, Alan Will	1	1	3	2
70.	Hill, Karl Lee	1	4	4	4
71.	Kennedy, Larry Cecil	1	1	3	1
72.	Larson, Brian Lee	1	4	4	4
73.	Law, Robert James	1	1	3	4
74.	Overgaard, Jacky Wayne	3	2	2	2
75.	Panzer, Gordon E.	2	1	3	4
76.	Paukert, Terry Lee	1	1	3	1

77.	Peppard, Mickey Wayne	1	1	4	3
78.	Pribula, Charles E.	1	1	4	3
79.	Purpur, Gary L.	1	3	3	4
80.	Rader, Robert Lee	1	1	1	2
81.	Schneider, Dale M.	1	1	3	1
82.	Smerud, Tom Robert	1	1	3	1
83.	Sullivan, Patrick A.	2	1	4	3
84.	Trousdell, Frank John	1	2	4	4
85.	Wales, Robert	4	1	2	1
86.	Wilson, Daniel Harris	1	1	1	1

SPRING SEMESTER 1971-72

87.	Boldirev, Jack Jr.	1	1	3	1
88.	Davis, Steven Anthony	1	1	4	4
89.	Gustafson, Jay Steven	2	1	1	1
90.	Johnson, Daniel Royce	2	3	4	4
91.	Messner, Marvin Frank	1	1	3	1
92.	Monias, Ernest Tony	1	3	4	4
93.	Mueller, Thomas Paul	2	1	4	3
94.	Negard, Gregory Olive	1	1	4	1
95.	Pawluk, Edward Paul	3	1	1	2
96.	Price, Kerry R.	3	1	2	2
97.	Repesh, Vincent James	3	1	1	1
98.	Rios, Mark V.	4	1	2	1
99.	Weber, Perry Thomas	2	1	1	1

FALL SEMESTER 1972-73

100.	Choma, Fred Sam	1	1	4	1
101.	Cruise, James Robert	1	1	4	1
102.	Gibbs, Scott Leo	1	1	4	4
103.	Green, Philip Norman	1	1	4	1
104.	Larsen, Warren Gene	3	1	1	1
105.	Lindquist, Dwight A.	1	1	4	1
106.	Matthews, Patrick Art	1	3	3	2
107.	McCallum, John Duncan	4	1	2	1
108.	Mitzel, Blair Kent	1	1	4	2
109.	Montaque, Pat Rondall	1	1	4	1
110.	Neu, Steven Michael	1	1	4	1
111.	Renwick, James Allan	1	1	4	4
112.	Riediger, David C.	1	1	4	1
113.	Risdal, Thomas H.	1	1	4	2
114.	Russell, William Blair	1	1	4	1
115.	Youngquist, Scott Lee	1	1	4	3

SPRING SEMESTER 1972-73

116.	Boeddeker, Dennis S.	3	1	3	4
117.	Buick, Stephen Paul	1	1	4	4
118.	Eaglestaff, Robert	2	1	3	1
119.	Fouillard, Edgar	2	1	3	1
120.	Gilbertson, Curtis E.	4	2	2	2
121.	Hall, Randy Edward	1	3	4	4
122.	Krahn, Gary Regan	1	3	4	4
123.	Nespor, Ralph Joseph	1	1	4	4
124.	Schell, Michael Duane	1	1	4	3
125.	Sebastian, Clyde Peter	3	2	2	2
126.	Stasiewicz, George B.	1	1	4	1
127.	Steinke, Donald Gordon	4	1	2	1
128.	Whalen, George Michael	4	1	2	1

A detailed example of the calculations used in the Kolmogorov-Smirnov one-sample test (N = 42).

KOLMOGOROV-SMIRNOV TEST

Expected frequency	1	2	3	4
f	28	7	5	2
$F_o(x)$	$\frac{10.5}{42}$	$\frac{21}{42}$	$\frac{31.5}{42}$	$\frac{42}{42}$
$S_{42}(x)$	$\frac{28}{42}$	$\frac{35}{42}$	$\frac{40}{42}$	$\frac{42}{42}$
$F_o(x)-S_{42}(x)$	$\frac{17.50}{42}$	$\frac{14.00}{42}$	$\frac{8.50}{42}$	0

$D = \frac{17.5}{42} = .417^a$

[a]Significant at the .05 level

REFERENCES

1. Clayton, Robert D. "Introduction to Physical Education." Journal of Health, Physical Education, and Recreation, XXXVIII (April, 1967), 22-23.

2. Karlgaard, Richard E. "A Comparative Study of Desirable Male Candidates for Teacher Training in Physical Education at the University of North Dakota." Unpublished Master's Thesis, University of North Dakota, 1957.

3. Nelson, Barbara. "Predicting Success in the College Physical Education Major Program." Physical Educator, XXVIII (December, 1971), 196-7.

4. Kenyon, Gerald A. "Certain Pyschosocial and Cultural Characteristics Unique to Prospective Teachers of Physical Education." Research Quarterly, XXXVI (March, 1965), 105-112.

5. Leyman, Laretha. "Prediction of Freshmen and Sophomore Grade Point Average of Women Physical Education Major Students." Educational and Pyschological Measurement, XXVII (Winter, 1967), 1139-41.

6. Panos, Robert J., and Astin, Alexander W. "Attrition Among College Students." American Council on Education Research Reports, II (1967), 20.

7. Bard, Bernard. "College Students: Why They Drop Out." The Education Digest, XXXIV (March, 1969), 18-21.

8. Bayer, A. E. "College Drop-Outs: Factors Affecting Senior College Completion." Sociology of Education, XLI (Summer, 1968), 305-16.

9. Bachmier, Thomas. "An Investigation of Certain Factors Related to Persistence of Students Who Enrolled as First-Semester Freshmen at the University of North Dakota During the Fall of 1955." Unpublished Ed. D. Dissertation, University of North Dakota, 1961.

10. Iffert, Robert E. "Retention and Withdrawal of College Students." Office of Education Bulletin, U.S. Government Printing Office, Washington, 1958.

11. Max, Pearl. "How Many Graduate?" College and University, XLV (Fall, 1969), 63-76.

12. Rossmann, J. E., and Kirk, B. A. "Factors Related to Persistence and Withdrawal Among University Students." Journal of Counseling Pyschology, XVII (January, 1970), 56-62.

13. Stordahl, Kalmer. "Influences on Voluntary Withdrawal from College." College and University, XLV (Winter, 1970), 163-71.

14. Hannah, William. "Withdrawal From College." Journal of College Student Personnel, X (November, 1969), 397-402.

15. Kamens, David H. "College Charter and College Size: Effects on Occupational Choice and College Attrition." Sociology of Education, XLIV (Summer, 1971), 270-96.

16. Starr, Ann., Beta, Ellen L., and Menne, John. "Difference in College Student Satisfaction: Academic Dropouts, Non-Academic Dropouts, and Nondropouts." Journal of Counseling Pyschology, XIX (July, 1972), 317-22.

17. DeVecchio, Richard C. "Characteristics of a Nonreturning Community College Freshmen." Journal of College Student Personnel, XIII (September, 1972), 429-433.

18. Fosberry, M. R. "Study of the Reasons for Mobility of College Students." Journal of the National Association of Women Deans and Counsellors, XXVII (Spring, 1964), 140-43.

19. Kuh, George D., Redding, Arthur J., and Lesar, David J. "Counseling the Transfer: Does It Make a Difference?" National Association of College Admissions Counsellors, XVI (February, 1972), 16-19.

20. Kuznik, Anthony. "Reverse Transfers: Students Who Transfer from Four-Year to Two-Year Colleges." Journal of College Student Personnel, XIII (September, 1972), 425-28.

21. Taylor, Ronald G., and Hansen, Gary R. "Interest Change as a Function of Persistence and Transfer from an Engineering Major." Journal of Counseling Pyschology, XIX (March, 1972), 130-5.

22. Medalia, Nahum Z. "Choice of College Major by Contest Mobility." Sociology of Education, XLI (Summer, 1968), 282-290.

23. Cook, M. Olin. "College Students Change Majors." School and Society, XLIIIC (May, 1965), 271-3.

24. MacIntosh, Archibald. "A Study of Factors Associated with the Stability of Vocational Goals in College Students." Unpublished Doctor's Dissertation, University of Pennsylvania, 1953.

25. Gamble, Glenn C. "Pre-College Experiences and Curriculum Changes by College Students." Personnel and Guidance Journal, XL (February, 1962), 562.

26. Weber, Jerome C., and Lamb, David R. Statistics and Research in Physical Education, St. Louis: C. V. Mosby Company, 1970.

27. Siegal, Sidney. Nonparametric Statistics. New York: McGraw-Hill Book Company, Inc., 1967.