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A LONGITUDINAL STUDY ON THE EFFECTS OF STOPPING OUT

by

Robert Dean Smith

A dissertation submitted in partial fulfillment
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Psychology

UTAH STATE UNIVERSITY
Logan, Utah

1974

ACKNOWLEDGMENTS

Acknowledgment and appreciation are extended to the members of my doctoral committee, Dr. Michael R. Bertoch, Dr. Keith T. Checketts, Dr. Marvin G. Fifield, Dr. Elwin C. Nielsen, and Dr. Ronald S. Peterson, for their encouragement and support during the course of my studies. A special note of thanks is due to Dr. Bertoch and to Dr. Peterson for giving me many hours of valuable time when help was needed and to Dr. Checketts, Dr. Donald V. Sisson, and Dr. David White for their criticisms and assistance with the research and statistical procedures.

An expression of gratitude is also in order to Mr. Mark Madsen, Assistant Attorney General of the State of Utah, Vice Provost Richard Swenson, Dean L. Mark Neuberger, Office of Records and Admissions, Utah State University, for granting permission to obtain the data; to Mr. G. Karl Lambert, Registrar, for his help in obtaining the names of former students; and to Mrs. Elaine Moulton, Miss Cheryl Griffeth, my wife, Jo Ann and son, Ricky, for assisting me in collecting the information. Also, a word of thanks to Miss Gayle Gordon, Alumni Records Office, for permitting me to obtain addresses of the people who were selected for the study and to Mrs. Lynette Heninger for typing the manuscript. And, finally, to Gregory, Marshall, and Janalee recognition is in order for being additional sources of inspiration to their father to expedite the completion of the study.

Robert Dean Smith

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ABSTRACT

A Longitudinal Study on the Effects of Stopping Out

by

Robert Dean Smith, Doctor of Philosophy

Utah State University, 1974

Major Professor: Michael R. Bertoch
Department: Psychology

Inquiries have been made by the Carnegie Commission on Higher Education and the United States Department of Health, Education, and Welfare to determine how colleges and universities could meet the financial crisis now being faced. One of the recommendations made by both agencies as a result of their investigations was that curriculum planners at these institutions provide students with opportunities to have off-campus experiences, preferably in their chosen career areas, before they are graduated to determine whether they want to pursue their studies in that area or reorient themselves to other options. These planned stopouts, they suggested, would curtail drifting or hanging on as well as enable students to gain practical experiences at various stages in their training.

There is a lack of information in the literature to justify immediate response to the suggestions made by the private and public bodies mentioned. Time does not permit officials to conduct longitudinal studies based on an experimental design which would provide a basis to accept or reject these recommendations. This study represents an effort to investigate the effects of stopping out on former students.

Admittedly it has limitations, particularly those inherent in ex post facto research, but does provide some results which may assist administrators and faculties as they make decisions in light of the crisis now facing them.

The results of this study indicate that students who have stopped out are more likely to change their academic major than students who have not stopped out. Also, there are indications that stopping out does not affect academic standing. However, it was found that for most students grades get higher as they progress through school whether they stop out or stay in. This finding is in agreement with findings from previous studies reported in the literature.

(51 pages)

CHAPTER I
INTRODUCTION

Background of the Problem

Cheit (1971) reported the results of a study on the effects of the current financial depression which has settled on officials of colleges and universities across the country. The situation is grave and threatening. Inflation, rising faculty salaries, increasing costs for student aid, campus disturbances with accompanying thefts and destruction of property, etc., along with increased responsibilities, activities, and aspirations have all contributed to the crisis.

Newman et al. (1971) concluded that a major source of pecuniary liability to institutions of higher education is the ever-present and frequently itinerate student who hangs on out of a lack of direction and a sense of responsibility, and who soaks up the funds appropriated for individuals who would like to accomplish their academic objectives. In other words, money intended to foster education is supporting a parasitic social structure. The contemporary educational system, Newman et al. aver, cannot entirely escape the blame for this condition.

The upshot of related studies sponsored by the Carnegie Commission on Higher Education (1971) has been an array of recommendations which have been envisioned as solutions to the problem. Among these suggestions is the proposal that an academic recess be scheduled in each student's program. The purpose of this stopping out would be to

give students an opportunity to have real experiences in their career fields--either in the form of employment, internship, or as non-remunerative service. After direct and practical encounters with the realities of the occupations they have selected, they will be in a better position to decide whether they want to continue their academic preparation for that field or reorient themselves by turning to another area which may be more fulfilling to them.

Statement of the Problem

Where savings are contemplated by having students take a leave of absence for an unspecified period of time, some assurance for making the recommendation needs to be provided to those concerned. Advisors should have some indication that counseling students to interrupt their studies by stopping out is more than an exercise in speculation and risk-taking. A review of the literature reveals a lack of information exists regarding the effects of stopping out. There are, however, countless records available in administrative offices at institutions for higher education across the nation of individuals who have been graduated and who did interrupt their studies. These records provide a source of unobtrusive measures which may contain the kind of information needed to answer the questions generated by the proposed recommendations.

Objectives of the Study

The objectives of this study are to consider the effects of stopping out on scholastic achievement and career choice of former students. In particular, answers to the following questions will be sought:

1. What is the effect of stopping out on scholastic achievement, as measured by the cumulative grade point average (GPA)?
2. Do more stop out students change their choice of academic major than students who do not stop out?
3. What is the difference in the scholastic achievement of students who stop out for different reasons?
4. Is there a difference in the number of stopout students (compared by groups) who change their major?

Definitions

ACT. The Test Battery of the American College Testing Program which provides scores in English usage, mathematics usage, social studies reading, natural sciences reading, and a composite score along with a biographical inventory. It is administered to candidates for college entrance at centers across the country established by the publisher (Buros, 1972).

Dropout. An individual who discontinues attendance at a school some time after his initial enrollment.

Stopout. An individual who temporarily interrupts attendance at school. This stopping out may occur between high school graduation and college enrollment or at some time between initial enrollment and graduation from an institution of higher learning. The length of time may vary from one quarter to several quarters in duration.

Limitations

The generalizability of the results of this study are circumscribed by the fact that the population from which the sample was

drawn was taken from a studentbody with a preponderance of individuals from one religious subculture. The significance of this lies in the fact that it is common for men who affiliate with the dominant church in the area to be called on missions by church leaders when they are about 19 years of age. These missions last from 24 to 30 months. In accepting the call these students become, by definition, stopouts, but may be characteristically different from stopouts in other geographical areas.

It was initially proposed that the researcher would randomly select an arbitrary number of subjects for each academic year under study who had taken the ACT and subsequently enrolled at Utah State University as a nucleus around which a matching procedure could be implemented. This plan was not feasible due to practical limitations. ACT records filed in the Counseling and Testing Office at USU consist of cards containing information on aspiring students across the nation who took the test during administrations of it starting in 1962. The procedure of randomly selecting subjects from this collection of cards was not implemented, since it was not possible to ascertain from the cards who had subsequently enrolled at USU and who had not. Also, it was found that the individual records of former students were stored in the vaults in such a way as to make it impossible to limit a random selection of subjects to a specific period of time.

At the outset a plan was formulated to match achievement data of stopouts with those of non-stopouts by comparing age, sex, the American College Test composite score, financial status at time of enrollment, and the first quarter GPA data. This type of approach has severe limitations, particularly when an attempt is made to match more than

two variables (Kerlinger, 1964). It was thought that it would be possible to find pairs that were fairly equal on all variables since there were more than 17,000 subjects to select from. This assumption was found to be grossly erroneous. Consequently, the plan was revised.

Despite the limitations, the study was pursued in order that some information could be obtained to assist officials in making curriculum decisions. The recommendations made by the Carnegie Commission and contained in the Newman Report were made to help alleviate the financial crisis currently felt across the country. Time does not permit curriculum planners to concurrently carry out a longitudinal study based on a true experimental design to determine the effects of stopping out and at the same time meet this financial crisis head-on with confidence that recommending stopping out is going to be in the best interests of the students.

Implications for Higher Education

Besides giving students an opportunity to orient themselves to specific career choices and give them experiential exposure to expectations in the world of work, stopping out permits some students to take what Eckland (1964) calls a psychosocial moratorium, a term he borrowed from Erik Erikson. College students who have not found their niche or who have been railroaded into attending institutions for higher education are given a way out to save face. When they are ready to assume the responsibilities and obligations connected with preparing for a career, they are permitted to return. The acquisition of knowledge and skills becomes their motive for attending, rather than playing away time at the expense of patrons, taxpayers, and peers.

A suggestion made by the Carnegie Commission on Higher Education is that institutions for higher learning make it possible for students to honorably terminate at the end of the sophomore year and be awarded a certificate of achievement with the option of going on for a terminal degree or taking a recess, returning if and when they desire to resume their studies. Such a program, if implemented, could satisfy the needs of some students while providing them with credentials and salable skills if they should opt to go onto the job market.

Another dimension of the stopout concept which has futuristic implications for administrators is the proposed open-door colleges. Under this scheme, institutions for higher education open their doors to anyone, including professionals with terminal degrees who want to upgrade their skills and acquire more knowledge in specific areas for whatever length of time it takes them to accomplish their academic goals.

CHAPTER II

REVIEW OF LITERATURE

The dropout phenomenon has been the focus of numerous studies over the years. Projects completed by McNeeley (1937), Iffert (1958), Jex and Merrill (1962), Eckland (1964), Astin (1964), and Panos and Astin (1968) are frequently cited and sometimes referred to as the classic studies of this phenomenon. Summerskill (1962) and Marsh (1966) have made extensive reviews of these and other research projects and have reported their findings as well as added their own commentaries. Demographics and analyses of psychological characteristics have been conducted in an effort to discover what causes people who drop out to do so. Such attempts to answer the why's for dropping out are plentiful. For the most part, with perhaps the exception of the Jex and Merrill study, researchers have directed their efforts to questions related to administrative and institutional concerns rather than to the actual advantages or disadvantages to college students themselves. In referring to this fact, Summerskill noted that a predominantly expressed purpose for conducting studies of student attrition by officers of institutions has been to gather financial and predictive data rather than to look into the educational objectives of the people they are serving.

Iffert (1958) found that about 40 percent of the students attending institutions of higher education terminate their programs before completion. His study consisted of a survey of 13,700 individuals who enrolled in colleges across the nation in 1950. He found that

about 40 percent of the enrollees persisted at the school of original enrollment until they were graduated four years later. He also discovered that an additional 20 percent finish but take longer and transfer to other institutions before graduating.

Jex and Merrill (1962) extrapolated from the results of their study and predicted that about 60 percent of those who enroll at the University of Utah will persist until a terminal degree is granted. Eckland (1964) traced the academic history of male students who entered the University of Illinois in 1952 and found that within a decade 70.2 percent of the students who were matriculated at that time were subsequently graduated either from that institution or from another. Boyer and Michael (1965) observed that the tradition of progressing from enrollment to graduation in eight consecutive semesters at the same institution has been disrupted and replaced with an unprecedented pattern of change and discontinuity.

Astin (1964) concluded that male dropouts who were contestants in the 1957 National Merit Scholarship competition typically were indecisive about the appropriateness of the course of study they were pursuing, were doing poorly academically, and did not like being a student. Their counterparts, girls who were in the same competition and who dropped out, indicated family responsibilities and financial need were their reasons for dropping out. In a subsequent study conducted by Panos and Astin (1968) of the National Merit Scholarship Corporation, which consisted of a survey of 60,078 subjects, five major reasons for male student attrition were given. These included dissatisfaction with the college environment, a desire to stop attending long enough to redefine interests and objectives, inadequate finances,

changes in plans, and unsatisfactory grades. Female students, they noted, left to get married, did not like the college environment, changed career plans, had financial difficulties, and stopped to reconsider interests and goals.

Jex and Merrill (1962) and Eckland and Irvine (1965) challenged the concept that those students who dropped out were quitters. Estimates vary, but it has been predicted that 12 to 82 percent of the students who started college would be eventually graduated. Boyer and Michael pointed out that it is not uncommon for undergraduates to transfer from one school to another and to take their time in progressing towards a terminal scholastic goal. Jex and Merrill postulated there may be a difference between those students who take an academic recess and those who never return to the campus. They theorized that those who return will probably be more like those who persist than their counterparts.

From Hammond's (1971) review of the literature it was learned that past investigations on attrition have focused on five variables; namely, age, sex, ability, socio-economic background, and personality. He concluded that the latter three are significantly related to dropping out. Zaccaria and Creaser warned that perhaps too much emphasis has been placed on the personality variable. They said:

... Personality characteristics of students leaving a university are not necessarily indicative of emotional disturbance or maladjustment but may be an expression of developmental needs which cannot be fulfilled within the educational milieu. (Zaccaria and Creaser, 1971, p. 290)

Savicki, Schumen, and Stanfield (1970) determined college students have at least eight behavior orientations. Some students, they wrote,

pursue a college education in hopes of obtaining vocational skills. Others, however, attend college for the purpose of expanding their extracurricular, intellectual, consummatory, social, ritualistic, academic, and Greek interests. If their interests are not served by the institution they initially attend, they look elsewhere.

It was suggested by Newman et al. (1971) that some individuals are pressured into college attendance. Some of the sources of the lockstep process, as it was called in the report, were parental pressures, peer competition, a belief that prestige and employment opportunities are only available to those holding degrees, social stigma attached to those who do not attend college, a now or never attitude, and so on. Involuntary attendance is considered to be the upshot of these external pressures. In their report to the U.S. Department of Health, Education, and Welfare they noted:

"Dropping out" is a pejorative term, and, we think unfortunately so. Individuals should be able to "drop-in" and "drop-out" of college without social stigma. Indeed, we feel that students are too reluctant to leave college, and that "hanging on" and "drifting" are themselves major problems in higher education. (Newman et al., 1972, p. 2)

In stating possibilities for the improvement of the educational system, the Carnegie Commission on Higher Education suggested to curriculum designers that they should

... provide more options. We favor more opportunities in lieu of formal college and more stages at which college-going students can change direction, stop out to obtain a non-college experience, and drop out with formal recognition for work accomplished. (Carnegie Commission on Higher Education, 1971, p. 11)

Furthermore, they recommended

that service and other employment opportunities be created for students between high school and college and at stop

out points in college through national, state, and municipal youth programs, through short term jobs with private and public employers, and through apprenticeship programs in the student's field of interest; and that students be actively encouraged to participate. (Carnegie Commission on Higher Education, 1971, p. 12)

In conducting a study on the nonintellective characteristics of stopouts from Utah State University, Peterson (1967) found numerous dropouts had transferred to other institutions. In so doing they may have said in a passive way that their developmental needs were being met more adequately at other institutions. Categorically these individuals could be referred to as successful persisters and some could be referred to as stopouts. The present study is the first known attempt to determine whether stopping out has advantages or disadvantages to members of this particular student body.

A "stopout" as defined by Kester (1971) is a student who completed a term of school in the Northern California Community College system but who did not return for the next term of study. Gustavas (1970) referred to "stopping out" as a two-year absence from Florida State University. Astin (1964) and Panos and Astin (1968) referred to individuals who had not completed their Bachelor's program or who had re-enrolled after an absence during the four years they covered in their respective studies as nondropouts.

Further review of the literature reveals a lack of information regarding stopouts and the effects of stopping out. This makes it difficult to correctly define the construct and design studies to measure its effects. Although stopping out was strongly recommended in the Newman et al. (1971) report and the report submitted by the Carnegie Commission on Higher Education (1971), there is a lack of

evidence available in the literature to support the hypothesis that stopping out is beneficial. Attempts to encourage officials to advocate a planned recess in the curriculum may be met with resistance until this barrier is overcome.

Summary

In this chapter the available literature was reviewed. The stop-out concept was discussed. It was noted that there has been a paucity of research on the stopout phenomenon and that a lack of information regarding the effects of stopping out exists.

CHAPTER III

METHODOLOGY

Introduction

In this chapter the sampling procedures will be discussed and the sample described. The null hypotheses will be spelled out and the statistical procedures outlined.

Sampling Procedures

Criteria for selection specified that only those individuals who were first quarter freshmen during and since the 1962-63 school year and graduated in or before the 1972 commencement would be eligible for inclusion in the study. A stratified random sampling technique was used to draw the sample. Seven hundred sets of numerals were obtained from a table of random digits in Glass and Stanley (1970). Printouts listing the names of individuals who were classified as enrolling freshmen at USU during the 1962-63 through 1968-69 fall quarter enrollments were made available to the researcher. Subjects were selected randomly from these lists, according to their numerical position which corresponded with the random digits. One hundred names were selected for each of the seven years commencing with the 1962-63 school year. USU commencement programs for the years 1966 through 1972 were referred to in determining the terminal status of each person selected.

There were 172 (24.57 percent) names which were cleared for further research instead of the 280 to 420 (40 to 60 percent) anticipated.

This anticipation was based on previous findings by Iffert (1958), Jex and Merrill (1962), Eckland (1964), and others mentioned earlier. Permission was obtained from university and state officials to obtain academic data from the records of each selected subject stored in the administrative offices at Utah State University. When the information was copied it was discovered that 22 of the students had been enrolled at USU or other institutions prior to 1962. These subjects were dropped from the study.

Questionnaires (Appendix A) were sent to the remaining 150 subjects. Those subjects who did not respond were sent a second questionnaire. This procedure was repeated a third and a fourth time. The cover letters for the first (Appendix B), second, and third letters (Appendix C) were cosigned by the researcher and the Director of Counseling and Testing at Utah State University. The fourth letter (Appendix D) was a special appeal by the Director of Counseling and Testing at USU asking those who had not returned the questionnaire to cooperate. These mailings were spread out over a four-month period and yielded a 74 percent return (111 respondents). The remaining 27 questionnaires were completed by telephone interviews with the respondents or a parent of each remaining potential respondent. With this additional effort a total of 138 (92 percent) records with accompanying questionnaires were made available for statistical treatment.

Description of the Sample

The average age of the selected subjects at the time of enrollment was 18.59 years. Average age at time of graduation was 23.40 years. There were 45 individuals (33 percent) in the sample who had stopped

out at some point in their academic careers. Four out of every 10 persons in the study were married before being graduated. Sixty percent of the people who stopped out married before or during their undergraduate career. Of those who did not stop out, 34 percent were married before or while attending college. Table 1 provides an analysis of the data relating to marital status.

Forty-one percent of the sample changed their academic major, with changes occurring most frequently at the end of the second quarter (Table 2). Individuals in the stopout category (58 percent) changed their major more often than non-stopouts did (32 percent).

The College of Humanities and Arts, the College of Agriculture, and the College of Business and Social Sciences, respectively, have had the highest percentage of stopouts, according to the data derived from the sample (Table 3). The College of Family Life, the College of Engineering, and the College of Education, respectively, have had fewer students stop out.

An analysis of the "Individual Worksheet" (Appendix E) reveals the fact that people who stopped out during and since the 1968-69 school year were not included in the study (Table 4). So, essentially only those individuals who enrolled before then, and stopped out, but who were graduated by 1972 were included in this collection of data.

Further analysis (Table 5) provides indications that the arbitrary determination to encompass 10 years in this particular longitudinal study was adequate to observe trends in the stopout phenomenon. There is evidence that a person who stops out rarely completes the requirements for graduation at the same time as his enrollment peers.

Table 1. Analysis of marital status data

College	No. from each college in sample	No. of stopouts	Percent of married who were stopouts	No. of non-stopouts	Percent married who were non-stopouts	Total no. married	Percent of college who married
Agriculture	12	5	.71	2	.29	7	.58
Business and Social Science	33	8	.50	8	.50	16	.48
Education	34	3	.21	11	.79	14	.41
Engineering	10	2	.29	5	.71	7	.70
Family Life	7	0	.00	4	1.00	4	.57
Humanities and Arts	20	5	.63	3	.37	8	.40
Natural Resources	9	2	.67	1	.33	3	.33
Science	13	2	1.00	0	.00	2	.15
Total	138	27		34		61	

Table 2. Analysis of change in major data

College	No. from each college in sample	No. of stopouts who changed	Percent of stopouts who changed	No. of non-stopouts who changed	Percent of non-stopouts who changed	Total no.	Percent of college who changed
Agriculture	12	5	.50	5	.50	10	.83
Business and Social Science	33	9	.53	8	.47	17	.52
Education	34	3	.27	8	.73	11	.32
Engineering	10	0	.00	1	1.00	1	.10
Family Life	7	0	.00	2	1.00	2	.29
Humanities and Arts	20	4	.50	4	.50	8	.40
Natural Resources	9	2	.67	1	.33	3	.33
Science	13	3	.60	2	.40	5	.38
Total	138	26		31		57	

Table 3. Numbers and percentages of sample subjects in stopout and non-stopout categories

College	Stopouts	Percent of college	Non-stopouts	Percent of college	Total	Percent of total
Agriculture	5	.42	7	.58	12	.09
Business and Social Sciences	14	.42	19	.58	33	.24
Education	7	.21	27	.79	34	.25
Engineering	2	.20	8	.80	10	.07
Family Life	0	.00	7	1.00	7	.05
Humanities and Arts	9	.45	11	.55	20	.14
Natural Resources	3	.33	6	.67	9	.07
Science	5	.38	8	.62	13	.09
Total	<u>45</u>		<u>93</u>		<u>138</u>	

Table 4. Number and percent of sample in stopout and non-stopout categories according to year of enrollment

Year enrolled	No. of stop-outs	Percent for year	Percent of total	No. of non-stopouts	Percent for year	Percent of total
1962-63	13	.46	.09	15	.54	.11
1963-64	9	.36	.07	16	.64	.12
1964-65	6	.33	.04	12	.67	.09
1965-66	8	.36	.06	14	.64	.10
1966-67	4	.18	.03	18	.82	.13
1967-68	5	.31	.03	11	.69	.08
1968-69	<u>0</u>	.00	<u>.00</u>	<u>7</u>	1.00	<u>.05</u>
Total	45		.32	93		.68

Table 5. Number and percent of sample in stopout and non-stopout categories according to year of graduation

Year graduated	No. of stop-outs	Percent for year	Percent of total	No. of non-stopouts	Percent for year	Percent of total
1966	1	.09	.01	10	.91	.07
1967	6	.26	.04	17	.74	.12
1968	6	.29	.04	15	.71	.11
1969	8	.42	.06	11	.58	.08
1970	5	.22	.03	18	.78	.13
1971	10	.45	.07	12	.55	.09
1972	<u>9</u>	.47	<u>.07</u>	<u>10</u>	.53	<u>.07</u>
Total	45		.32	93		.67

Null Hypotheses

The aforementioned objectives of the study are stated in null hypothesis form as follows:

Hypothesis one: There is no difference in the cumulative GPA's of the stopout and non-stopout groups.

Hypothesis two: There is no difference between the stopout and non-stopout subjects in the proportion who change their academic majors.

Hypothesis three: There is no difference in cumulative GPA's of subjects in the different stopout subgroups.

Hypothesis four: There is no difference in the proportion of subjects in the stopout subgroups who changed their academic majors.

Statistical Procedures

In seeking to determine the effect of stopping out on scholastic achievement the cumulative GPA for each group was determined and then compared. A one-way analysis of variance was made to compare these grade point averages.

The subjects were categorized into stopout subgroups and the non-stopout group. Cumulative GPA's of the subjects in each category were summed and a mean obtained for each subgroup. An analysis of variance of these means was made to determine if the reason for stopping out produced a difference in the cumulative GPA.

An independent chi-square test was used to test hypotheses two and four. In the former case a 2 x 2 contingency table was used and in the latter case a 2 x 4 table was used.

Summary

In this chapter the sample was described, the null hypotheses spelled out, and the statistical procedures outlined. The sample for this study consisted of individuals who had enrolled at Utah State University between 1962 and 1968 and who had graduated between 1966 and 1972. There were 138 subjects. Forty-five of these people had stopped out during their academic careers. Four out of every 10 persons were married during their undergraduate years. Each college at the university was represented in the sample.

CHAPTER IV

RESULTS

Introduction

Each of the hypotheses mentioned in the previous chapter were tested by using the statistical procedures outlined. This chapter contains a description of the results of these tests and tables illustrating how these results were obtained.

Tests of Hypotheses

GPA difference between stopouts and non-stopouts

A significant difference between the cumulative grade point averages of subjects who stopped out and those who maintained uninterrupted attendance was not found when testing the first hypothesis. Table 6 illustrates this finding.

Difference between stopouts and non-stopouts in making a change in choice of academic major

This hypothesis was rejected. There was a slight difference between the non-stopout and stopout groups relative to change of academic major. The observed proportions were .58 in the stopout group and .32 in the non-stopout group. This means that a significantly greater number of the individuals categorized as stopouts changed their academic major than did those categorized as non-stopouts. A chi-square test of this phenomenon is shown in Table 7.

Table 6. Analysis of variance of cumulative grade point averages of stopout and non-stopout groups

Source of variation	Degrees of freedom	Sum of squares	Mean squares	F test value
Total	137	29.968		
Treatment	1	0.488	0.488	2.253 ^{ns}
Experimental error	136	29.479	0.216	

Treatment group	Number in group	Treatment mean
Non-stopout	93	2.796
Stopout	45	2.669

ns = Not significant.

Table 7. Chi-square analysis of change in academic major of subjects classified as stopouts and non-stopouts

Group	Did subjects change their major?				Total
	No		Yes		
	Observed	Expected	Observed	Expected	
Non-stopouts	63	55.3	30	37.7	93
Stopouts	19	26.7	26	18.3	45
Total	82		56		138

Degrees of freedom = 1 Chi square = 8.106 (P < .005)

Cumulative GPA difference between
stopout subgroups and the non-
stopout group

The cumulative grade point average of each stopout subgroup was obtained and compared, along with the cumulative GPA of the non-stopout group. There was a significant difference found between the GPA's (Table 8) when the data were tested using a one-way analysis of variance.

In determining which groups differed significantly, the Least Significant Difference Test was employed (Table 9). Allowances were made for the unequal sample sizes. The cumulative grade point average of those who were graduated after returning from an L.D.S. mission differed significantly from the cumulative grade point averages of those subjects who stopped out for "practical experience" and "financial recovery," but not from those in the stopout subgroups labeled "other" and "military." Also, the accumulative grade point average of those who did not stop out differed significantly from the cumulative grade point average of those subjects who stopped out for "practical experience" and "financial recovery," but not from those in the stopout subgroups labeled "other" and "military."

Difference between stopout subgroups
in making a change in choice of
academic major

Table 10 contains the chi-square test of the fourth hypothesis. Observed frequencies of change in academic major for stopouts in categories based upon reason for stopping out did not differ significantly from expected frequencies. It should be noted that the military service group was included in the category labeled "other." There were too few in this category to consider them separately in a chi-square analysis.

Table 8. Analysis of variance of cumulative grade point averages of different stopout groups and non-stopout groups

Source of variation	Degrees of freedom	Sum of squares	Mean squares	F test value
Total	149	32.829		
Treatments	6	3.139	.523	2.52*
Experimental error	143	29.689	.207	

Treatment group	Number in group	Treatment mean
Stopout prior to college entrance	4	2.915
L.D.S. mission	15	2.829
Non-stopout	93	2.796
Other	7	2.591
Financial recovery	18	2.499
Practical experience	9	2.441
Military service	4	2.340

*Significant at .05 level.

Table 9. Comparison of GPA differences using the Least Significant Difference Test

Treatment	GPA	Military		Prac. exp.		Fin. rec.		Other		Non-stopout		LDS mission	
		Dif.	LSD	Dif.	LSD	Dif.	LSD	Dif.	LSD	Dif.	LSD	Dif.	LSD
Stopout prior to college entrance	2.915	.575	.638	.474	.542	.416	.499	.324	.566	.119	.461	.086	.508
LDS mission	2.829	.489	.508	.388*	.380	.330*	.315	.238	.413	.033	.250		
Non-stopout	2.796	.456	.461	.355*	.315	.297*	.232	.205	.354				
Other	2.591	.251	.566	.150	.455	.092	.402						
Financial recovery	2.499	.159	.499	.058	.368								
Practical experience	2.441	.101	.542										
Military	2.340												

Note: Dif. has reference to the obtained difference between two means. LSD has reference to the least significant difference value or the value the obtained difference would have to exceed in order to be significantly different.

*Significant at the .05 level.

Table 10. Chi-square analysis of change in academic major of subjects in stopout categories

Group	Did subjects change their major?				Total
	No		Yes		
	Observed	Expected	Observed	Expected	
Financial recovery	6	6.8	12	11.2	18
Practical experience	5	3.4	4	5.6	9
L.D.S. mission	6	5.7	9	9.3	15
Military service and other	3	4.1	8	6.9	11
Total	20		33		53
Degrees of freedom = 3			Chi square = 1.857 ^{ns}		

ns = Not significant.

Summary

This chapter contains the results of the tests of the hypotheses mentioned in Chapter III. Tables illustrating how these results were obtained are also included. The hypothesis that there would be no difference in the cumulative GPA's between the stopout and non-stopout groups was not rejected. There was a significant difference found between the stopout group and non-stopout group in making a change in the choice of academic major. A significant difference was also found when the cumulative GPA's of the stopout subgroups and the non-stopout group were compared. There was no difference between the stopout subgroups in making a change in choice of academic major.

CHAPTER V

SUMMARY AND CONCLUSIONS

This study was undertaken with two basic purposes in mind. The first was to determine whether individuals who have attended Utah State and who have stopped out suffered academically for having stopped out. The second one relates to recommendations made by the Carnegie Commission and contributors to the Newman Report that planned stopouts be included in the college curriculum. These recommendations raised some questions related to the academic advantages or disadvantages of such action.

A review of literature indicated that even though some studies on college dropout have included data on students who have returned to college after a recess has been taken, studies related specifically to the stopout phenomenon are lacking. Two questions have been raised during the course of this review as a result of the lack of reported research in this area. First, how is a stopout defined and second, how is the effect of stopping out measured?

Stopping out consists of a temporary absence from an institution of higher education. It may occur between high school graduation or at some point during the pursuit of a baccalaureate degree. This definition was drawn from the Carnegie Commission on Higher Education (1971) and the Newman Report (Newman et al., 1971).

Measuring the effects of stopping out turned out to be a difficult task. It was decided that grade point data could provide an empirical measure of change in academic achievement. This information and a

determination of whether a change in academic major had occurred could provide a basis for evaluating the effects of stopping out.

Permission was obtained to gather academic information from university records. Names of 700 individuals who had enrolled at Utah State University over a seven-year period were randomly selected from enrollment rosters. Commencement programs were consulted to ascertain whether these individuals obtained terminal degrees. The grade point average for each quarter while the students were enrolled at USU as well as the total cumulative GPA of each of the individuals in the sample were collected. A questionnaire was sent to each person (N = 150) who had qualified for inclusion in the sample. There was a 92 percent return of the questionnaire.

A summary and discussion of the results of the statistical treatment of the data accumulated for this study is given below. There are indications from these results that stopping out was not a serious academic deterrent to those individuals who were considered in this investigation.

Cumulative GPA Comparison: Stopout
versus Non-stopout

The total cumulative grade point average at graduation for each subject was obtained from transcripts at the USU Records and Admissions Office. A sum of the GPA's of the individuals in the non-stopout category was obtained as an average cumulative GPA score derived. This score (2.796) was compared to a score derived from the sum of the GPA's of the stopout subjects (2.669). These means were compared by using

an analysis of variance statistical procedure. The difference between these means was not significant at the .05 level.

The close relationship between the two GPA scores provides a basis for concluding that students who stop out tend to do as well academically during their school career as those individuals who do not take an academic recess, other than summers. Such a conclusion has to be qualified by the limitations imposed in this research; that is, the cumulative GPA may lack the precision needed to be a valid indicator of academic achievement.

It has been demonstrated that students' grades get increasingly higher as they progress in school (Fisher, 1961). Aiken (1963) concluded this is due to a tendency on the part of professors to consider "C" (2.00) on a 4.00 grading scale as the average grade. They assume further, he hypothesized, that the poorer students are weeded out, through dismissal or attrition, leaving only A and B students in the upper division courses. If this is the case, the potential effects of stopping out may be unobservable in cumulative GPA scores.

Chi-Square Analysis of Major Change:

Stopout versus Non-stopout

The respondents were asked when they made their initial selection of an academic major and then when they changed their major, if they did. A chi-square analysis was made to determine whether there was a significant difference in the proportion of subjects who changed their major in either of the two categories. The subjects in the stopout category changed more frequently (58 percent) than the non-stopout

subjects (32 percent). This difference was found to be significant at the .05 level.

As a result of his study at Michigan State University, Piersen (1962) concluded that 30 percent of the students who were graduated from that institution in 1958 had changed their major since enrolling. He determined the reasons for making the changes were: increased awareness of curricular opportunities, lack of information about the content of the courses in the original major, and an increased awareness of requirements and opportunities in the original major.

Although persons who stopped out changed their academic major more often than their counterparts did, it cannot be stated this was an advantage or a consequence of stopping out. However, some who stopped out may have been unwilling to reacquire proficiencies they had before stopping out. When changes were made by the subjects in the Michigan State University study, Piersen observed a tendency for students to abandon the technical and scientific fields in favor of the more verbal areas.

It is not possible to determine from the results of this study whether students who returned after stopping out changed their major because of an increased awareness of their options or a decrement in certain proficiencies. If it could be ascertained that the change took place because of a broader exposure to career choices, the change could be viewed as an advantage. However, if the change was forced due to a deterioration attributable to stopping out the contingency could be viewed as a disadvantage. The fact that a greater proportion of the changes was made by subjects in the stopout category lends credence to the theory that events which occur in the lives of the

students during their stopout period influence them in their selection of a career.

It was found that most changes are made by the time students complete the sixth quarter. Sixty-nine percent of the changes made by individuals in the stopout category were made before the commencement of the seventh quarter (junior year). Seventy percent of the persons in the non-stopout group who changed made their change by then. Another noteworthy observation is the fact that 85 percent of the stopout subjects changed their major after a stopout.

Cumulative GPA Comparisons: Stopout
Subgroups and Non-stopout Group

When the cumulative GPA's for the various stopout subgroups and the non-stopout group were compared a significant difference was observed. An analysis of variance procedure was used to ascertain this fact. A Least Significant Difference Test was used to determine which means were significantly different. The GPA's of the non-stopout group (2.796) and the "L.D.S. mission" stopout subgroup (2.829) differed significantly from the "practical experience" (2.441) and "financial recovery" (2.499) subgroups, but not from the "military service" (2.340), "other" (2.591), and "stop out prior to college entrance" (2.915) subgroups.

It was difficult to develop a rationale to explain this phenomenon. There may be something the individuals in the non-stopout category share with the subjects in the "L.D.S. mission" stopout subgroup. That commonality may be a greater number of observations. Another possible explanation is that activities engaged in during an "L.D.S. mission"

stopout may be more academic than those experienced by individuals in other stopout subgroups. If this is so, it may be reasonable to conclude that curricular stopouts are expedient.

A third possibility for the difference between the means in the stopout subgroups is the reason given for stopping out. It may be a facade to cover a more relevant reason. Some possible reasons were given in Astin's (1964) report of his study of dropouts; namely, dissatisfaction with the campus milieu, a desire to redefine interests and objectives, financial difficulties, changes in plans, and unsatisfactory grades. *If* this is the case, the recommendations of the Carnegie Commission on Higher Education (1971) are cogent and are supportable with the results of this inquiry.

Chi-Square Analysis of Major Change:

Stopout Subgroups

Some respondents stopped out more than once during their undergraduate careers and for different reasons. All reasons for stopping out were considered to have a potential impact on a decision to change academic major. A chi-square analysis was made to determine whether the proportions between changing and not changing were significant for any of the stopout subgroups. The analysis failed to reject the hypothesis that there was not a significant difference between the expected and observed frequencies.

The reason for stopping out has an undifferentiated effect on subjects who have stopped out regarding the decision to change an academic major. Although people who stop out change their major more

often than people who do not, the reason for stopping out does not provide an indication that some stopout activities generate changing academic major behavior to a degree significantly greater or less than others.

Summary

The results of this study provide some indications that stopping out may be efficacious, as the Carnegie Commission and others have suggested. Although inconclusive, the data yield some evidence that people who stop out do not suffer academically for having done so. Also, individuals who stop out exercise the option to change or re-orient themselves more frequently than those people who do not stop out.

Recommendations for Further Study

Although time does not permit researchers to conduct an experimental longitudinal study to prepare for the financial crisis now being faced by officers and curriculum designers on the nation's campuses, the results of this inquiry provide indications that such a study may be justified on other grounds. Such a study, if undertaken, could be designed similar to this one, but launched on a true experimental design.

Enrollees who have selected a major at this and other institutions across the nation could be randomly selected to participate at the outset of their college careers. Once selected, the sample may be divided into a control group and an experimental group. The experimental subjects would be routed to off-campus experiences, while the controls would remain on campus.

Instead of using GPA's to measure achievement, a criterion referenced instrument is recommended. Desired competencies should be determined by establishing standards the graduates from specific fields would be measured against. Increments approaching and surpassing the level of competency considered adequate should be worked out.

All subjects from both groups would be given the criterion referenced test. Based on the results of their testing, a program would be designed for them to obtain the desired competencies. At the conclusion of the training period the criterion referenced instrument would be readministered. Achievement differences, as calibrated by the criterion referenced test, could be compared and a conclusion drawn as to whether stopping out (that is, obtaining off-campus or on-the-job training for a specific field in a career-related job placement) has advantages over remaining on campus. Satisfaction with academic major could be assessed by comparing the differences between observed and expected frequencies of change for the control and experimental subjects.

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APPENDIXES

Appendix A
Questionnaire

1. Did you go directly from high school to college? Yes No
(Circle your response)

a. If answer to above is "no" please indicate how long after you were graduated from high school you entered a college or university. _____

2. Did you interrupt your attendance by stopping out for a quarter or more at any time after your initial enrollment at this or any other college or university? Yes No (Circle your response)

3. If your studies were interrupted by a stopout or academic recess please check your reason(s) for the recess.

___ Financial recovery

___ L.D.S. mission

___ Practical experience

___ Confidential

___ Military service

___ Other (please specify)

4. As near as you can recall, please indicate when you initially selected your academic major by circling the number representing the quarter of study when the decision was made. (Circle "0" if decision was made prior to entering college.)

0 1 2 3 4 5 6 7 8 9 10 11

5. If you changed your major after you made your initial choice, would you please indicate when the change took place by circling the number representing the quarter of study when the change in status occurred.

1 2 3 4 5 6 7 8 9 10 11

6. If you were married while you were in school please circle the number representing the quarter when this event occurred. (Circle "0" if you were married upon entering college.)

0 1 2 3 4 5 6 7 8 9 10 11 12

Identification number _____

Appendix BLetter Sent in First Mailing

Dear Graduate,

You and a limited sampling of individuals who have been graduated from Utah State during the 1962-72 decade were randomly selected as resources from whom information could be obtained to complete a study on the "Stop Out" phenomenon. A stop out consists of an academic recess during which studies are interrupted for some specific purpose, like replenishing financial reserves, orienting to other career areas, accumulating practical experiences in a chosen career area, and so on.

The fact that stopping out occurs with regularity at Utah State permits us to readily make a study of the effects of the phenomenon. Your responses to the enclosed questionnaire are vitally important to the study, regardless of whether you stopped out or persisted from start to finish without interruption.

Please take a few moments to check or circle the responses on the questionnaire which are pertinent to you and return it in the enclosed stamped, self-addressed envelope as soon as possible. If you have any questions or have an interest in the results so indicate on the questionnaire.

Thank you for your assistance.

Sincerely yours,

Ronald S. Peterson, Director
Counseling and Testing Services

R. D. Smith, Research Associate
Counseling and Testing Services

Appendix CLetter Sent in Second and Third Mailings

Dear Graduate:

Please take a minute to complete the enclosed questionnaire and return it in the envelope provided. We realize we are asking you to render a service and offering very little, if anything, in return, but your assistance is needed to make the results of a study we are conducting as accurate as possible.

Thank you.

Sincerely yours,

Ronald S. Peterson, Director
Counseling and Testing Services

R. D. Smith, Research Associate
Counseling and Testing Services

Appendix DLetter Sent in Fourth Mailing

Dear Graduate:

For many years I have been a member of the Admissions Committee at USU. Along with other members of that Committee I have reasoned that students who stop out for a few quarters usually do better when they return. To test this idea Robert Smith, a doctoral candidate at USU, has designed a study that would give us accurate information on this subject. As part of the study Bob sent questionnaires to a random sample of all students who had graduated from USU during the past seven years. You are one of that group.

In order for this study to be accurate Bob must have all of the questionnaires returned. Since the questionnaire is quite short he hoped that everyone would send it right back. Many have but some haven't. As a result he is temporarily stopped.

May I ask for your help with this important study. The information requested is essential to his research and is, of course, confidential. I can assure you that Bob will appreciate it and I believe that future students at USU will appreciate it too since it will help the Admissions Committee make better decisions about them.

Sincerely yours,

Ronald S. Peterson, Director
Counseling and Testing Center

P.S. If you have already returned a questionnaire sent earlier please fill this one out too. The first one may have been lost enroute to our office.

RSP:srg

Encl.

VITA

Robert Dean Smith

Candidate for the Degree of

Doctor of Philosophy

Dissertation: A Longitudinal Study on the Effects of Stopping Out

Major Field: Psychology

Biographical Information:

Personal Data: Born at American Fork, Utah, August 4, 1935, son of Robert G. and Norma Mecham Smith; married Jo Ann Scholes in Heidelberg, Germany, August 11, 1959; four children--Robert F., Gregory B., Marshall D., and Janalee.

Education: Attended Harrington Elementary School in American Fork, Utah; graduated from American Fork High School in 1953; received the Bachelor of Arts degree from Brigham Young University, with a major in Secondary Education, in 1962; did graduate work in Religious Education at Brigham Young University, 1962-65; completed requirements for the Master of Science degree, specializing in education for the culturally disadvantaged, at Utah State University in 1968; completed requirements for a Doctor of Philosophy degree in Psychology, with emphasis in Counseling Psychology, at Utah State University in 1974.

Professional Experience: 1965 to present, social worker, L.D.S. Social Services; 1962-65, seminary teacher, L.D.S. Unified Church School System.