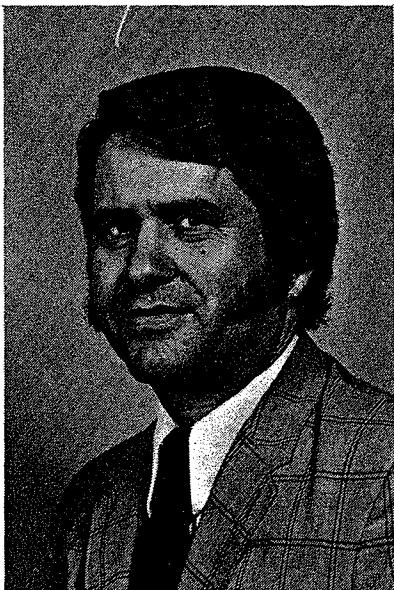


# AN ANALYSIS OF ACADEMIC PERFORMANCE OF WORKING AND NON-WORKING STUDENTS ON ACADEMIC PROBATION AT NORTHERN ILLINOIS UNIVERSITY

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The relationship or effect, if any, of part-time employment to the academic performance of full-time, undergraduate students who are on academic probation at Northern Illinois University (NIU) is currently of considerable importance to the Committee on Student Employment and the Office of Student Financial Aids at that institution.

The Committee on Student Employment is composed of administrators, faculty, and students, and is directly responsible for establishing policy and regulations pertaining to on-campus employment for students. The Office of Student Financial Aids is responsible for implementation of policy and administering the on-campus student employment program.



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Students on academic probation at NIU were prohibited from working on-campus prior to fall semester, 1969-70, under the assumption that working would further jeopardize their academic performance. At that time, the Committee on Student Employment revised the student employment regulations so that students on academic probation would be allowed to work up to 20 hours per week, providing approval was first secured by the student from the Office of Student Financial Aids. The only procedure through which a student may secure a recommendation of approval for on-campus employment is to complete a personal information sheet, and be interviewed and counseled by a staff person in the Office of Student Financial Aids.

No information has been available in the past with regard to the extent and effect of off-campus student employment. Off-campus employment for students is in no way governed or controlled by the university or its agents. However, the Office of Student Financial Aids does attempt to maintain a working relationship with off-campus employers and potential employers as well as students seeking off-campus employment. This service is normally rather minimal due to the fact that the number of students seeking off-campus employment usually greatly exceeds the number of off-campus positions available. Consequently, from past experience numerous off-campus employers expect to fill available positions from among the many student applicants who are actively seeking the available jobs. As a result, many employers do not feel the need to contact the Office of Student Financial Aids for additional applicants.

#### *Related Literature*

Several articles and studies have been published which deal with the general topic of the relationship of part-time employment to the academic performance of full-time students. However, none of the studies has dealt with the specific problem area of the relationship of part-time employment to the academic performance of full-time, undergraduate students who are on academic probation.

Trueblood (1957) found that working while enrolled as a full-time student did not adversely affect academic performance of students at Indiana University. He concluded that part-time employment did not have a significant positive or negative effect upon academic performance, and that it was not possible to establish a relationship between maximum number of hours worked per week and the maintenance of a given grade point average.

Hay (1969) examined student work patterns and the relationship to academic performance of students at Pennsylvania State University-Ogontz Campus. Findings indicated that the academic performance of students who worked fifteen hours per week or less was not adversely affected; however, grades tended to suffer if the job involved sixteen or more hours per week. It was found that academic performance was higher if the student's job was relevant to his major field of study.

Henry (1967) studied the academic performance of working and non-working freshmen at the University of Missouri-Columbia. He found no significant differences between the mean grade point averages of the workers

and non-workers at any ability level. He concluded that freshmen who need financial assistance may be employed part-time up to fifteen hours per week without sacrificing academic achievement.

Budd (1956) in an earlier study of freshmen at Western Washington College reached similar conclusions. No significant relationship between employment and academic adjustment of the entering freshmen was found. In general, he states, employment outside of college class hours should not be an academic handicap.

MacGregor (1966) investigated the part-time work habits of Brooklyn College undergraduates. Approximately twenty-five percent of the working students felt that part-time employment had lowered their academic grade point average or otherwise interfered with their learning. This implies that seventy-five percent of the working students felt that employment had not adversely affected their academic performance. Also revealed was the fact that fifty percent of the students who did not work as undergraduates made this choice because they believed that part-time employment would interfere with their academic or co-curricular work.

Baker (1941) found in a study at Friends University that academic performance of students was not adversely affected if employment did not exceed twenty-seven hours per week. For those students working more than twenty-seven hours per week on the average, academic performance tended to suffer accordingly.

### *The Study*

The research question to be answered by this study asked: Is there a significant difference in the fall semester academic performance of the following groups of full-time, undergraduate students on academic probation during fall semester, 1970-71, at Northern Illinois University: (1) those students not employed on-campus or off-campus; (2) those students employed on-campus; and, (3) those students employed off-campus? The null hypothesis was: There is no significant difference in the academic performance as indicated by fall semester grade point average achieved by students in Groups 1, 2, and 3, for fall semester, 1970-71.

### *Method*

#### *Selection of Participants*

The undergraduate academic probation list compiled by the university at the conclusion of spring semester, 1969-70, provided a starting point for selection of students eligible to participate in this study. As shown by data in Table 1, this list included 760 students, however, for various reasons indicated, 513 students were considered ineligible leaving a total of 247 students meeting the eligibility criteria for this project. In addition to being on academic probation, all of the eligible students had been on campus at least one semester and had attempted ten or more semester hours of course work during fall semester, 1970-71.

TABLE I  
SUMMARY DATA OF STUDENTS INCLUDED ON  
SPRING SEMESTER (1969-70) PROBATION LIST

	Sub-totals	Totals
Spring Semester (1969-70) Probation List .....		760
Students Not Eligible For Inclusion In Study		
A. Did Not Enroll Fall Semester 1970-71 .....	284	
B. Temporary Probation (i.e.: student had incomplete course, not low GPA) .....	98	
C. Attempted Less Than 10 Semester Hours .....	84	
D. Removed Probationary Status During Summer Session .....	29	
E. Withdrew From NIU During Fall Semester .....	18	
Total Students Not Eligible For Study .....		513
Students Eligible For Inclusion In Study .....		247
Eligible Students Not Contacted		
A. Questionnaire Returned — Address Unknown .....	4	
B. Did Not Respond to Questionnaire or Telephone Contact .....	5	
Total Eligible Students Not Contacted .....		9
Total Students Included In Study .....		238

### *Instrument*

A brief questionnaire was formulated for the purpose of answering three basic questions: Was the student employed during fall semester, 1970-71?; if employed, where was the location of employment?; and, if employed, how many hours per week on the average did the student work? All other basic information utilized in the study was verified from university records.

### *Collection of Data*

The questionnaire with a cover letter was mailed to all of the 247 eligible students; and at intervals of approximately three weeks, two follow-up questionnaires with appropriate cover letters were sent followed by an attempted telephone contact. This procedure produced contact with 238 students representing 96.4 percent of the total eligible students. The 238 participating students were represented by group as follows: 161 students not employed on-campus or off-campus; 33 students employed part-time on-campus; and 44 students employed part-time off-campus.

### *Variables*

The independent variable was whether or not students were working, and if so, the location of the work:

- a. Group 1: Students are not employed on-campus or off-campus.
- b. Group 2: Students are employed part-time on-campus.
- c. Group 3: Students are employed part-time off-campus.

The dependent variable was academic performance as indicated by grade point average of students for fall semester, 1970-71.

### *Statistical Technique Used*

A one-way analysis of variance was applied utilizing Duncan's New Multiple Range Test. The following analyses were made:

- a. Comparison of cumulative grade point average of students in Groups 1, 2, and 3, prior to fall semester, 1970-71.

b. Comparison of semester grade point average of students in Groups 1, 2, and 3, for fall semester, 1970-71.

c. Comparison of differences between cumulative grade point average and fall semester grade point average of students in Groups 1, 2, and 3.

*Data Analysis and Findings*

Grade point averages used in this study have been computed on the basis of a 4.0 system.

The first operation was to determine if the cumulative grade point averages of students in Groups 1, 2, and 3, differed significantly prior to fall semester, 1970-71. As indicated by data in Table 2, a one-way analysis of variance was applied and the null hypothesis of no difference between groups on the basis of cumulative grade point averages prior to fall semester was accepted.

TABLE 2  
SUMMARY DATA AND ANALYSIS OF VARIANCE ON NIU  
ACADEMIC PROBATIONARY STUDENTS' CUMULATIVE GRADE  
POINT AVERAGES PRIOR TO FALL SEMESTER, 1970-71

	Groups of Probationary Students			
	Not Employed	Employed On-Campus	Employed Off-Campus	
Number of Students	161	33	44	
Mean	1.768	1.836	1.785	
Standard Deviation	0.210	0.173	0.171	
Source	df	s.s	m.s.	F
Between Groups	2	0.129	0.065	1.636 n.s.
Within Groups	235	9.280	0.040	
Total	237	9.409		

The next step was to apply a one-way analysis of variance to the semester grade point average of students in Groups 1, 2, and 3, for fall semester, 1970-71. As indicated by data in Table 3, the null hypothesis was accepted that there was no significant difference in the academic performance as indicated by semester grade point averages achieved by students in Groups 1, 2, and 3, for fall semester, 1970-71.

TABLE 3  
SUMMARY DATA AND ANALYSIS OF VARIANCE ON NIU  
ACADEMIC PROBATIONARY STUDENTS' FALL  
SEMESTER GRADE POINT AVERAGES

	Groups of Probationary Students			
	Not Employed	Employed On-Campus	Employed Off-Campus	
Number of Students	161	33	44	
Mean	2.199	2.330	2.254	
Standard Deviation	0.600	0.458	0.687	
Source	df	s.s	m.s.	F
Between Groups	2	0.506	0.253	0.704 n.s.
Within Groups	235	84.540	0.360	
Total	237	85.046		

As a further check on the academic performance of students in the three groups for fall semester, 1970-71, a one-way analysis of variance was applied to the difference between cumulative grade point average and semester grade point average of students in the three groups. Again the null hypothesis was accepted that there was no significant difference in the academic performance as shown by differences in grade point average achieved by students in Groups 1, 2, and 3 (See Table 4).

TABLE 4  
SUMMARY DATA AND ANALYSIS OF VARIANCE ON NIU  
ACADEMIC PROBATIONARY STUDENTS' FALL  
SEMESTER GPA MINUS CUMULATIVE GPA

	Groups of Probationary Students			
	Not Employed	Employed On-Campus	Employed Off-Campus	
Number of Students	161	33	44	
Mean	0.430	0.493	0.470	
Standard Deviation	0.595	0.467	0.641	
Source	df	s.s	m.s.	F
Between Groups	2	0.141	0.071	0.204 n.s.
Within Groups	235	81.342	0.346	
Total	237	81.483		

At this point in the analysis of data, there were no significant differences between the three groups of students on the measures of cumulative grade point average, fall semester grade point average, or difference between the two grade point averages. On the basis of these findings, it may well be conjectured that students who were on academic probation and who were employed, whether on-campus or off-campus, performed no differently on the basis of fall semester grades than those students who were not employed. However, a further examination of the academic performance of employed students separated into categories based on average hours worked per week indicated that further investigation in this area might prove fruitful. A visual inspection of Table 5 indicated that cumulative grade point averages of all categories of working and non-working students differed very little. Further, it appeared that those students working on-campus and off-campus on the average of 20 hours or less per week were somewhat similar in their fall semester academic performance while those students employed more than 20 hours per week off-campus appeared to differ considerably. Also, it appeared that the non-working student group differed considerably in its fall semester grade point average from the group working over 20 hours per week while differing to a smaller degree in relation to the combined group of students working 20 hours or less per week.

TABLE 5  
SUMMARY DATA OF STUDENTS GROUPED ACCORDING TO  
LOCATION OF WORK AND NUMBER OF HOURS WORKED  
PER WEEK INCLUDING NON-WORKING STUDENTS

Group	No.	Cum.	Sem.
		GPA	GPA
Non-Working	161	1.768	2.199
Working On-Campus	33	1.836	2.330
Working Off-Campus (20 hours or less)	32	1.815	2.447
Working Off-Campus (More than 20 hours)	12	1.706	1.737
Working On-Campus and Off-Campus (20 hours or less per week)	65	1.826	2.388

In order that a meaningful comparison might be accomplished, a fourth group of students was formed including only those students who were employed off-campus for more than 20 hours per week on the average. A one-way analysis of variance was applied to the fall semester grade point average of the four groups of students — students who were not employed; students employed on-campus 20 hours or less per week on the average; students employed off-campus 20 hours or less per week on the average; and students employed off-campus more than 20 hours per week on the average. As indicated by data in Table 6, the null hypothesis of no difference in the fall semester academic performance between the four groups of students was rejected. Duncan's New Multiple Range Test indicated that the fall semester academic performance of the group of students employed off-campus more than 20 hours per week was significantly lower than that of the other three student groups.

TABLE 6  
SUMMARY DATA AND ANALYSIS OF VARIANCE ON NIU  
ACADEMIC PROBATIONARY STUDENTS' FALL  
SEMESTER GRADE POINT AVERAGES

	Groups of Probationary Students			
	Not Employed	Employed On-Campus (20 hours or less)	Employed Off-Campus (20 hours or less)	Employed Off-Campus (More than 20 hours)
No. of Students	161	33	32	12
Mean	2.199	2.330	2.448	1.737
Stand. Dev.	0.560	0.458	0.570	0.728
Source	df	s.s	m.s.	F
Between Groups	3	4.917	1.639	4.786*
Within Groups	234	80.130	0.342	
Total	237	85.047		

\*Significant at .01 level

At this point, a further analysis seemed to be in order involving the fall semester academic performance of those students employed 20 hours or less per week on-campus and off-campus combined in one group, compared to the group of students not employed. A one-way analysis of variance was applied and the null hypothesis of no difference between the two groups of students on the basis of fall semester academic performance was rejected. As indicated by data in Table 7, those students employed 20 hours or less per week, on-campus and off-campus combined, performed significantly higher than those students who were not employed on the basis of fall semester grade point average.

TABLE 7  
SUMMARY DATA AND ANALYSIS OF VARIANCE ON NIU  
ACADEMIC PROBATIONARY STUDENTS' FALL  
SEMESTER GRADE POINT AVERAGES

	Groups of Probationary Students			
	Not Employed	Employed On-Campus and Off-Campus (20 hours or less)		
Number of Students	161	65		
Mean	2.199	2.388		
Standard Deviation	0.560	0.516		
Source	df	s.s	m.s.	F
Between Groups	1	1.652	1.652	4.964*
Within Groups	224	74.533	0.333	
Total	225	76.185		

\*Significant at .05 level

### *Discussion*

In answer to the originally stated research question, it can be declared that there was apparently no significant difference between students not employed, students employed on-campus, and students employed off-campus on the basis of their cumulative grade point averages prior to fall semester, their fall semester grade point averages, and the difference between the two. The two groups of working students, on-campus and off-campus, achieved a slightly higher fall semester grade point average than the non-working students; however, these differences were not significant. These findings tend to support those of Trueblood (1957) in his work at Indiana University.

In pursuing a new direction for additional study, those students employed more than 20 hours per week off-campus were placed in a separate group for further analysis. It was found that this group of students achieved a significantly lower fall semester grade point average than the other three groups of students. Thus, it appears that a student's grades may tend to suffer if he attempts to work more than 20 hours per week regularly. This conclusion tends to support the findings of Hay (1969), Henry (1967), and Baker (1941).



An additional analysis was accomplished by combining all students who worked 20 hours or less per week, on-campus and off-campus, in one group and comparing the fall semester grade point averages to those of the non-working student group. It was found that those students who worked 20 hours or less, whether on-campus or off-campus, achieved significantly higher fall semester grades than those students who were not employed. This finding would suggest that those students on academic probation may tend to improve their academic performance significantly by choosing to work up to 20 hours per week. This is apparently a new finding not previously reported or supported in the literature.

The implications of the findings discussed above are rather brief but meaningful. Students on academic probation should not be discouraged from seeking part-time employment. Rather, they should be encouraged and given assistance in seeking part-time employment. However, students on academic probation should be discouraged from working more than 20 hours per week off-campus, and not allowed to work more than 20 hours per week on-campus. To permit or allow this to happen is to enable the student to commit academic suicide in most cases.

There appears to be very little difference in the fall semester academic performance of those probationary students working 20 hours or less per week whether on-campus or off-campus. Consequently, there seems to be no basis in fact for requiring the probationary student seeking part-time, on-campus employment to first procure approval from the Office of Student Financial Aids before being allowed to work. Possibly, removing potential roadblocks such as this might encourage more students on academic probation to seek employment.

There are several limitations to this study which should be examined. The number of students who were employed on-campus and off-campus was rather small; however, all potentially eligible students who met the specific criteria of the study were included.

Only students on academic probation were utilized in this study. The project might possibly have been more meaningful if matching groups of non-probationary students had been included.

No attempt was made to include such factors as motivation, personality, reason for working, family background, and other possibly pertinent factors. Findings from this study would undoubtedly have been enhanced had factors such as these been taken into consideration and included in the analysis of data.

In conclusion, it appears that further study in the area of student employment and academic achievement in as comprehensive a fashion as possible would be an appropriate and meaningful topic to pursue in greater depth.

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