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# FINANCIAL AID: WHAT INFLUENCES WHO GETS IT?

*Warren R. Seymour, Stuart A. Zimmerman, and Donald J. Donato*

The literature dealing with the financial aid process is in the early stages of development. The crucial variables which make up that process or that influence the outcomes of that process are either unknown or have not been fully investigated. Baseline data are badly needed.

One area that certainly bears further investigation is that of student characteristics as they relate to the assignment of financial assistance and the reciprocal question of how the assignment of financial aid affects the students who receive such assistance.

Rhodes and Caple (1969) studied the academic aptitude and achievement of Educational Opportunity Grant (EOG) students. They found that the scholastic ability and high school rank of EOG students compared quite favorably with that of non-EOG students. The EOG students showed a higher persistence rate than that of other students. An interesting sidelight of this investigation was the possible bias uncovered in assigning EOG with greater frequency to students from rural areas and small communities than would be expected on a proportional basis.

Baber and Caple (1970) investigated the persistence of EOG students and concluded that most of the family and environmental characteristics of these students did not differentiate between persisters and non-persisters. They also found that the ability and achievement levels of freshman EOG students were high in comparison to that of the total freshman class. This may have accounted for the higher persistence rate of EOG students found in this and the study cited above.

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The academic performance of Work Study students was explored by Merritt (1970). The results of his study support previous findings (Henry, 1967; Wright, 1966) that, even though students from low socio-economic levels score lower on tests of scholastic ability than upper socioeconomic students, their academic performance is equal to that of other students.

Bergen, Upham, and Bergen (1970) found that scholarship students at Kansas State University achieved higher grade point averages than non-scholarship students matched on the variables of ability, sex, class level, college, and high school achievement.

In a recent study, Bergen, Bergen, and Miller (1972) implied that National Defense Student Loan (NDSL) borrowers with high grade point averages are less likely to be delinquent with repayments than those with medium grades who in turn are less likely to be delinquent than those with minimal grades. They offered the tentative conclusion that if financial aid officers are concerned primarily with loan repayments they might be justified in using grades as a factor in granting loans. The amount borrowed was not found to be a significant factor in predicting repayment.

#### *PURPOSE*

The purpose of this study was to investigate and to describe the relationship, if any, of certain selected student variables to the assignment of financial aid in an attempt to determine if these variables were influencing the financial assistance being granted to undergraduate students at the University of Missouri - Columbia (UMC).

#### *DATA COLLECTION AND SUBJECTS*

The data in this investigation were part of an institutional research project conducted at UMC on the demographic characteristics of financial aid recipients (Donato, Zimmerman and Seymour, 1970). This report focused on three federal aid programs and their recipients who were sophomores, juniors and seniors. Freshmen were not included since all of the relevant data were not yet available for this group. It was also felt that at least one year on campus might be necessary in order for the variables selected to begin to show their influence.

The variables selected for this study were:

1. class level
2. academic division or college
3. university residence
4. home community
5. academic ability
6. academic achievement

The federal aid programs included in this study were the National Defense Student Loan Program (NDSL), the Educational Opportunity Grant Program (EOG) and the College Work Study Program (CWS).

#### *DATA ANALYSIS*

Chi-square analysis was used to test for statistically significant differences where appropriate. The .05 level of significance was used throughout the study.

## RESULTS

From the analysis of the data, the results for each of the six variables under consideration may be summarized as follows:

### *Class level*

The frequency of aid granted to students when grouped by class level is presented in Table 1. As indicated, significant differences did exist between class levels in the frequency of aid granted. In relation to the number of students enrolled in each class level, seniors were granted aid less frequently than juniors and juniors less frequently than sophomores. The suggested trend is that as students progress through the university their proportional representation among financial aid recipients decreases.

### *College or division*

Table 2 indicates the frequency of aid granted to students by the academic division or college in which they were enrolled. Again, significant differences were discovered. Students enrolled in Business and Public Administration and in Engineering did not receive financial assistance in numbers proportional to their total enrollment. A possible explanation for the disproportionate frequency of assistance given to students in Education may be the emphasis on teaching in the NDSL program. In the case of journalism, part of the answer may be due to the relatively large number of out-of-state students who are enrolled. Because of the significantly higher expense incurred by out-of-state students, they may need, apply for, and receive aid to a greater extent than their in-state counterparts.

### *University residence*

For the purpose of this study, university residence was broken down into the following categories:

1. university residence hall
2. fraternity or sorority
3. private residence hall
4. off-campus housing (in the town of Columbia)
5. commuting
6. cooperative

Table 3 compares the number and percentage of student financial aid recipients in each of these residence categories. Chi-square analysis was not carried out in this instance since data were not available on the proportion of the total student body that lived in each of the residence categories. Differences in total numbers do exist when you compare NDSL recipients to EOG and CWS recipients in their choice of residence. This is particularly noticeable when you compare the percentage of NDSL recipients who reside in off-campus housing to those who live in university residence halls. CWS and EOG students are more equally divided between off-campus and on-campus housing.

TABLE 1  
Students Granted Financial Aid Classified by Class Level

		Class Level			Total
		Sophomore	Junior	Senior	
N	=	695	665	421	1,781
X <sup>2</sup>	=	6.28	.259	11.62	18.16*

\* P < .05

TABLE 2  
Students Granted Financial Aid  
Classified by Division  
of Enrollment

Division		Agr.	A&S	B&PA	Ed.	Eng.	Journ.	Vet. Med.	Forestry	Home Ec.	Total
X <sup>2</sup>	=	0.06	0.45	34.20	24.83	6.41	9.47	9.80	.50	3.06	88.78*

\* P < .05

TABLE 3  
University Residence of Upper Class  
Students Receiving Aid Through  
Federal Assistance Programs

University Residence	NDEA		CWS		EOG	
	No. in Sample	% of Total	No. in Sample	% of Total	No. in Sample	% of Total
1. University Residence Hall	360	36.3	309	41.2	226	44.8
2. Fraternity - Sorority	87	8.8	54	7.2	30	5.9
3. Private Residence Hall	24	2.4	24	3.2	12	2.4
4. Off-Campus	488	49.1	321	42.8	208	41.2
5. Commuting	11	1.1	7	0.9	3	0.6
6. Coops	23	2.3	35	4.7	26	5.1
Total	993	100.0	750	100.0	505	100.0

### Home community

The distribution of students receiving financial assistance by the size of their home community and the type of assistance received is presented in Table 4. A comparison of the frequency of aid granted to students from each of these community groups to the expected frequency of such aid on a proportional basis representative of UMC students in general is also presented. The comparison is based on data relating to the size of home communities of UMC students reported in an institutional study by Seymour and MacLean (1969). The data from Table 4 suggest that, in terms of absolute numbers, the frequency of recipients for each form of aid is inversely related to community size. When these data are compared to the expected frequency, students coming from communities classified as "rural" are found to be significantly over-represented in all three forms of financial assistance, while those students coming from the large metropolitan areas of Kansas City and St. Louis are found to be significantly under-represented.

TABLE 4  
Students Granted Financial Aid  
Classified by Home Community  
NDEA CWS EOG

Home Community	NDEA			CWS			EOG		
	No.	% of Total	X <sup>2</sup>	No.	% of Total	X <sup>2</sup>	No.	% of Total	X <sup>2</sup>
1. 10,000 and over	284	31.3	0.2	192	27.4	4.6	109	22.3	14.2
2. under 10,000	241	26.5	0.1	192	27.4	0.5	139	28.5	1.1
3. rural	194	21.4	16.6	188	26.7	51.6	157	32.2	39.8
4. Kansas City - St. Louis	189	20.8	9.4	129	18.4	15.4	83	17.0	15.2
Total	908	100	26.3*	701	100	82.1*	488	100	70.3*

\* P < .05

*Academic ability and achievement*

Table 5 illustrates the relationship between the academic ability level of students receiving financial aid and their academic achievement. Although correlations were not run on this data, it seems apparent that a fairly high positive relationship exists between ability and achievement for the aid recipients in this study. It was not possible to investigate the relationship between the three forms of financial aid and academic achievement, while controlling for academic ability, since no baseline data were available for this same relationship in the total student population.

TABLE 5  
Grade Point Average of Students Receiving  
Financial Assistance By Their  
School and College Ability Test Scores

Scat T Scores	UMC - Grade Point Average						Total
	1.0 - 1.49	1.50 - 1.99	2.0 - 2.49	2.50 - 2.99	3.0 - 3.49	3.50 - 4.0	
71 & above		1	2	5	11	15	34
61 - 70	1	3	28	46	64	29	171
51 - 60	3	23	108	107	77	25	343
41 - 50	3	57	125	71	34	7	297
31 - 40	6	28	32	11	1		78
20 - 30	2	3	3	1	0		9
TOTAL	15	115	298	241	187	76	932

*Academic ability and financial assistance*

Table 6 compares the ability level of financial aid recipients within each of the three federal aid programs. The percentage of students by ability level in each program suggests that very few differences, if any, exist in ability level when students are grouped into these three categories.

Each of the three programs was examined separately to see whether differences existed in the ability level of students granted such assistance and students in general, and whether or not there was any difference in the amount of such assistance from one ability level to the next.

Table 7 compares the level of academic ability and the amount of NDSL loan granted. Significant differences were found at all ability levels, and for each of the "amount" categories. Loans of \$600 or more were granted less frequently than would have been expected by chance. This seemed somewhat unusual in terms of the maximum amount of such loans permitted under

this program. Perhaps the local emphasis on a financial aid "package" resulting in lower levels of indebtedness may be influencing the size of such loans.

On the dimension of ability, students with School and College Ability Test (SCAT) T-scores above 60 are over-represented among students receiving NDSL loans, while those with SCAT T-scores below 40 are under-represented. Such a discrepancy may be a result of the financial aid-granting process on this campus and/or the fact that higher ability students are more aware of and take greater advantage of the NDSL program.

The level of academic ability and the amount of EOG granted is illustrated in Table 8. The data again suggest that the amount of financial aid increases with increasing levels of student ability.

TABLE 6  
Ability of Students Receiving Assistance  
by Type of Assistance

Form of Financial Aid	SCAT 'T' SCORES						Total
	20-30	31-40	41-50	51-60	61-70	71 & Above	
NDEA Loan	7	51	193	199	98	18	563
% of Group	1.24	9.06	34.28	35.35	17.41	3.20	563
College Work Study	6	47	161	183	94	12	503
% of Group	1.19	9.34	32.01	36.38	18.69	2.39	503
Educ. Opportunity Grant	4	29	106	139	70	13	361
% of Group	1.11	8.03	29.36	38.50	19.39	3.60	361

TABLE 7  
Interaction of Ability (SCAT Scores)  
And Amount of NDEA Loans Awarded  
AMOUNT OF NDEA LOAN

SCAT 'T' Score	100-300	301-450	451-600	601-759	760 & above	X <sup>2</sup>
61 & above						
N	40	29	35	5	7	81.75*
51 - 60						
N	57	57	51	17	17	43.93*
41 - 50						
N	45	60	48	20	20	33.71*
40 & below						
N	15	18	13	7	5	18.00*
X <sup>2</sup>	45.2*	30.53*	29.62*	36.04*	36.21*	177.39*

\* P < .05

TABLE 8  
Interaction of Ability (SCAT Scores)  
And Amount of EOG Awarded

SCAT 'T' Score	AMOUNT OF EOG						X <sup>2</sup>
	0-399	400-499	500-599	600-699	700-799	800 & above	
60 - 79							
N	7	32	12	16	17	11	73.22*
50 - 59							
N	11	43	20	23	27	15	32.10*
40 - 49							
N	23	16	17	20	11	11	10.70
20 - 39							
N	7	3	6	8	2	3	16.37*
X <sup>2</sup>	6.39	87.26*	2.69	5.88	19.14*	10.92*	132.39*

\* P < .05

Table 9 shows the same kind of comparison of ability level and amount of assistance granted under the CWS program. The data adds to the evidence that a clear relationship exists between the ability level of students and the amount of financial assistance they receive in all three aid programs investigated in this study.

TABLE 9  
Interaction of Ability (SCAT Scores)  
And Amount of CWS Awarded

SCAT 'T' Score	AMOUNT OF COLLEGE WORK STUDY				X <sup>2</sup>
	0-199	200-299	300-399	400 & above	
61 and above					
N	9	32	44	21	53.45*
51 - 60					
N	12	59	92	19	92.67*
41 - 50					
N	12	56	77	17	68.89*
20 - 40					
N	4	18	24	7	22.25*
X <sup>2</sup>	63.85*	19.38*	114.33*	39.69*	237.25*

\* P < .05

### DISCUSSION

The granting of financial assistance is indeed a complex and often a highly personal and subjective process. Little is known to date about the effectiveness of such aid programs or the factors that may influence the process itself. This study attempted to investigate some of the possible influencing variables on one campus to provide some much-needed baseline data for future inquiries of a similar nature.

Based on the results of this investigation, the following conclusions seem appropriate:

1. As a student advances in class level at UMC, the frequency with which financial aid is granted decreases.
2. When students who are granted assistance are classified according to academic division or college, the frequency with which assistance is granted is not proportional to the total number of students in that division or college.
3. Students receiving financial assistance differ in their choice of residence. Certain types of aid recipients more often seek university housing presumably for reasons of economy.
4. When aid recipients are compared in terms of the size of their home community, rural and small-town students are significantly over-represented while students from metropolitan areas are under-represented.
5. Lack of appropriate comparative data limited the investigation of possible differences in the relationship between academic ability and achievement for financial aid recipients and that of students in general.
6. There does appear to be a positive relationship between the ability level of students and the amount of financial assistance they receive. While this may be appropriate for the CWS program, it is highly questionable whether this should be the case for the NDSL program and the EOG program. Certainly the programs, themselves, do not stipulate any such relationship.



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