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TECHNIQUES IN STUDYING THE EFFECT OF SELF-SUPPORT UPON THE GRADES OF COLLEGE STUDENTS

DWANE R. COLLINS

Self-support has become a major interest on today's campus, and there are many conflicting opinions regarding its advantages and disadvantages. Regardless of whether it has more advantages than disadvantages or vice versa, self-support is a living problem and must be faced. Hence we must be concerned with its relationships to the many aspects of the life of the student. The disagreements are chiefly concerned with the health, extra-curricular-activity participation, social life, happiness, schedule load, and scholastic standing of the students engaged in self-support. We shall confine our discussion to the relationship of self-support and the academic grades of college students.

In the past, the most common technique used in studying this relationship has been the formation of generalizations based on observations of (in most cases) academically maladjusted students. It was during the period in which this procedure was the prevailing technique that the extreme disagreements regarding the relationship appeared in educational literature.

Numerous studies using a "comparison of means" technique have been made. In some cases the mean of the grades of self-support students was compared with the mean of the grades of the total student or class enrollment. The standard deviations of the means were seldom used in the interpretation of these studies. In other cases, comparisons were made between the means of the grades of two groups selected at random, the only criterion being that one group engaged in self-support and that the other group was not so engaged. Others have used the same technique except that the individuals of the two groups were paired on one or many of such factors as age, sex, classification, high-school averages, college entrance examination scores, intelligence test scores, etc. It is interesting to note that as the techniques became more objective, the opinions became closer in agreement.

Correlation techniques for studying the effect of self-support upon the grades of college students have recently come into prominence. In many studies first order correlations were computed be-

tween intelligence test scores, or other "score terms" of ability, and the actual grades earned by groups selected in the same manner the "mean comparison" groups were chosen.

Umstadd¹ made a study of the relationship being discussed, at the University of Minnesota using first-order correlation and partial correlation techniques. He found that the Pearson's coefficient of correlation between the two variables, honor-point-ratio and the percentage of expenses earned by 1,122 students at University of Minnesota was $-.090 (\pm .025)$. The partial coefficient of correlation obtained, with intelligence as measured by the percentile ranking on the college ability test controlled, was found to be $-.045$. Umstadd concluded that "this indicates that earning exerts only a slight negative effect upon scholarship assuming that other factors, as well as intelligence are constant."

Your reader has just completed some of the computations in a similar study of 545 freshmen students at Iowa State College. Data on three factors, ability scores, honor point ratios and total hours of self-support were collected on each student. The ability score used in this study was computed by combining the students' high school grade averages with their test scores on the American Council on Education Psychological Examination, which is given to every entering student at Iowa State College.

The first order coefficient of correlation between hours of self-support and honor point ratios of the entire group was found to be $.037$; between the hours of self-support and the ability scores was $-.015$; and between the ability scores and the honor point ratios was $.527$. By referring to a Fischer Table of Significance for Correlation the first two correlations were claimed insignificant and the last, rather significant.

Completing the next step of the three variable correlation problem we find the net correlation between honor point ratios and hours of self-support with the influence of the ability scores partialled out or held constant, to be $.053$. The partial coefficient of correlation between honor point ratios and ability scores with the hours of self-support partialled out, or its influence held constant, was found to be $.528$. It is well to note that these findings are in close agreement with those of Umstadd.

Solving for the coefficient of multiple correlation we obtain the coefficient of $.529$. This coefficient gives us the correlation between earned honor point ratios and the honor point ratios estimated by

¹ Umstadd, J. G. Student self-help at the University of Minnesota. University of Minnesota Press, Minneapolis, 1932.

means of the two variables, ability scores and hours of self-support when these two are combined into a team by means of a regression equation. Since the first order correlation between the variables, ability scores and honor point ratios was .527 it would seem that the variable, hours of self-support did not have any significant effect upon the honor point ratios earned by the students. Specific cases may be cited in which the presence of self-support seemed to cause adverse effect upon the grades of the student. Also specific cases may be cited in which the presence of self-support seemed to motivate the student to higher accomplishments than had been predicted for him. There seems to be a counterbalancing of the cases and we must generalize, in light of the information from this study, that self-support does not significantly effect the grades of college students.

The findings of most objective studies are in agreement with this generalization. Consequently we may dispense with further study of the relationship of self-support upon the grades of college students and turn our attention to determining the relationship it has with other aspects of the life of the student. Similar techniques, with slight adaptations could be applied to studies of the relationship between self-support and personality development, health, success in life, social participation, extra-curricular participation and other factors. A few studies have been made on some of these relationships but general conclusions have not been scientifically reached.

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