THE CONTRIBUTION OF MOTIVATION TO ACHIEVEMENT IN A SECOND LANGUAGE

by

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INTRODUCTION

Studies of the phenomenon of language acquisition conducted prior to 1950 were mainly theoretical in nature and dealt almost exclusively with the acquisition of the primary or native language in the young child (40). Subsequent to 1950, an increasing amount of experimental research has been devoted to language acquisition. Most of this recent work has been concerned with the acquisition of a secondary language in the relatively mature individual, i.e., one already posessing some facility in another language[2]. The standard paradigm for the study of secondary language acquisition is the classroom situation, which provides control over many of the relevant extrinsic variables (same teacher, text books, classroom, etc.). This permits the researcher to attend in a relatively unimpeded manner to one or more of the relevant intrinsic variables (linguistic ability, study-habits, interest, etc.) and its relationship to achievement in the second language.

An important problem with regards to this phenomenon concerns the motivation which is necessary for, or at least facilitates, the learning of a language. However, if one considers the high school student in the classroom situation, a common-sense answer immediately suggests itself: it is that which motivates the student to learn any one of his sub-

jects -- a desire to do well in the subject, which is part of a general desire to do well in all high school subjects. However, an interesting alternative to this common sense answer has been proposed by Dr. W.E. Lambert and his associates of McGill University's Language Research Group. Their suggestion is as follows: just as a child learns his mother tongue in order to become like valued members of the family, and later on of the whole linguistic community, so a student of a second language is motivated by a desire to become like members of a valued second cultural group. Thus, Lambert and his associates predict that the attitudes of the student learning a second language with regards to the referent cultural group will at least partly determine his success in learning the new language (26, pp 266-7).

Several studies have been carried out by members of McGill University's Language Research Group in an effort to establish a solid empirical basis for their theory, which has been operationalized in the following manner. First, by classifying purposes for learning a second language in one of two ways, via the "Orientation Index": either "integrative", where the purpose for study is to learn more about the language group or to meet more and different people, or "instrumental", where the reasons for study are utilitarian. Second, by measuring the intensity of motivation to learn the second language, via the "Motivational Intensity Scale" and

"Desire to learn the second language". The prediction from the theory is that an integrative orientation makes for greater intensity of motivation and thus leads to greater achievement in the second language. And since an extensive attempt at validation has been made for this theory of motivation for second language acquisition, it was felt that careful examination of their results was desirable prior to the consideration of an alternative hypothesis.

Gardner & Lambert (1959) find significant positive correlations between a student's orientation towards learning French as a second language (Orientation Index)[3] and both his intensity of motivation for learning the language (Motivational Intensity Scale) and his obtained ratings of achievement in French. As well, significant positive correlations are reported between the Motivational Intensity Scale and the ratings of French achievement. Even stronger support for the theory of Lambert et al obtains from a factorial analysis of the correlational results, which yields two independent factors equally related to achievement in French: a "linguistic ability" factor and a "motivational" factor. This latter factor denotes a motivation which is "characterized by a willingness to be like valued members of the language community" (26, p.271). In a similar study, Gardner (1960) reports significant positive correlations between the Orientation Index and: two measures of motivational intensity (Motivational

Intensity Scale, Desire to learn French), and also seven of nine measures of French achievement. The Motivational Intensity Scale is significantly and positively related to six of the nine achievement variables, while Desire to learn French is significantly and positively related to all nine of these variables. Thus, there appears to be little question that in the bicultural Montreal setting of the above two studies, an integrative orientation on the part of English-speaking high school students with regards to the French is related to greater motivation to learn, and consequently leads to high grades in, French. However, the question still remains as to whether this relationship is restricted to this or similar bicultural settings, or whether it is universally demonstrable.

In connection with this question, the results from a few other studies are of interest. For instance, in the study of Anisfeld & Lambert (1961) which involves young students of Hebrew at three of Montreal's Jewish parochial schools, no significant relation was found between measures of Hebrew achievement and a student's orientation toward learning Hebrew in two of the schools and in one of the four classes studied in the third school. In two of the other three classes in the third school, instrumentally oriented students obtained better grades, while in the remaining class, those who were integratively oriented did tend towards higher achievement in

Hebrew. In another study involving students at McGill University's French Summer School, most of whom were from the U.S.A., Lambert, Gardner, Barik & Tunstall (1961) report that while at an elementary level integratively oriented students do better than those who are instrumentally oriented, there is no relation between a student's orientation and his level of achievement at the more advanced levels. Finally, Gardner (1958), Study II, where the Ss were adults taking an evening extension course in French at McGill University, finds no relation between the Orientation Index and either French achievement (two measures) or the Motivational Intensity Scale, while the latter is significantly and positively related to both measures of achievement in French.

These latter few studies seem to limit the scope of the theory that an integrative orientation makes for stronger motivation to learn, and consequently leads to high achievement in, a second language. However, the common sense alternative suggested earlier (p.1f) is also narrow in scope since it is restricted by definition to the classroom situation. Therefore, it became necessary to seek some broader motivational base, one which would encompass desire to do well in all high school subjects, in order to prevent the present study from becoming unnecessarily ad hoc. A good possibility seemed to be ambition or general achievement motivation. For instance, it could be argued that scholastic success is perceived

by the student as a sub-goal whose attainment is necessary prior to obtaining one's expected future occupation or to getting ahead in life. And extending this logic to the situation of the young child learning to speak, it could further be argued that the acquisition of his native language is one of the first achievement sub-goals which he must attain in the process of getting ahead in life.

In an attempt to firmly establish achievement motivation variables as the only ones necessary to account for achievement in a second language, it was decided to include several common[4] or general motivation ("personality") variables in the study. The reasoning behind this decision was that in order to demonstrate conclusively that achievement motivation variables are important to achievement in a second language, to the exclusion of any other common type of motivation, it would be necessary to show not only that achievemotivation variables are important, but also that non-achievement motivation variables are unimportant, in accounting for achievement.

PROCEDURE

Subjects. The Ss used in the larger study of which this study formed a part (36) were all of the students from six white public high schools in Lafayette Parish (county) Louisiana who were taking a course in French and who came from homes where only English was spoken; a total of 96 students. Ss were selected from a county in southwestern Louisiana because it was felt that this area might duplicate approximately the English-French bicultural conditions existing in Montreal (32) and thus provide a favourable setting for studying the relation between a student's orientation towards learning a second language and achievement in this second language. Seventy-two of the students used in the final analysis were taking a first year French course (French I), while the remaining 24 students were taking a second year French course (French II).

Method. There were three testing sessions, all conducted during 1961. In January a series of tests of attitude, motivation and ability were group-administered to all the Ss, who were assembled for this purpose in one of the high schools. This session was of approximately four and one half hours duration. Late in April, several French achievement tests were

administered in two test periods. The first period, lasting approximately one and one half hours, involved two group administered tests, while the second period involved individual three minute testing sessions.

RESULTS

This study was part of a larger study of similar purpose but broader in scope.(36) The purpose of this study was, again, the delineation of motivational variables which contribute to achievement in a second language; the purpose of the larger study was the delineation of all types of non-ability variables which contribute to achievement in a second language. Because of the similarity of these two studies, variables from the larger study which, though not originally included in the present study, had relevance to the present study were included in this analysis.

The analysis of the results was conducted in three stages. First a preliminary analysis was done in order to eliminate irrelevant variables from further consideration. Then the main analysis was performed. And finally a supplementary analysis was carried out in order to answer questions raised in the main analysis. The results of the supplementary analysis were included in the DISCUSSION.

Of the many variables eliminated after a preliminary analysis of the results, the ones most worthy of note are the measures of integrative and instrumental motivation (P_1 - P_4). The considerations which lead to their elimination were: 1) these variables (P_1 - P_4) are unrelated to any of the

measures of French achievement (3 - 7, P_5 - P_6), and 2) they are inconsistently related amongst themselves; e.g., P_3 - P_4, both measures of the dominance of integrative over instrumental motivation, are not significantly related; P_1 and P_2, which are significantly and positively related, are measures of conceptually unrelated motives; respectively, degree of integrative and instrumental motivation. (See appendix "A") Another noteworthy variable eliminated was the Roe rating of the student's expected future occupation (P_7), which is an estimate of the level of the student's occupational potential. The considerations which lead to its elimination were as follows: the average of this measure is significantly higher than the average of the Roe rating of the father's occupation (1), which is also an estimate of the level of the student's occupational potential. This suggests a tendency by the students to over-estimate the level of their occupational potential (20, 22, 37). That a lack of realism exists in their estimates of the level of their occupational potential is confirmed by the absence of significant ($p<.05$) correlations of the measures of intellectual ability (10 - 11, 13) with the Roe rating of the student's expected future occupation (P_7), while one of the measures of intellectual ability (13) does correlate significantly ($p<.01$) with the Roe rating of the father's occupation (1), and the correlations of the other two measures of intellectual ability (10 - 11)

with this estimate of the student's occupational potential (1) approach significance ($p \simeq .10$).

The Pearson product-moment correlation coefficient computed for all 41 variables used in the main analysis were factor analyzed using the Centroid Solution, and it was found that 10 factors accounted for most of the common variance in the correlation matrix. These 10 factors were rotated orthogonally using the Normal Verimax method[5]. In identifying the content and nature of the factors, an attempt was made to follow closely the procedure suggested by Fruchter (1954); viz., "by inferring what tests with high loadings on a factor have in common that is present to a lesser degree in tests with moderate loadings and absent from tests with zero or near-zero loadings." (23, p.145)[6] As well, note was taken of low loadings obtained by any of the achievement variables on a factor and the factors are described and analyzed in order of their degree of relation to French achievement, viz., I, IV, III, VII, X, VI, VIII, V IX, II. Also, where it seemed to facilitate the interpretation, the analysis of a factor was fragmented into two parts. The first part consisted of inferring what loadings obtained by tests within natural groupings had in common. These groupings were considered to be the achievement-related tests, the ability tests, the achievement motivation tests, and the general motivation tests. The second part consisted of an overall interpretation of the factor.

On the first factor, twelve variables had either high or very high loadings (1 - 6, 9 - 11, 13, 34, 36), seven variables had moderate loadings (7 - 8, 14 - 16, 35, 37), and two variables obtained low but significant loadings (12, 39). The pattern manifested by the achievement-related tests is as follows: a very high loading was obtained by the Cooperative French Test (4). This is a standard test of French achievement measuring the basic academic skills, viz., reading comprehension and knowledge of written grammar and vocabulary. High loadings were obtained by the Roe rating of the father's occupation (1), a measure which may also be used as an indication of the student's probable future occupational level; the final average grade, excluding French (2); the final French grade (3); the French Listening Comprehension Test (5); a measure of aural comprehension in French; the pronunciation test (6), a measure of the quality of spoken French, and the expected final French grade (9). Moderate loadings were obtained by the oral production test (7), a measure of the skill shown in speaking French, and the expected final average grade (8). The high loadings obtained by the measure of the student's probable future occupational level (1) and by the final average grade, excluding French (2) indicate that the achievement-related aspect of this factor delineates general intellectual achievement and not merely achievement in French. The pattern manifested by the ability tests is as follows: a very high loading was obtained

by the Modern Language Aptitude Test (13), a measure of linguistic ability. High loadings were obtained by the Primary Mental Abilities Test (10), a measure of general intelligence, and the Test of Educational Ability (11), a measure of academic ability. These loadings indicate that the ability aspect of this factor delineates general intellectual ability, i.e., the ability requirement for general intellectual achievement. The low but significant loading obtained by work habits (12), a measure of ability to function efficiently in an academic setting suggests that this ability has little in common with general intellectual ability. The pattern manifested by the tests of achievement motivation is as follows: two of the three measures of motivation for scholastic achievement (34, 36) obtained high loadings and the third (35) very nearly obtained a high loading (.49). Moderate loadings were obtained by the measure of drive motivation for achievement in any setting (16), a measure of general achievement motivation; California Psychological Inventory subscales Ai and Ac (14 - 15), measures of general motivation for achievement in an academic setting, and a measure of motivation for achievement in French (37). A low but significant loading was obtained by another of the measures of motivation for achievement in French (39). The remaining three measures of motivation for achievement in French (38, 40 - 41) failed to obtain significant loadings. This pattern of loadings indicates that the achievement motivation aspect of this factor delineates motivation

for scholastic achievement. None of the measures of general motivation obtained loadings of any significance on this factor. An overview of the components of Factor I, which were, again, general intellectual achievement, general intellectual ability and motivation for scholastic achievement suggests that this factor denotes general intellectual achievement and its requirements. If this interpretation is correct, it is interesting to note that the motivational requirement for general intellectual achievement in high school students is motivation for scholastic achievement and not, as might be expected, some more general form of achievement motivation.

On the fourth factor, five variables had either high or very high loadings (9, 38 - 41), four variables had moderate loadings (2 - 3, 12, 37) and two variables obtained low but significant loadings (8, 30). The pattern manifested by the achievement-related tests is as follows: a high loading was obtained by the expected final French grade (9). Moderate loadings were obtained by the final French grade (3), and the Cooperative French Test (4), a standard test of French achievement measuring the basic academic skills. A low but significant loading was obtained by the expected final average grade (8). These loadings indicate that the achievement-related aspect of this factor delineates expected achievement in academic French. It should be noted that this expectation is related to actual achievement in academic

French. The pattern manifested by the ability measures is as follows: a moderate loading was obtained by work habits (12), a measure of ability to function efficiently in an academic setting, while the remaining ability measures (10 - 11, 13) failed to obtain significant loadings, indicating that the ability aspect of the factor is not very important. The pattern manifested by the tests of achievement motivation is as follows: very high loadings were obtained by three of the five measures of motivation for achievement in French (39 - 41). A high loading was obtained by another of the measures of motivation for achievement in French (38). A moderate loading was obtained by the remaining measure of motivation for achievement in French (37). None of the other measures of achievement motivation obtained loadings of any significance on this factor, indicating that the achievement motivation aspect of this factor delineates motivation for achievement in French. One of the measures of general motivation (30), incentive motivation for artistic fulfillment, obtained a low but significant loading on the factor, indicating that the general motivation aspect of this factor is of negligible importance. The important components of Factor IV were, again, expected achievement in academic French and motivation for achievement in French. The overall dominance of the motivational component suggests that this factor denotes motivation for achievement in academic

French. It is interesting to note the strong relation suggested between expectation of achievement in French and motivation for achievement in French.

On the third factor, one variable had a high positive loading (31) and one variable had a high negative loading (24). This indicates that this is a dipolar factor. One variable had a moderate positive loading (5) and one variable had a moderate negative loading (2). Low but significant loadings were obtained by two variables (3, 25). Both of these loadings were negative. The pattern manifested by the achievement-related tests is as follows: a moderate positive loading was obtained by the French Listening Comprehension Test (5), a measure of aural comprehension in French; a moderate negative loading was obtained by the final average grade, excluding French (2). A low but significant negative loading was obtained by the final French grade (3). This dipolar pattern indicates that the achievement-related aspect delineated by this factor defines contrasting forms of achievement. One pole is defined by aural comprehension in French (5), a social skill. The other pole is defined by the final average grade excluding French (2), and the final French grade (3), which are academic skills. This finding can be contrasted with the achievement-related aspect delineated by Factor I, which indicated the similarity between all forms of achievement. It should be noted, however, that because of the mag-

nitude of the loadings involved, the achievement-related aspect defined on Factor III is not very strong. None of the measures of ability obtained loadings of any significance on this factor. The pattern manifested by the tests of achievement motivation is as follows: a high negative loading was obtained by incentive motivation for achievement in any setting (24). None of the other measures of achievement motivation obtained loadings of any significance on this factor. The pattern manifested by the tests of general motivation is as follows: a high positive loading was obtained by incentive motivation for physical perfection (31). A low but significant negative loading was obtained by incentive motivation for personal security (25). The important components of Factor III were, again, incentive motivation for achievement in any setting (24), a measure of general achievement motivation, which obtained a high negative loading, and incentive motivation for physical perfection (31), a measure of general motivation, which obtained a high positive loading. Thus, Factor III denotes contrasting forms of motivation; these contrasting forms of motivation are in turn related to contrasting forms of achievement. Specifically, the measure of general achievement motivation (24) is positively related to the academic skills (2, 3) and negatively related to a social skill (5), while the measure of general motivation (31) is positively related to a social skill (5) and negatively related to the academic skills (2, 3). Speculation on the

meaning of these indicated relationships is not important for purposes of this study; what is important is the existence of these indicated relationships.

On the seventh factor, one variable had a high loading (26). One variable had a moderate loading (9). Four variables obtained low but significant positive loadings (3, 8, 17, 37), while three variables obtained low but significant negative loadings (7, 23, 25). The high loading obtained by incentive motivation for social stature (26) indicates that this is a motivational factor. This motive is positively related to the expected final French grade (9). To some extent, it is also positively related to the obtained final French grade (3); the expected final average grade (8); a measure of motivation for achievement in French (37), and drive motivation for personal security (17), and negatively related to the oral production test (7), a measure of the skill shown in speaking French; drive motivation for physical perfection (23), and incentive motivation for personal security (25). It is interesting to note that like Factor III, this factor defines contrasting forms of achievement. And as with Factor III, the difference is between a social skill, in this case skill in speaking French (7), and an academic skill as represented by the final French grade (3).

On the tenth factor, one variable had a high negative loading (29). Two variables had moderate positive loadings

(14 - 15). Low but significant positive loadings were obtained by five variables (17, 20, 25, 28, 35), while low but significant negative loadings were obtained by three variables (6, 19, 26). The high negative loading obtained by incentive motivation for sensual pleasure (29) indicates that this is a motivational factor. This motive is negatively related to California Psychological Inventory subscales Ai and Ac (14 - 15), which measure general motivation for achievement in an academic setting. To some extent, it is also negatively related to a measure of motivation for scholastic achievement (35); to the measures of motivation for personal security (17, 25), and to the measures of motivation for moral betterment (20, 28), and positively related to the pronunciation test (6), a measure of the quality of spoken French; drive motivation for intellectual stimulation (19), and incentive motivation for social stature (26). It is interesting to note that the loading obtained by the social skill, quality of spoken French (6), is negative, while the loadings obtained by the measures of academic and scholastic achievement motivation (14 - 15, 35) are positive. This relationship may be interpreted as indicating that this social skill (6) tends to relate positively to certain measures of general motivation (29, 19, 26) and negatively to measures of academic or scholastic achievement motivation (14 - 15, 35). This relationship is similar to that found to occur on Factors III and VII.

The sixth factor is not well defined, as no variables obtained high loadings. Three variables had moderate positive loadings (27, 34, 37), while two variables had moderate negative loadings (17, 25). Low but significant loadings were obtained by two variables (7, 20). Both of these loadings are negative. Since the five variables which obtained moderate loadings are all motivational variables, the indication is that this is a motivational factor. The two measures of motivation for personal security (17, 25) are positively related to each other and, to some extent, to the oral production test (7), a measure of the skill shown in speaking French, and to drive motivation for moral betterment (20). These measures are negatively related to a measure of motivation for scholastic achievement (34); a measure of motivation for achievement in French (37), and incentive motivation for intellectual stimulation (27). It is interesting to note that the loading obtained by the social skill, skill in speaking French (7), is negative while the loadings obtained by the measures of scholastic and academic French achievement motivation (34, 37) are positive. This relationship may be interpreted as indicating that this social skill (7) tends to relate positively to certain measures of general motivation (17, 25, 20) and negatively to measures of scholastic or academic French achievement motivation (34, 37). This relationship is very similar to that found to occur on Factor X.

The remaining four factors (VII, V, IX, II) are unrelated to any of the measures of achievement in French (3 - 7) and are thus of no consequence to the main purpose of this study which was, again, the delineation of motivational variables which contribute to achievement in a second language. For the sake of completeness, however, a brief summary description of these factors is included. Factor VIII delineates characteristics associated with a high valuation of artistic goals (30). These characteristics are above average socio-economic background (1), and below average intellectual ability (10, 11). Factor V delineates characteristics associated with a strong drive for achievement in the post-academic period (16, 33). These characteristics are above average expectation of scholastic achievement (8); an above average academic ability (11); moderately strong motivation for achievement in French (38), moral betterment (20), and artistic fulfillment (22), and a lack of concern for the goal of personal security (25). Factor IX gives indications that a strong concern with moral betterment (28, 20) is associated with a moderate or average concern for occupational achievement (32). Factor II extracts social desirability from the measures of general drive motivation (17 - 23) and drive motivation for achievement in any setting (16). The considerations which lead to this interpretation of Factor II were: 1) the highest loading (.70) was obtained by drive

motivation for social stature (18), and 2) the lowest loading (.00) was obtained by drive motivation for artistic fulfillment (22), the measure of general drive motivation which is the least desired, i.e., obtained the lowest average rating, in the population studied. (see Appendix "A").

DISCUSSION

A review of the RESULTS and an interpretation of their general significance is in order here, prior to relating the findings either to the hypothesis presented earlier (p. 5f) or to other motivational studies in the area of second language acquisition. The RESULTS indicate: 1) There is a large common component underlying all measures of intellectual achievement (1 - 7). This component was labelled general intellectual achievement. Intellectual ability (10 - 11, 13) and motivation for scholastic achievement (34 - 36) are strongly linked to general intellectual achievement: Factor I; 2) There is a component of achievement which is unique to the measures of achievement in academic French (3 - 4). This component was labelled basic skills in academic French. Motivation for achievement in French (37 - 41) is linked to the basic skills in academic French: Factor IV; 3) There is a multifactorial component of achievement which differentiates the measures of academic achievement (2 - 3) from the measures of aural and oral achievement in French (5 - 7). These contrasting components of achievement were labelled academic skills and French social skills, respectively. Certain of the measures of general motivation (26 - 27) and achievement motivation (14 - 15, 24, 34, 37) are positively linked to the academic skills and/or negatively

related to the social skills, while certain other of the measures of general motivation (17, 25, 29, 31) are negatively related to the academic skills and/or positively linked to the social skills: Factors III, VII, X, VI.

An attempt to confirm this interpretation of the RESULTS was made by computing multiple correlations for all of the measures of achievement (1 - 7). Each multiple correlation included as predictors an ability variable and a motivational variable. The ability predictor used throughout was the Modern Language Aptitude Test (13), since it has the highest correlations with achievement (1 - 7) of all the ability variables (10 - 13). All except two of the measures of achievement motivation (14 - 16, 24, 34 - 41)[7] were used as motivational predictors for each of the measures of achievement. Those measures of general motivation which, factorially and/or correlationally, warranted an attempt at multiple correlation were also used as motivational predictors. Analysis of the multiple correlations tends to confirm the interpretation of the factor analysis given above, and also to define more clearly the motivational variables important for achievement. For instance, by taking the measure obtaining the highest multiple correlation from each of the five groups of motivational variables, i.e., general (17 - 23, 25 - 31), general achievement (16, P[8], 24), academic achievement (14 - 15), scholastic achievement (34 - 36) and French

achievement (37 - 41), for each of the seven measures of achievement (1 - 7), the following picture emerges: 1) the highest average correlation, considering all of the measures of achievement (1 - 7), is obtained by the measures of scholastic achievement motivation (34 - 36); 2) the highest average correlation, considering only the measures of general achievement (1 - 2), is also obtained by the measures of scholastic achievement motivation (34 - 36); 3) the highest average correlation, considering only the measures of achievement in academic French (3 - 4), is obtained by the measures of motivation for achievement in French (37 - 41); and 4) the highest average correlation, considering only achievement in the French social skills (5 - 7), is obtained by the measures of general motivation (17 - 23, 25 - 31). The above statements are correct whether the rank of the multiple correlations, or the rank of the increment of the multiple correlations from the correlation with ability (13) alone, is considered. Also, looking only at the measures of achievement motivation, and computing the mean rank or increment within each of the four groups of achievement motivation variables, a picture similar to the above emerges: 1) the highest average correlation, considering all of the measures of achievement (1 - 7), is obtained by the measures of scholastic achievement motivation (34 - 36); 2) the highest average correlation, considering only the measures

of general achievement (1 - 2), is also obtained by the measures of scholastic achievement motivation (34 - 36); 3) the highest average correlation, considering only the measures of achievement in academic French (3 - 4), is obtained by the measures of motivation for achievement in French (37 - 41), and 4) the highest average correlation, considering only achievement in the French social skills (5 - 7), is obtained by the measures of academic achievement motivation (14 - 15).

An interesting sidelight which emerges from the multiple correlations is the fact that the measures of general achievement motivation (16, P_8, 24) have the lowest average multiple correlations with the measures of achievement (1 - 7). This indicates that the correlations of these measures with achievement are mediated by their correlations with ability. It also suggests the possibility that the correlations of the measures of general achievement motivation with the other measures of achievement motivation (14 - 15, 34 - 36, 37 - 41) are also mediated by their correlations with ability, and therefore that the measures of general achievement motivation used in this study are invalid. In order to check on the validity of the measures of general achievement motivation partial correlations were computed, with the effects of ability (13) removed, between the measures of general achievement motivation (16, P_8, 24) and the next

most general measures of achievement motivation, general motivation for academic achievement (14 - 15). The partial correlations for both of the drive measures of general achievement motivation (16, P_8) are highly significant ($p<.05$), while one of the partial correlations for the incentive measure of general achievement motivation (24) approaches significance ($p\simeq.1$). Thus, it can be said with confidence that at least the drive measures of general achievement motivation (16, P_8) are valid as measures of general achievement motivation, even though they have little relation to achievement. This finding indicates that the concept of general achievement motivation as a motive related to achievement is not very meaningful at the high school level. This is consistent with the findings in the main analysis that the two measures of motivation for occupational achievement (32 - 33) are unrelated to the student's probable future occupational level (1) or to any of the other measures of achievement (2 - 7). This further suggests that general achievement goals, viz., goals of the post-academic period such as occupational goals, are not very meaningful to high school students. This interpretation is consistent with the findings of the preliminary analysis that the occupational achievement level which the student expects to attain (P_7) is unrealistic, viz., is too high for his abilities (10 - 11, 13).

An overview of all of the findings suggests certain generalizations concerning the relation of motivational variables to achievement. One generalization is that the best indication of general achievement motivation for an individual is given by that form of achievement motivation which is specific to the most general recognized achievement situation with which the individual is currently actively involved. In the case of the high school student, the most general recognized achievement situation with which he is currently actively involved is academic achievement at the high school level. The form of achievement motivation which is specific to this situation is general scholastic achievement motivation (34 - 36), which measures motivation for a high average high school grade. And, as was seen earlier, the findings indicate that general scholastic achievement motivation is the most important form of motivation both for achievement generally (1 - 7) and also for the more general forms of achievement recognized as such, (probable) occupational achievement level (1) and average high school grade excluding French (2). This indicates that general scholastic achievement motivation is the best measure of general achievement motivation for high school students. Another generalization is that any form of achievement motivation which is related to a recognized achievement situation beyond the level of the recognized achievement situation with which an

individual is currently actively involved is unimportant as a form of achievement motivation for that individual. Considering the high school student the findings indicate that both motivation for achievement in any setting (16, P$_8$, 24) and motivation for occupational achievement (32 - 33), which are related to the post-academic or occupational achievement levels, are unimportant both for achievement generally (1 - 7) and also for the more general forms of achievement recognized as such, (probable) occupational achievement level (1) and average high school grade excluding French (2). A third generalization is that the best indication of achievement motivation in any particular recognized achievement situation with which the individual is currently actively involved is the form of achievement motivation which is specific to that recognized achievement situation. In the case of the high school student the findings indicate that the form of achievement motivation most important for achievement in a particular subject, academic French (3 - 4) in this case, is motivation which is specific to that subject, motivation for achievement in high school French (37 - 41). The fourth and final generalization is that the forms of motivation which are most important for the attainment of social goals which are not (primarily) recognized as achievement goals are general motivation or "personality" variables. The more general forms of achievement motivation which are related to the most general recognized achievement situation with which the individual

is currently actively involved will also be of some importance for the attainment of these social goals. Considering the high school student, the findings indicate that aural-oral achievement in French (5 - 7) may be considered as social goals. The most important forms of motivation for the attainment of these goals are general motivation variables (22, 25, 28), while general academic achievement motivation (14 - 15) is also of some importance. It is of interest to note that the least important form of motivation for aural-oral achievement in French is motivation for achievement in high school French (37 - 41). This tends to confirm the classification of these forms of achievement as social goals not (primarily) recognized as achievement goals.

The results and the generalizations based upon them are not completely consistent with the hypothesis presented in the INTRODUCTION. The hypothesis was, again, that desire to do well in a high school subject (French in this case) is part of a general desire to do well in all high school subjects, and that the motivational base from which this general desire to do well in all high school subjects derives is general achievement motivation. An analysis of the results indicates: 1) that desire to do well in high school French is not completely part of a general desire to do well in all high school subjects; that there does exist a form of achievement motivation which is unique to achievement in high school French and, quite probably, to achieve-

ment in each high school subject; and 2) that general achievement motivation may be the derivative motivational base for general desire to do well in all high school subjects, since it is related both to general academic achievement motivation and also, to a lesser extent, to general desire to do well in all high school subjects, even though it is unimportant as a form of motivation related to achievement; in other words, even though ambition in high school students does not mean a general desire to achieve but rather a specific desire to achieve in high school work, there does exist in high school students a general desire to achieve which, while unrelated to achievement, is related to ambition. Also implied in the hypothesis was that achievement motivation variables are the only motivation variables needed to account for all forms of achievement. The findings indicate that this is true only for achievement goals which are recognized primarily as achievement goals, such as doing well in high school work; that general motives ("personality variables") are more important for achievement goals which are recognized primarily as social goals, such as skill in speaking and understanding spoken French.

An attempt was then made to use the findings of this study to account for other motivational studies in the area of second language acquisition. This attempt involved generating a few predictions, based upon conclusions reached

in this study, and then analysing some of the previous studies[8] using these predictions. The predictions were: if the acquisition situation is such that the second language is perceived primarily as a social skill, then it is to be expected that general motivation ("personality") variables will be of importance in accounting for achievement. Alternatively, if the acquisition situation is such that learning the second language is perceived primarily as an achievement goal, then it is to be expected that achievement motivation variables will be more important than general motivation variables in accounting for achievement. However, if the acquisition situation is such that learning the second language is perceived both as a social and an achievement goal, then it is to be expected that both general motivation and achievement motivation variables will be important in accounting for achievement. Considering the studies of Lambert and Gardner (1959), and Gardner (1960), which involve English-speaking high school students learning French in the bicultural Montreal area, the results indicate that both motivation for achievement in high school French (the Motivational Intensity Scale, Desire to Learn French) and general motivational variables (an integrative orientation) are important in accounting for achievement in French. This finding is as might be expected, since the acquisition of the French language is presumably both an achievement goal (as a high school subject)

and also a social goal (a skill enabling the student to have social intercourse with French-speaking friends) to these students. However, a different situation exists in the study of Gardner (1958), Study II, where only motivation for achievement in French (the Motivational Intensity Scale) is important in accounting for achievement in French. From this study, which involves adults taking an evening extension course at McGill University, we can infer either that the acquisition of the French language is unimportant as a social goal, i.e., is primarily an achievement goal, or else that it serves as a goal for a general motive not included in the study, i.e., a general motive other than that measured by the Orientation Index.

SUMMARY

The purpose of this study was the delineation of motivational variables which contribute to achievement in a second language. The hypothesis was that the only motivation variables important to achievement in a second language are achievement motivation variables. The Ss were all of the English-speaking students taking a course in French at one of the six white public high schools in Lafayette Parish, Louisiana; a total of 96 students. The results indicate that the hypothesis under consideration is correct only if achievement in French is recognized primarily as an achievement goal, i.e., as an academic subject; that if achievement in French is perceived primarily as a social goal, then general motivation or "personality" variables will be more important in accounting for achievement. Certain generalizations were formulated based upon the present findings, and then an attempt was made to relate this study to certain other motivational studies in the area of second language achievement.

FOOT-NOTES

1. Now at the University of Western Ontario.
2. It is interesting to observe that a change in methodology from theoretical to experimental has also been accompanied by a shift in the focus of study from primary to secondary language acquisition. This shift in focus has been due chiefly to the greater amenability to careful empirical scrutiny of secondary over primary language acquisition.
3. A positive correlation between orientation for learning a second language and another variable indicates that integratively oriented individuals obtain higher scores on the other variable; a negative correlation indicates higher scores for those who are instrumentally oriented.
4. In selecting common types of motivation, the following approach was used. First it was decided more or less arbitrarily (cf 8, pp 462-465) that there are four basic motivational categories: conative, affective, cognitive and motoric. Then, using these four adjectives, eight lists of synonyms were obtained from Roget's Thesarus. The reason that eight and not four lists of synonyms were obtained is that where overlapping synonyms were found among the four initial categories, a new motive was taken to be established. General statements describing

behaviour appropriate to each of eight different types of motivation were then constructed using the obtained lists of adjectival synonyms, each statement being loaded with adjectives from one of the lists (See Appendix "B", vars. 16 - 31, for a description of the eight different motives derived).

5. The intercorrelations among the variables, the factor analysis, and the rotations were all done on McGill University's augmented IBM 650 digital computer (see Appendix "A").
6. Loadings greater than .7 are considered very high; loadings between .5 and .7 are considered high; loadings between .3 and .5 are considered moderate; loadings between .2 and .3 are considered low, and loadings less than .2 are considered insignificant (23, p.151). All loadings are positive unless otherwise indicated.
7. The two measures of motivation for occupational achievement (32 - 33) were not included as motivational predictors because they are neither correlationally nor factorially related to achievement (1 - 7), viz., all the correlations of these measures with achievement are insignificant ($p > .2$) and all of the loadings of these measures on factors which have significant loadings ($> .2$) on achievement variables are insignificant ($< .3$).

8. Several of the studies of Lambert and Gardner (1958, 1959, 1960) include measures both of motivation for achievement in high school French (the Motivational Intensity Scale, Desire to Learn French) and also of general motivation (the Orientation Index), which makes these studies particularly appropriate for purposes of comparison with the present study. A completely integrative orientation on the part of a student with respect to his learning French indicates that achievement in French is perceived as a social goal, the attainment of which will enable the student to have social intercourse with more and different persons.

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APPENDIX A

Preliminary Analysis

I Measures of Integrative and Instrumental Motivation

	P_1	P_2	P_3	P_4
3:	-05	-11	00	-10
4: I	-11	-15	03	-04
II	-07	-15	08	10
III	-03	-12	01	-21
5: I	02	-05	00	11
II	-08	-21	-21	05
III	-04	-16	04	-02
IV	-08	-01	-12	09
6: I	-06	-04	06	13
II	-08	-04	12	05
III	-12	-06	-03	12
IV	-09	00	01	06
V	-09	00	01	08
7:	-16	-03	12	-01
P_5	-03	02	11	01
P_6	-05	00	08	03
38	14	-01	-09	04
41	23	09	-29**	-07
P_1	-	30**	04	30**
P_2		-	04	-05
P_3			-	17
P_4				-

Preliminary Analysis

II Measures of Occupational Potential

A.

	P_7	1
10	01	17
11	07	19
13	18	37*
P_7	--	09
1		--

B.

Roe Occupational Rating	Mean	S^2	S	t	N	P
Father's Occupation (1)	4.35	0.70	0.84	2.22	84	$<.05$
Expected Occupation (P_7)	4.65	0.98	0.99			

III Correlation Matrix Main Analysis

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1		34**	33**	26*	25*	34**	12	26*	14	17	19	-02	37**	24*	20	15	-10	-18	10	-07	13
2			70**	48**	20	31**	40**	31**	47**	42**	40**	19	52**	20*	21*	19	03	-19	05	-09	-09
3				54**	29**	34**	26*	36**	66**	37**	38**	16	56**	28**	25*	14	-00	-25*	-07	-06	-09
4					62**	35**	38**	35**	57**	43**	46**	27*	64**	47**	39**	23*	06	-02	08	04	-11
5						32**	27*	29**	19	30*	36**	12	51**	31**	25*	19	03	09	00	00	09
6							28**	21*	32**	37**	32**	22*	35**	14	07	14	-04	-15	-07	-13	-03
7								12	10	31**	27*	20	30**	08	23*	07	04	-11	09	-02	-12
8									48**	29**	43**	15	38**	35**	17	49**	18	06	14	26*	15
9										40**	46**	23*	47**	34**	21*	32**	12	-06	05	-02	-03
10											75**	12	50**	30**	15	20	-09	-13	-03	-06	-11
11												15	45**	24*	22*	43**	13	07	00	00	-04
12													25*	14	30**	33**	18	12	26*	06	03
13														43**	25*	31**	-09	-13	-07	-14	-01
14															48**	32**	00	-08	-20	07	-05
15																39**	21*	02	04	14	-14
16																	45**	43**	31**	37**	25*
17																		51**	26*	56**	12
18																			37**	37**	40**
19																				35**	26*
20																					24*

	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
1	-01	-04	-07	-01	03	-09	-11	16	11	-06	04	02	35**	44**	34**	14	05	11	06	08
2	02	-08	13	08	02	-07	03	-01	-02	-22*	-06	05	50**	40**	37**	35**	00	22*	29**	16
3	-04	-09	00	12	05	-13	06	02	10	-23*	05	02	48**	38**	31**	38**	14	40**	34**	33**
4	04	-04	-14	03	-04	-08	17	-05	15	-08	-04	-03	50**	32**	38**	43**	20	36**	39**	38**
5	-04	-16	-20	04	-11	-06	16	-08	06	12	-04	-05	30**	13	23*	19	05	13	12	07
6	-20	-13	-08	-03	01	-01	-01	10	04	-05	11	-05	25*	14	30**	11	02	04	12	00
7	10	-13	01	25*	-04	-14	11	07	-13	-16	03	11	21*	13	23*	05	-06	09	09	00
8	13	-08	-08	-18	04	-03	09	02	05	05	07	19	39**	22*	22*	38**	29**	32**	24*	26*
9	08	-05	-03	01	11	-03	-02	-03	06	-11	02	-02	51**	33**	35**	54**	35**	43**	48**	46**
10	08	-08	-11	07	-04	-04	01	-01	-10	12	-04	15	41**	29**	32**	21	13	28**	28*	12
11	16	-17	-12	02	08	-06	-12	14	-04	05	-13	08	46**	24*	43**	36**	21*	27*	30**	16*
12	05	02	-02	11	-07	-06	01	02	-02	-01	-13	07	14	26*	13	14	26*	36**	28**	27**
13	09	-11	-12	02	-01	-08	-01	04	14	-06	-15	16	48**	42**	43**	36**	20*	26*	28**	15
14	09	-09	-06	-10	-01	02	19	-17	18	-08	-05	18	41**	29**	30**	32**	24*	23*	17	13
15	09	-12	12	10	-11	-03	18	-16	04	-17	02	29**	26*	35**	17	18	09	11	16	03
16	29**	12	12	-06	01	-20	-03	05	04	01	-16	34**	32**	17	29**	25*	26*	16	19	14
17	09	31**	-17	20*	-02	-15	-04	-09	-11	-02	-22*	05	-01	-01	-03	-05	16	-03	05	03
18	05	26**	16	-05	-09	-05	02	-07	-16	25*	-20*	-02	11	-11	02	07	15	03	-05	-02
19	04	21*	18	-00	-12	-06	03	16	-15	-05	-11	04	16	08	04	04	03	13	08	08
20	15	26*	14	05	-26**	-06	24*	-11	06	-06	10	21*	-03	03	-12	-05	07	10	-01	-01
21	-03	42**	-09	01	-01	02	04	15	-13	10	04	04	17	04	-02	17	01	-00	-10	-09

	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
22		09	09	-11	11	-05	-15	-08	36**	-16	10	25*	-14	06	03	01	31**	08	12	18
23			16	14	-24*	-06	-01	-08	09	-01	-05	07	01	-04	-01	-02	05	09	14	15
24				13	-23*	-10	-20*	-26*	00	-37**	-07	18	08	-04	-04	-05	04	00	06	-00
25					-22*	-11	-10	-27**	-19	-27**	-07	-14	-04	17	-09	-14	-05	01	-01	-06
26						-15	-31**	21*	-19	-02	-14	-08	-09	-17	09	02	01	-10	-03	-03
27							11	-19	-09	-22*	04	-21*	06	09	03	-10	-08	-06	-24*	-09
28								-21*	-16	-13	08	01	13	09	-22*	-01	-10	-02	-14	02
29									-24*	02	03	00	03	-14	03	09	-18	-18	-04	04
30										-15	18	09	-11	07	22*	07	24*	18	12	14
31											-02	05	-07	-12	-05	08	05	09	07	-04
32												-12	-10	-08	-19	10	-15	07	01	11
33													12	11	10	11	22*	-01	15	-05
34														42**	43**	56**	18	31**	20*	25*
35															30**	28**	14	21*	15	21*
36																31**	20*	30**	15	20*
37																	22*	26**	30**	35**
38																		43**	50**	46**
39																			64**	59**
40																				60**

IV Factor Analysis Main Analysis

		I	II	III	IV	V	VI	VII	VIII	IX	X	h^2
Probable Occupational Achievement	1	54	04	04	-08	-02	04	-07	-32	07	-06	42
Scholastic Achievement	2	68	-07	-43	14	04	00	08	08	03	-02	68
French Achievement: High School Grade	3	67	-13	-29	30	14	-06	23	-02	-09	06	72
French Achievement: Basic Academic Skills	4	74	02	10	31	07	-12	11	-02	-18	15	75
French Achievement: Aural	5	55	08	36	04	03	-14	01	-01	-14	15	50
French Achievement: Oral Quality	6	53	-10	05	02	05	-11	-10	09	-08	-22	38
French Achievement: Oral Skill	7	44	-08	-14	-02	-02	-21	-21	16	-09	-04	35
Expected Scholastic Achievement	8	42	16	07	24	-36	05	23	04	-25	01	51
Expected French Achievement	9	53	01	-14	52	01	04	37	12	-04	04	73
General Ability	10	58	-20	08	18	-19	-01	-17	34	07	01	61
Scholastic Ability: Educational	11	61	-06	14	19	-34	-06	08	36	10	-09	70
Scholastic Ability: Work Habits	12	22	16	02	34	-09	-10	-19	14	03	03	27
Linguistic Ability	13	76	-05	06	15	-11	01	02	-09	12	07	64
Academic Achievement Motivation	14	45	-07	14	09	-25	14	16	-09	-05	45	55
Academic Achievement Motivation	15	35	01	-10	01	-22	-04	-03	03	-08	48	43
Achievement In Any Setting Drive	16	32	47	01	11	-56	-15	13	13	06	08	72
Personal Security Drive	17	-03	51	-11	02	-16	-47	21	24	-00	22	67

		I	II	III	IV	V	VI	VII	VIII	IX	X	h^2
Social Stature Drive	18	-16	70	18	06	-13	-05	12	21	10	08	65
Intellectual Stimulation Drive	19	05	54	-14	11	-10	-01	-19	12	-07	-23	44
Moral Betterment Drive	20	-09	50	-11	01	-30	-23	-07	06	-38	23	61
Sensual Pleasure Drive	21	05	63	12	-12	05	13	-01	-10	-02	-11	47
Artistic Fulfillment Drive	22	-04	-00	-16	15	-49	-12	03	-28	-06	-03	39
Physical Perfection Drive	23	-14	54	-15	14	11	-14	-20	-18	11	05	47
Achievement In Any Setting Incentive	24	-15	14	-53	07	-13	-03	-07	03	17	16	41
Personal Security Incentive	25	08	01	-21	-01	34	-33	-20	14	15	28	43
Social Stature Incentive	26	01	-17	08	-06	-02	-11	55	02	23	-28	49
Intellectual Stimulation Incentive	27	-06	-08	-03	-09	08	37	-04	08	-09	09	19
Moral Betterment Incentive	28	04	09	05	-07	08	18	-05	15	-54	29	45
Sensual Pleasure Incentive	29	11	06	11	-12	01	-03	12	03	03	-55	36
Artistic Fulfillment Incentive	30	02	-14	-02	20	-23	-06	01	-61	-08	07	51
Physical Perfection Incentive	31	-11	08	65	10	02	00	02	08	13	-06	48
Moderate Occupational Achievement Drive	32	-05	-10	-01	04	03	03	-07	-20	-46	-10	28
Occupational Achievement Drive	33	07	05	-06	-00	-52	-01	-09	-02	12	13	32

		I	II	III	IV	V	VI	VII	VIII	IX	X	h^2
Scholastic Achievement Drive	34	65	23	-08	19	-02	41	10	13	08	13	73
Scholastic Achievement Drive	35	49	06	-13	11	-01	18	-16	-13	08	29	44
Scholastic Achievement Incentive	36	53	02	02	14	-19	08	04	-14	28	-07	46
French Achievement Drive	37	42	17	04	33	-01	30	29	-04	-00	03	49
French Achievement Drive	38	03	07	08	59	-33	-04	09	-08	15	18	54
French Achievement Incentive	39	20	02	05	77	-01	02	-12	-04	-01	10	67
French Achievement Incentive	40	18	-06	-01	77	-07	-15	-03	-01	07	00	66
French Achievement Incentive	41	14	04	-05	74	04	07	07	-14	-13	-05	62

V Measure of General and Achievement Motivation Main Analysis

Motive	Incentive				Drive			
	Rank	Mean	S^2	S	Rank	Mean	S^2	S
Achievement In Any Setting	1	11.6	13.78	3.7	7	5.5	1.21	1.1
Personal Security	4	9.5	14.91	3.9	6	5.6	1.44	1.2
Social Stature	6	7.9	9.81	3.1	4	5.8	1.41	1.2
Intellectual Stimulation	3	10.6	7.56	2.7	1	6.1	0.99	1.0
Moral Betterment	2	11.3	13.36	3.7	3	5.9	1.16	1.1
Sensual Pleasure	7	7.5	10.99	3.3	2	6.0	1.28	1.1
Artistic Fulfillment	8	5.3	13.65	3.7	8	4.8	2.82	1.7
Physical Perfection	5	8.1	16.17	4.0	5	5.7	1.54	1.2

Rank r = -.119

VI Partial and Multiple Correlations Supplementary Analysis A. Multiple Correlations

A	PREDICTORS: Ability + :		General Achievement Motivation			Academic Achievement Motivation		Scholastic Achievement Motivation			French Achievement Motivation					General (Non-Achievement) Motivation					
C	(i) R_m-	13	16	P_8	24	14	15	34	35	36	37	38	39	40	41	18	22	25	28	29	31
H	1	37	37	37	37	38	39	42	49*	42	37	37	37	37	37	39	--	--	--	40	--
I	2	32	33	35	36	33	35	51*	43	41	41	33	35	38	32	35	--	--	--	--	38
E	3	56	56	56	56	56	57	61	58	56	59	56	62*	59	61	59	--	--	--	--	59
V	4	64	64	64	64	68	68	68	64	66	67	64	67	68	70	--	--	--	66	--	--
E	5	51	51	51	53	54*	53	51	52	51	51	51	51	51	51	--	--	--	54*	--	53
M	6	35	35	36	35	35	35	36	35	39	35	35	35	35	35	--	42*	--	--	--	--
E	7	30	30	30	30	30	34	31	30	32	31	32	30	30	30	--	--	39*	--	--	--
N	(ii) R_m=		Rank		Incr#	Rank	Incr#	Rank		Incr#	Rank		Incr#			Rank		Incr#			
T	1 + 2		9.3		.020	7.5	.025	1.0*		.155*	7.5		.045			4.8		.047			
	3 + 4		12.3		.000	6.3	.025	3.0		.045	1.0*		.060*			7.0		.025			
	5 - 7		6.0		.010	4.7	.023	3.8		.023	8.3		.007			1.2*		.063*			
	1 - 7		8.7		.010	5.9	.024	2.8*		.067*	6.0		.033			3.9		.046			
	(iii) R_m=																				
	1 + 2		10.7		.013	8.8	.018	2.1*		.102*	10.4		.019								
	3 + 4		12.3		.000	7.1	.023	7.8		.022	5.7*		.033*								
	5 - 7		8.9		.003	6.0*	.017*	6.9		.010	9.5		.002								
	1 - 7		10.4		.005	7.1	.019	5.8*		.040*	8.7		.016								

* - indicates the highest multiple correlation for that achievement variable

\# - increment from the correlation with ability alone

\- - Multiple Correlation

= - includes the motivation variables obtaining the highest multiple correlation within that group of motivation variables

== - indicates the average multiple correlation obtained by that group of achievement motivation variables

B. Partial Correlations ($r_{12.3}$)

			Academic Achievement Motivation		Scholastic Achievement Motivation			
		r_1	14	15	34	35	36	r_3 = 13 (Ability)
	r_2							
General	16		22	34	21	05	18	$r_{12.3}$ significance level .05 .10
Achievement	P_8		26	29	17	07	21	(df = 90, t-test) .20 .17
Motivation	24		-01	16	16	01	01	

VII Measures of General Achievement Motivation Supplementary Analysis

	P_7	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
P_8	02	12	24*	20	20	17	20	15	41**	31**	36**	41**	32**	36**	37**	35**	69**

	24		32	33	34	35	36	37	38	39	40	41
P_8	-00		-18	30**	31**	21*	33**	24*	16	09	14	08

APPENDIX B

I Preliminary Variables

$P._1$ Integrative Motivation -- the degree of integrativeness manifested by the student.

The following questions were used in measuring this manifestation:

THE STUDY OF FRENCH CAN BE IMPORTANT TO ME BECAUSE:

1. It will help me better understand the French people and their way of life.

Not my feeling at all:"1":"2":"3":"4":"5":"6":"7":Definitely my feeling

2. It will enable me to gain good friends more easily among French speaking people.

Not my feeling at all:"1":"2":"3":"4":"5":"6":"7":Definitely my feeling

3. It should enable me to begin to think and behave as the French do.

Not my feeling at all:"1";"2":"3";"4":"5":"6":"7":Definitely my feeling

4. It will allow me to meet and converse with more and varied people.

Not my feeling at all:"1":"2":"3":"4":"5":"6":"7":Definitely my feeling

Scored: #1 + #2 + #3 + #4. The numbers in quotation marks indicate the value assigned a given rating of each question.

P.2 Instrumental Motivation -- the degree of instrumentality manifested by the student.

The following questions were used in measuring this manifestation:

THE STUDY OF FRENCH CAN BE IMPORTANT TO ME BECAUSE:

1. I think it will someday be useful in getting a good job.

Not my feeling at all:"1":"2":"3":"4":"5":"6":"7":Definitely my feeling

2. One needs a good knowledge of at least one foreign language to merit social recognition.

Not my feeling at all:"1":"2":"3":"4":"5":"6":"7":Definitely my feeling

3. I feel that no one is really educated unless he is fluent in the French language.

Not my feeling at all:"1":"2":"3":"4":"5":"6":"7":Definitely my feeling

4. I need it in order to finish high school.

Not my feeling at all:"1":"2":"3":"4":"5":"6":"7":Definitely my feeling

Scored: #1 + #2 + #3 + #4. The numbers in quotation marks indicate the value assigned a given rating of each question.

P.3 Dominance of Integrative vs. Instrumental Motivation -- the Student's Orientation.

The following questions were used in establishing dominance:

1. What advantages do you think there are for being able to speak French?

_____

_____

2. What disadvantages are there for not being able to speak French?

_____

_____

3. What type of personal satisfactions do you think you would experience if you could speak French well?

_____

_____

The answers were categorized (either integrative or instrumental) by a judge. If a clear dominance was shown (i.e., only integrative or instrumental answers) then a score was assigned ("+2" for integrative, "+1" for instrumental).

P. 4 Dominance of Integrative vs. Instrumental Motivation -- the Orientation Index.

The following questionnaire was used in establishing dominance:

Following is a statement with four possible answers given. You are asked to read the statement and then rank the alternatives from '1' to '4' as they refer to you. Mark '1', the alternative most applicable in your case, '2', the next most applicable, and so on.

It may be that you have some reason which has not been included among the alternatives. Item 'e' is, therefore, left blank to allow you to include your own personal reason. Insert your reason in the space provided and include it anywhere in the ranking that you think it belongs.

If two alternatives appear to be equal, give them the same ranking.

NOTE: If item 'e' is included, the ranks will run from '1' to '5'.

I AM STUDYING FRENCH BECAUSE:

_____ a. I think it will someday be useful in getting a good job.

_____ b. I think it will help me to better understand the Franco-American people and their way of life.

_____ c. It will allow me to meet and converse with more and varied people.

_____ d. A knowledge of two languages will make me a better educated person.

_____ e. Any other personal reason:_____

_____

Scored: "+2" if an integrative alternative was ranked #1, "+1" if an instrumental alternative was ranked #1. Alternatives "b" and "c" are integrative, "a" and "d" are instrumental. If alternative "e" was ranked #1, the personal reason indicated was categorized (either integrative or instrumental) by a judge, and then the appropriate score was assigned (i.e., "+2" or "+1", respectively).

P.5 French Achievement Level -- Reading Fluency.

The recording used in obtaining the scores for variable #6 was independently rated by two judges on a seven point scale. These two ratings were averaged in obtaining the

score.

The higher the score, the greater the fluency in reading French.

P.6 French Achievement Level -- Pronunciation Accuracy.

The recordings used in obtaining the scores for variables #6 and #7 were independently rated by two judges on a seven point scale. These two ratings were averaged in obtaining the score.

The higher the score, the closer the approximation of the rendition to a Standard French rendition.

For additional information on the following variables, see the description of the similarly numbered variable in the main matrix.

3. French Achievement Level -- the mid-term French grade, based upon the mid-term French grades issued by the Lafayette Parish School Board.
4. French Achievement Level -- the ETS Cooperative French Test, Elementary form Q, subscores: I - Reading subscore; II - Vocabulary subscore; III - Grammar subscore.
5. French Achievement Level -- The ETS Cooperative French Listening Comprehension Test, Form A, subscores: I - Phonetic Discrimination subscore; II - Answering Questions subscore; III - Completion of Statements subscore; IV - Comprehension of Passages subscore.

6. French Achievement Level -- Oral French Quality, subscores: I - Phonetic Accuracy subscore; II - Linking subscore; III - Stress subscore; IV - Rhythm subscore; V - Absense of Nasalization subscore.

7. French Achievement Level - Oral French Skill, total score.

38. Motivation for Achievement in French: Gardner's Motivational Intensity Scale.

41. Motivation for Achievement in French: Gardner's Desire to Learn French.

P.7 Expected Occupational Achievement Level -- a socio-economic (status) rating of the occupation which the student expects to have after his formal education is completed. The rating methodology was the same as that for variable #1. The following questions were used in determining the student's expected occupation:

1X. If you knew that by working hard you could have <u>any</u> occupation you wanted, what occupations would you choose? List your choices in order of preference:

1._____ 4._____

2._____ 5._____

3._____ 6._____

1. What occupation do you actually <u>expect</u> to have after your formal education is completed? Be as specific as possible. _____

_____

The question lettered with an "X" was not used in obtaining the score.

II Main Variables

1. Probable Occupational Achievement Level -- a socio-economic (status) rating of the father's occupation, using the classificatory system developed by Roe (1956). She (Roe) recognizes six broad levels, and gives explicit criteria, as well as numerous examples, for occupations at each level. These levels are as follows (listed in descending order): I Professional and Managerial 1: Independent Responsibility; II Professional and Managerial 2; III Semi-Professional and Small Business; IV Skilled; V Semi-Skilled; VI Unskilled (44, 149f). It was felt that the rating of the father's occupation would provide a realistic (likely) estimate of the student's future occupational level of attainment.

   The classifying of occupations was done by two judges. Where difficulty in classifying an occupation was encountered due to a lack of knowledge of the functions involved, the "Dictionary of Occupational Titles" (and its supplements) were consulted.

   The higher the obtained score, the higher the socio-economic rating of the father's occupation.

   The following question was used in determining the father's occupation:

   What is your father's main occupation? Be specific (For example, foreman, Plastics division of General Electric; farmer with 150 head of cattle; school teacher, math and science at the high school level, etc.)

2. Scholastic Achievement Level -- the mean of all academic courses taken (excluding non-English language courses), based upon the final grades issued by the Lafayette Parish School Board.

   The final grade for each course is the responsibility of the individual instructor. Therefore, in order to eliminate any possible differences in marking standards, the final grades for all courses from a given school were z-scored. Only the grades of students included in the sample were used in computing the z-scores. Thus, the obtained average is a mean z-score. The means for students taking less than two eligible academic courses were discarded.

3. French Achievement Level -- the final French grade, based upon the final French grades issued by the Lafayette Parish School Board. For the same reason, and in a manner identical to that done for the preceeding variable, the final French grades were z-scored.

4. French Achievement Level -- the ETS Cooperative French Test, Elementary form Q, total score. The subscales are: I - Reading, II - Vocabulary, and III - Grammar.

5. French Achievement Level -- The ETS Cooperative French Listening Comprehension Test, form A, total score. The subscales are: I - Phonetic Discrimination, II - Answering Questions, III - Completion of Statements, and IV - Comprehension of Passages.

6. French Achievement Level -- Oral French Quality, total score. The subscales are: I - Phonetic Accuracy, II - Linking, III - Stress, IV - Rhythm, and V - Absence of Nasalization.

These scores were obtained in the following manner: A recording was taken of each student reading the passage given below. The recordings were judged by a linguist, and then rated on each of the five subscales.

The subscales are defined as follows:

I - Phonetic Accuracy --- the degree of approximation of the phonetic rendering of the passage to the correct (Standard French) rendering; scored 0 - 5.

II - Linking --- The pronunciation of the last consonant of a word as the first consonant of the subsequent word. Points were given where the linking was present and is required (according to the Standard French pronunciation); or, alternatively, where linking was absent and its absence is required, according to the Standard French pronunciation; scored 0 - 5.

III - Stress --- the accentuation of a given syllable by increasing the intensity and duration of its vowel and/or altering its pitch. Points were given as in Linking; scored 0 - 5.

IV - Rhythm --- the pronunciation of a sentence as a series of phonetic words (and not as a list of unconnected

grammatical words). Points were a function of the approximation of the rhythm present to the rhythm appropriate to a Standard French rendition of the passage; scored 0 - 5.

V - Absence of Nasalization --- the absence of a nasal rendition of the vowels surrounding a nasal consonant (i.e., a consonant for which a nasal rendition is required, according to Standard French usage); scored 0 - 1.

The higher the total score, the closer the approximation of the student's rendition of the passage to the correct (Standard French) rendition.

The passage was as follows:

Claude: Je m'appelle Claude et j'ai quinze ans. Comment vous appellez-vous?

Camille: Moi je m'appelle Camille et j'ai dix-sept ans. Habitez-vous pres d'ici?

Claude: Pas tres loins. Au numero quatre-vingt dix huit rue de l'Observatoire. Et vous?

Camille: Mes parents ont une maison a Nevers dans une rue qui s'appelle Boulevard de la Bastille.

Claude: Puisque-c'est aujord'hui notre fete national, voulez-vous que nous allions faire un promenade?

7. French Achievement Level -- Oral French Skill, Total score. Four subscales are included, indicating the grammatical correctness and complexity of "free speech" in French, as

judged by a linguist. The "free speech" was obtained by asking each student to complete two sentences, one starting "Si nous," the other prefaced by "Je vais," and then recording the resultant oral production.

The higher the score, the greater the grammatical correctness and/or complexity of free speech.

8. Expected Scholastic Achievement Level -- the expected average grade in the final examinations.

The following questions were used in determining this estimate:

1. What grade do you try to get in most of your courses?
   A+"9" A"8" A-"7" B+"6" B"5" B-"4" C+"3" C"2" C-"1"
2. What average did you expect to get last year?
   A+"11" A"10" A-"9" B+"8" B"7" B-"6" C+"5" C"4"
   C-"3" D"2" F"1"
3. What was your average (for all subjects) last year in the final exams (June, 1960)?
   A+"11" A"10" A-"9" B+"8" B"7" B-"6" C+"5" C"4"
   C-"3" D"2" F"1"

Scored: #1 + (#3 - #2). "(#3 - #2)" is an attempt to correct for errors in estimating the average grade. The numbers in quotation marks indicate the value assigned a given rating of each question.

9. Expected French Achievement Level -- expected final grade in the French course.

   The following question was used in determining this estimate:

   What grade do you try to get in French?

   A+"9" B+"6" C+"3"
   A "8" B "5" C "2"
   A-"7" B-"4" C-"1"

   The numbers in quotation marks indicate the score assigned a given rating of the question.

10. General Ability Level -- The SRA Primary Mental Abilities Test, Ages 11 - 17, total score. The subscales are: I - Verbal, II - Spatial, III - Reasoning, IV - Number, and V - Word Fluency.

    These scores were obtained from the Lafayette Parish School Board.

11. Scholastic Ability Level -- The SRA Test of Educational Ability, Grades 9 - 12, total score. The subscales are: I - Language, II - Reasoning, and III - Quantitative. This is a group-administered power test (110 items, 27 minutes), designed to provide an estimate of "aptitude for current school work."

    These scores were obtained from the Lafayette Parish School Board.

12. Scholastic Ability Level -- an estimate of ability to function efficiently in an academic setting.

The following questions were used in obtaining this estimate:

1. In class, when something important is going on (for instance, when the teacher is speaking, when a student is asking the teacher a question, or when a student is answering the teacher's question) how often do you think about, or do, something else?

Always: "1":"2":"3":"4":"5":"6":"7": Never

2. When I am doing my written homework, I generally find that I can concentrate without a break for:

"1" about 15 minutes "2" about 30 minutes

"3" about 45 minutes "4" about 1 hour

"5" about 1½ hours "6" about 2 hours

"7" about 2½ hours or more

3. When I am studying my lessons, I find that I daydream or think about other things:

Always "1":"2":"3":"4":"5":"6":"7": Never

4. When you are learning something new in class, can you easily decide whether or not it is important?

Definitely yes:"7":"6":"5":"4":"3":"2":"1":Definitely no

5. When you are studying your lessons, can you easily decide what is important?

Definitely yes:"7":"6":"5":"4":"3":"2":"1":Definitely no

6X. When you are not attending classes or doing homework, what extra curricular activities are you involved in? Mention all activities you can think of.

_____

_____

6X. How much time do you spend in these extra curricular activities?

Very much :___:___:___:___:___:___:___:Very little

6. To what extent do these extra curricular activities keep you from doing homework?

Very much:"1":"2":"3":"4":"5":"6":"7":Very little

Scored: #1+#2+#3+#4+#5+#6. The numbers in quotation marks indicate thevalue assigned a given rating of each question. Questions lettered with an "X" are not scored.

13. Linguistic Ability Level -- Carroll and Sapon's Modern Language Aptitude Test, Form A, total score. The subscales are: I - Number Learning, II - Phonetic Script, III - Spelling Clues, IV - Words in Sentences, and V - Paired Associates.

14. Motivation for General Achievement in an Academic Setting -- subscale Ai (Achievement via Independence), taken from the California Psychological Inventory, Class III (Measures of Achievement Potential and Intellectual Efficacy). According to the manual, the purpose of the Ai subscale is:

To identify those factors of interest and motivation which facilitate achievement in any setting where autonomy and independence are positive behaviors. The Ai subscale, it is felt by the present author, measures Motivation for general Achievement in an Academic Setting and <u>not</u> Motivation for Achievement in any Setting because the initial delineation of the variable, and all subsequent attempts at its validation cited in the manual involve academic criteria.

15. Motivation for General Achievement in an Academic Setting -- subscale Ac (Achievement via Conformance), taken from the California Psychological Inventory, Class III (Measures of Achievement Potential and Intellectual Efficacy). According to the manual, the purpose of the Ac subscale is: To identify those factors of interest and motivation which facilitate achievement in any setting where conformance is a positive behavior. The Ac subscale, it is felt by the present author, measures Motivation for general Achievement in an Academic Setting and <u>not</u> Motivation for Achievement in any Setting because the initial delineation of the variable and all subsequent attempts at its validation cited in the manual involve academic criteria.

16. Motivation for Achievement in any Setting -- an estimate of the strength of drive for general achievement recognized as such.

The following questions were used in obtaining this estimate:

1. Whenever I can, I do things which I think should improve my chances of success in life.

Exactly what I do when I get the opportunity:	"7"	"6"	"5"	"4"	"3"	"2"	"1" : Definitely not what I do when I get the opportunity

2. I enjoy working hard if I feel that what I am working on is important for my future.

Describes me exactly:	"7"	"6"	"5"	"4"	"3"	"2"	"1" : Does not describe me at all

3. Getting ahead in the world is not very important to me.

Describes me exactly:	"1"	"2"	"3"	"4"	"5"	"6"	"7" : Does not describe me at all.

4. I do not have the determination and drive needed to really get ahead in the world.

Describes me exactly:	"1"	"2"	"3"	"4"	"5"	"6"	"7" : Does not describe me at all.

5. I always work hard on things that I feel are important for my future.

Describes me exactly:	"7"	"6"	"5"	"4"	"3"	"2"	"1" : Does not describe me at all.

Scored: #1+#2+#3+#4+#5. The numbers in quotation marks indicate the score assigned a given rating of the question.

17. Motivation for Personal Security -- an estimate of the strength of drive for personal security.

The following question was used in obtaining this estimate:

Whenever I can, I do things which I think should make my my future more secure and help me lead a life free from worry and uncertainty.

Exactly what I do when I get the opportunity: "7" : "6" : "5" : "4" : "3" : "2" : "1" : Definitely not what I do when I get the opportunity

The numbers in quotation marks indicate the score assigned a given rating of the question.

18. Motivation for Social Stature -- an estimate of the strength of drive for social stature.

The following question was used in obtaining this estimate:

Whenever I can, I do things which I think should help me to become more popular and to win the approval of my family and my teachers.

Exactly what I do when I get the opportunity: "7" : "6" : "5" : "4" : "3" : "2" : "1" : Definitely not what I do when I get the opportunity

The numbers in quotation marks indicate the score assigned a given rating of the question.

19. Motivation for Intellectual Stimulation -- an estimate of the strength of drive for intellectual stimulation. The following question was used in obtaining this estimate:

Whenever I can, I do things which I think should be interesting and a challenge.

Exactly what I do when I get the opportunity:"7":"6":"5":"4":"3":"2":"1":Definitely not what I do when I get the opportunity

The numbers in quotation marks indicate the score assigned a given rating of the question.

20. Motivation for Moral Betterment -- an estimate of the strength of drive for moral betterment.

The following question was used in obtaining this estimate:

Whenever I can, I do things which I think should improve me morally and make things better for those who need help.

Exactly what I do when I get the opportunity :"7":"6":"5":"4":"3":"2":"1":Definitely not what I do when I get the opportunity

The numbers in quotation marks indicate the score assigned a given rating of the question.

21. Motivation for Sensual Pleasure -- an estimate of the strength of drive for sensual pleasure.

The following question was used in obtaining this estimate: Whenever I can, I do things which I think should bring me excitement and pleasure.

Exactly what I do when I get the opportunity: "7" : "6" : "5" : "4" : "3" : "2" : "1" : Definitely not what I do when I get the opportunity

The numbers in quotation marks indicate the score assigned a given rating of the question.

22. Motivation for Artistic Fulfillment -- an estimate of the strength of drive for artistic fulfillment.

The following question was used in obtaining this estimate: Whenever I can, I do things which I think should develop my talent and increase my appreciation for the arts (literature, music and theatre, painting and sculpture).

Exactly what I do when I get the opportunity: "7" : "6" : "5" : "4" : "3" : "2" : "1" : Definitely not what I do when I get the opportunity

The numbers in quotation marks indicate the score assigned a given rating of the question.

23. Motivation for Physical Perfection -- an estimate of the strength of drive for physical perfection.

The following question was used in obtaining this estimate: Whenever I can, I do things which I think should develop my body and improve my health.

Exactly what I do when I get the opportunity: "7" : "6" : "5" : "4" : "3" : "2" : "1" : Definitely not what I do when I get the opportunity

The numbers in quotation marks indicate the score assigned a given rating of the question.

24. Motivation for Achievement in any Setting -- the relative incentive value indicated for the goal of general achievement recognized as such .
(See below variable #31 for the questionnaire used in obtaining this value.)

25. Motivation for Personal Security -- the relative incentive value indicated for the goal of personal security.
(See below variable #31 for the questionnaire used in obtaining this value.)

26. Motivation for Social Stature -- the relative incentive value indicated for the goal of social stature.
(See below variable #31 for the questionnaire used in obtaining this value.)

27. Motivation for Intellectual Stimulation -- the relative incentive value indicated for the goal of intellectual stimulation.
(See below variable #31 for the questionnaire used in obtaining this value.)

28. Motivation for Moral Betterment -- the relative incentive value indicated for the goal of moral betterment.
(See below variable #31 for the questionnaire used in obtaining this value.)

29. Motivation for Sensual Pleasure -- the relative incentive value indicated for the goal of sensual pleasure.
(See below variable #31 for the questionnaire used in obtaining this value.)

30. Motivation for Artistic Fulfillment -- the relative incentive value indicated for the goal of artistic fulfillment.
(See below variable #31 for the questionnaire used in obtaining this value.)

31. Motivation for Physical Perfection -- the relative incentive value indicated for the goal of physical perfection.
See below for the questionnaire used in obtaining this value:

I. Below are 8 descriptions. Rank each description in order of how much you would like to have it apply to you. That is, put "1" in the space provided to the left of the description you value the most; put "2" in the space provided to the left of the description you value the second most, and so on up until 8.

Rank

_____ A. important and popular (#26)

_____ B. kind and good (#28)

_____ C. having a fine talent and appreciation for the arts (literature, music and theatre, painting and sculpture) (#30)

_____ D. intelligent and imaginative (#27)

_____ E. perfectly healthy and having a well developed body and an attractive face (#31)

_____ F. ambitious and a success in life (#24)

_____ G. leading a life full of excitement and pleasure (#29)

_____ H. secure and free from worry and uncertainty (#25)

II. Below are 8 descriptions. Rank each description in order of <u>how</u> <u>little</u> you would like to have it apply to you. That is, put "1" in the space provided to the left of the description you <u>dislike</u> the <u>most</u>; put "2" in the space provided to the left of the description you dislike the <u>second</u> most, and so on, up until 8.

<u>Rank</u>

_____ A. lazy and a failure in life (#24)

_____ B. leading a life full of insecurity, uncertainty, and worry (#25)

_____ C. insignificant and despised by the people I know (#26)

_____ D. stupid and dull (#27)

_____ E. always feeling miserable and bored (#29)

_____ F. cruel and evil (#28)

_____ G. sick, and repulsive both in body and face (#31)

_____ H. completely lacking talent or appreciation for the arts (literature, music and theatre, painting and sculpture) (#30)

(The number in brackets at the end of each description indicates the variable to which this particular ranking contributed).

Scored: (9-#I ranking) + (9-#II ranking).

32. Motivation for Occupational Achievement -- an estimate of the moderateness of the strength of drive for occupational achievement.

The following questions were used in obtaining this estimate:

1.X If you knew that by working hard you could have any occupation you wanted, what occupations would you choose?

List your choices in order of preference:

1._____ 4._____

2._____ 5._____

3._____ 6._____

1.X What occupation do you actually expect to have after your formal education is completed? Be as specific as possible.

_____

_____

1. How certain are you of this expectation being realized?

Very certain:"1":"2":"3":"4":"3":"2":"1":Not certain at all

2. In terms of the time and effort it will take, how difficult is it to end up in your expected occupation?

Very difficult:"1":"2":"3":"4":"3":"2":"1":Not difficult at all

Scored: #1 + #2. The numbers in quotation marks in-

dicate the value assigned a given rating of each question. Questions lettered with an "X" are not scored.

33. Motivation for Occupational Achievement -- an estimate of the strength of drive for occupational achievement. The following questions were used in obtaining this estimate:

1. How sure are you of what is really necessary for your expected occupation?

Not sure at all:"1":"2":"3":"4":"5":"6":"7":Very sure

2. How much do you already know about the actual day-to-day features of your expected occupation?

A great deal:"7":"6":"5":"4":"3":"2":"1":Not much, as yet

Scored: #1 + #2. The numbers in quotation marks indicate the value assigned a given rating of each question. The higher the score, (presumably) the more the individual has bothered to inform himself about the characteristics of his expected (future) occupation, and consequently the greater his strength of drive for occupational achievement.

34. Motivation for Scholastic Achievement -- an estimate of the strength of drive for scholastic achievement. The following question was used in obtaining this estimate: In order to get each of the following averages in the final (June, 1961) exams, how many weeks before the exams would you have to start studying extra hard?

	All A's	B average	C average	All D's
impossible for me to get that average	"4"	"3"	"2"	"1"
about a month or so before	"8"	"6"	"4"	"2"
2 or 3 weeks before	"12"	"9"	"6"	"3"
about a week before	"16"	"12"	"8"	"4"
1 - 3 days before	"20"	"15"	"10"	"5"
would not need to study to get that average	"24"	"18"	"12"	"6"
Columns:	I	II	III	IV

Scored: #I + #II + #III + #IV. The numbers in quotation marks indicate the values assigned given ratings of the question.

The higher the score A. the greater the efficiency of the expended effort and B. (presumably) the greater the effort expended during the year in regular study sessions. The score is uncorrected for differences in ability (i.e., presumably, the greater the ability, the less the <u>required</u> effort).

35. Motivation for Scholastic Achievement -- an estimate of the strength of <u>drive</u> for scholastic achievement.

The following questions were used in obtaining this estimate:

1. What is the average or usual amount of homework that you do:

(a) on a week-day?

<u>"6"</u> 5 hours or more

<u>"5"</u> 3 or 4 hours

(b) on the week-end?

<u>"6"</u> 8 hours or more

<u>"5"</u> 6 or 7 hours

"4"	about 2 hours	"4"	4 or 5 hours
"3"	about 1 hour	"3"	2 or 3 hours
"2"	about 30 minutes	"2"	about 1 hour
"1"	none	"1"	none

2. In order to get all A's (that is, a straight A average) in the final (June, 1961) exams, how much homework would you have to do:

(a) on a week-day? (b) on the week-end?

"7"	impossible for me to get an "A" on all exams	"7"	impossible for me to get an "A" on all exams
"6"	5 hours or more	"6"	8 hours or more
"5"	3 or 4 hours	"5"	6 or 7 hours
"4"	about 2 hours	"4"	4 or 5 hours
"3"	about 1 hour	"3"	2 or 3 hours
"2"	about 30 minutes	"2"	about 1 hour
"1"	none	"1"	none

3. In order to get all B's (or a B average) in the final (June, 1961) exams, how much homework would you have to do:

(a) on a week-day? (b) on the week-end?

"7"	impossible for me to get a B average	"7"	impossible for me to get a B average
"6"	5 hours or more	"6"	8 hours or more
"5"	3 or 4 hours	"5"	6 or 7 hours
"4"	about 2 hours	"4"	4 or 5 hours
"3"	about 1 hour	"3"	2 or 3 hours
"2"	about 30 minutes	"2"	about 1 hour
"1"	none	"1"	none

4. In order to get all C's (or a C average) in the final (June, 1961) exams, how much homework would you have to do:

(a) on a week-day?		(b) on the week-end?	
"7"	impossible for me to get a C average	"7"	impossible for me to get a C average
"6"	5 hours or more	"6"	8 hours or more
"5"	3 or 4 hours	"5"	6 or 7 hours
"4"	about 2 hours	"4"	4 or 5 hours
"3"	about 1 hour	"3"	2 or 3 hours
"2"	about 30 minutes	"2"	about 1 hour
"1"	none	"1"	none

Scored: 3 (#1 - #2) + 2 (#1 - #3) + 1 (#1 - #4). The numbers in quotation marks indicate the value assigned given ratings of both parts of each question. The effect of subtracting questions #2, #3, and #4 from #1 is to correct for differences in ability (i.e., it eliminates the effort required for various levels of attainment from the effort actually expended).

36. Motivation for Scholastic Achievement -- the incentive value indicated for the goal of scholastic achievement. The following questions were used in estimating this value.

1. Indicate how satisfied you would be with each of the following grades if it were the average grade you obtained in the Final (June, 1961) Examinations.

FINAL AVERAGE	Very Satisfied	Satisfied	Uncer-tain	Dis-satisfied	Very Dis-satisfied
A+	"1"	"2"	"3"	"4"	"5"
A	"1"	"2"	"3"	"4"	"5"
A-	"1"	"2"	"3"	"4"	"5"
B+	"1"	"2"	"3"	"4"	"5"
B	"1"	"2"	"3"	"4"	"5"
B-	"1"	"2"	"3"	"4"	"5"
C+	"1"	"2"	"3"	"4"	"5"
C	"1"	"2"	"3"	"4"	"5"
C-	"1"	"2"	"3"	"4"	"5"
D	"1"	"2"	"3"	"4"	"5"
F	"1"	"2"	"3"	"4"	"5"

2. Indicate how pleased your family would be with each of the following grades if it were the average grade you obtained in the Final (June, 1961) Examinations.

FINAL AVERAGE	Very Pleased	Pleased	Uncertain	Displeased	Very Displeased
A	"1"	"2"	"3"	"4"	"5"
B	"1"	"2"	"3"	"4"	"5"
C	"1"	"2"	"3"	"4"	"5"
D	"1"	"2"	"3"	"4"	"5"
F	"1"	"2"	"3"	"4"	"5"

Scored: #1 + #2. The numbers in quotation marks indicate the values assigned given ratings of the final averages.

37. Motivation for Achievement in French -- an estimate of the strength of drive for achievement in French.

The following question was used in obtaining this estimate: What is the average amount of homework that you do in French:

(a) on a week-day?

"4" about 2 hours
"3" about 1 hour
"2" about 30 minutes
"1" none

(b) on the week-end?

"4" about 2 hours
"3" about 1 hour
"2" about 30 minutes
"1" none

The numbers in quotation marks indicate the value assigned given ratings of both parts of the question. The higher the score, the greater the expended effort.

38. Motivation for Achievement in French -- an estimate of the drive for achievement in French: Gardner's Motivational Intensity Scale.

This scale consists of the following questionnaire:

1. Compared to others in my French class, I think I:

"3" a. do more studying than most of them.
"1" b. do less studying than most of them.
"2" c. study about as much as most of them.

2. I think about the words and ideas which I learn about in my French classes:

"2" a. once in a while.
"1" b. hardly ever.
"3" c. very frequently.

3. If French was not taught in this school, I would probably:

"1" a. not bother learning French at all.

"3" b. try to obtain lessons in French elsewhere.

"2" c. pick up French in everyday situations. (i.e., read French books and newspapers, try to speak it when possible, and go to French movies)

___ d. none of these. (explain) _____

_____

4. On the average, I spend the following amount of time doing home study in French: (include all French homework)

"2" a. four hours per week.

"1" b. one hour per week.

"3" c. seven hours per week.

___ d. none of these. (give approximate number of hours per week)

____ hours.

5. Considering how I go about studying French, I can honestly say that I:

"2" a. do just enough work to get along.

"1" b. will pass on the basis of sheer luck or intelligence because I do very little work.

"3" c. really try to learn French.

___ d. none of these. (explain) _____

_____

6. After I finish High School, I will probably:

"2" a. try to use my French as much as possible.

"1" b. make no attempt to remember my French.

"3" c. continue to improve my French (e.g., daily practice, night school, etc.)

___ d. none of these. (explain) _____

_____

Scored: #1 + #2 + #3 + #4 + #5 + #6. The numbers in quotation marks indicate the value assigned a given rating of each question. If when answering questions #3 - #6, alternative "d" was selected, the other alternative which it was judged most closely to approximate (i.e., "a", "b" or "c") determined the value assigned.

39. Motivation for Achievement in French -- the incentive value indicated for the goal of achievement in French. The following question was used in estimating this value: How important to you is doing well in French?

Very important:"7":"6":"5":"4":"3":"2":"1":Very unimportant

The number in quotation marks indicates the value assigned a given rating of the question.

40. Motivation for Achievement in French -- the incentive value indicated for the goal of achievement in French. The following questions were used in estimating this value:

1. How much do you enjoy studying French lessons?

enjoy very much:"7":"6":"5":"4":"3":"2":"1":dislike very much

2. How much do you dislike doing written homework in French?

dislike very much:"1":"2":"3":"4":"5":"6":"7":enjoy very much

Scored: #1 + #2. The numbers in quotation marks indicate the value assigned a given rating of each question.

41. Motivation for Achievement in French -- the incentive value indicated for the goal of achievement in French: Gardner's Desire to Learn French Scale.

The scale consists of the following questionnaire:

1. Place a check mark (✓) anywhere along the line below to indicate how much you like French compared to all your other courses.

French is my least preferred course :"1":"2":"3":"4":"5":"6":"7":French is my most preferred course

2. When you have an assignment to do in French, do you:

"3" a. do it immediately when you start your homework.

"1" b. try to get away without doing the assignment yourself.

"2" c. put it off until all your other homework is finished.

___ d. none of these. (explain) _____

_____

3. During French classes, I:

"2" a. have a tendency to day dream about other things.

"1" b. become completely bored.

"2" c. have to force myself to keep listening to the teacher.

"3" d. become wholly absorbed in the subject matter.

4. If I had the opportunity and knew enough French, I would read French newspapers:

"4" a. as often as I could.

"3" b. fairly regularly.

"2" c. probably not very often.

"1" d. never.

5. After I have been studying French for a short time, I find that I:

"1" a. have a tendency to think about other things.

"2" b. am interested enough to get the assignment done.

"3" c. become very interested in what I am studying.

6. If I had the opportunity to change the way French is taught in our school, I would:

"3" a. increase the amount of training required for each student.

"2" b. keep the amount of training as it is.

"1" c. decrease the amount of training required for each student.

7. I believe French should be:

"3" a. taught to all high school students.

"2" b. taught only to those students who wish to study it.

"1" c. omitted from the school curriculum.

8. I find studying French:

"3" a. very interesting.

"2" b. no more interesting than most subjects.

"1" c. not interesting at all.

Scored: #1 + #2 + #3 + #4 + #5 + #6 + #7 + #8. The number in quotation marks indicates the value assigned a given rating of each question. If when answering question #2, alternative "d" was selected, the other alternative which it was judged most closely to approximate (i.e., "a", "b", "c") determined the value assigned.

III Supplementary Variables

P.8 Motivation for Achievement in any Setting -- an estimate of the strength of drive for general achievement recognized as such in excess of the average drive strength.

This estimate was obtained by subtracting variable P9 from variable #16.

P.9 Average Motivational Level -- an estimate of the average strength of all drives.

This estimate was obtained by taking the mean of variables #16 through 23.

16. Motivation for Achievement In Any Setting -- an estimate of the strength of drive for general achievement recognized as such.

For additional information on the above variable, see the description of the similarly numbered variable in the main matrix.