THE IDENTIFICATION AND ANALYSIS OF FACTORS RELATED TO PARTICIPATION IN EXTRA-CURRICULAR INSTRUMENTAL MUSIC PROGRAMS

EWALD HAJEK


CENTRE FOR NFLD. STUDIES
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ABSTRACT

Educators have become aware of the influence of various outside factors on instrumental programs in public schools. In this study four factors: Socio-economic level of parents, family background in music, interest of close friends in instrumental school music, and general music program in early grades were selected and their relationships to student participation in extra-curricular instrumental programs examined. The general purpose of this research was to identify and measure distinguishing characteristics of three groups of students: Non-participants, short-term, and long-term participants in existing instrumental programs.

Eleven schools under the Roman Catholic School Board for St. John's, Newfoundland were chosen for this study. The sample used consisted of 162 boys and girls randomly selected from a group of 624 students.

Six series of structured questions were used for gathering data from students and parents. Students were interviewed in school, while information was secured from parents by means of telephone interviews.

The testing of the first hypothesis revealed a distinct positive relationship between socio-economic level of parents and student participation in extra-curricular instrumental programs.

In testing the second hypothesis, it was found that (1) instrumental training of mothers, (2) instrumental training of fathers, (3) mothers' continued usage of instrumental skills, (4) fathers' continued usage of instrumental skills, (5) evidence of active instrumental musicianship over two generations, and (6) listening preference of family were positively associated with student participation in instrumental school programs.

The testing of the third hypothesis revealed a cumulative effect of the factors socio-economic level of parents, family background in music, interest of close friends in instrumental school music, and general music program in early grades on participation in extra-curricular instrumental programs.

In order to identify distinguishing characteristics of each participating group, profiles were constructed by listing high score percentages obtained on seven variables, following the inclusion of two additional variables: Encouragement received by students to join such programs, and exposure to musical training through private lessons. This resulted in the identification of several characteristics of each of the three groups.

Multiple regression analyses were carried out to determine the relative effect of each independent variable on student participation in extra-curricular instrumental

programs. It was found that the variable "General Music Program in Early Grades" was relatively unimportant as a determinant of student participation. The findings indicated that the most important variables were "Interst of Close Friends in Instrumental School Music," and "Encouragement Received by Students."

The evidence gathered in this study strongly suggests that the home environment and the peer group are factors which greatly influence student behavior with regard to extra-curricular instrumental programs. Educators should therefore give the due amount of attention to the social environment to which prospective or active instrumental students are exposed. Several recommendations were made by the author.

ACKNOWLEDGEMENTS

The writer wishes to express his sincere gratitude to the school authorities, teachers, students, and parents whose cooperation made this research possible.

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CHAPTER I

THE PROBLEM

To ensure the full utilization of existing educational programs, educators must continuously detect, analyze, and evaluate factors which appear to influence such programs either positively or negatively. The knowledge gained in this way will be helpful to administrators and teachers in their efforts to make existing programs more beneficial to the student population. This research was designed to investigate the social or situational determinants of student behaviour with regard to instrumental music. The general purpose of this study was to identify and measure distinguishing characteristics of three groups of students: non-participants, short-term, and long-term participants in extra-curricular instrumental programs.

I. BACKGROUND TO THE PROBLEM

The last two decades have witnessed a rapid growth of instrumental programs in elementary and secondary public schools in many parts of North America, and the educational value of instrumental training is now widely recognized.

Recently, many schools in larger urban areas of Newfoundland have made great efforts to introduce such programs. Having taught instrumental school music in

Newfoundland for a number of years, the researcher has become aware of two facts. Firstly, existing instrumental programs reach a greater number of students from higher income than from lower income families. Secondly, the drop-out rate during the first two years of instrumental training is rather high. The end of the second year has proved to be a crucial point. Experience has shown that very few students discontinue in the third year or thereafter.[1]

Educators in Newfoundland have become aware of the influence of certain outside factors on instrumental programs in public schools. The influence of the social setting and the home environment itself have often been discussed. Furthermore, music specialists are now in general agreement that early exposure to music is extremely important for further musical development of the child.

There are a great number of factors that must be scrutinized in order to gain better understanding of behavioral differences exhibited by students with regard to instrumental music. Some of the factors which received an increasing amount of attention in recent years have been selected in this study for further investigation.

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[1]The information obtained from instrumental teachers assisting in the preliminary survey of this study fully supported this contention.

II.. STATEMENT OF THE PROBLEM

The major aim of this study was to identify the relationships between selected factors and student non-participation, short-term, and long-term participation in extra-curricular instrumental programs in eleven selected schools under the jurisdiction of the Roman Catholic School Board for St. John's, Newfoundland. The following factors were selected: socio-economic level of parents, family background in music, interest of close friends in instrumental music, and the general music program in early grades.

Specifically, the study aimed:

1. To determine the relationship between the socio-economic level of parents and student non-participation, short-term, and long-term participation in instrumental programs;
2. To determine the relationship between family background in music and student non-participation, short-term, and long-term participation in instrumental programs;
3. To determine the relationship between the interest of close friends in instrumental school music and student non-participation, short-term, and long-term participation in instrumental programs;
4. To determine the relationship between the general

music program in early grades and student non-participation, short-term, and long-term participation in instrumental programs.

III. SIGNIFICANCE OF THE STUDY

Newfoundland is currently making great strides in upgrading educational programs. It was felt that, at this stage, a realistic appraisal of both the possibilities and the limitations of teaching instrumental music in public schools is of importance.

The observation that certain sections of the school population are less involved in extra-curricular instrumental programs has become a matter of concern to school authorities. Furthermore, the dropping out of students from existing programs creates a waste of energy and material means. Students cease to develop their potentials before they reach a stage where their musical backgrounds become beneficial for their future lives.

The fact that no related research had previously been carried out in Newfoundland and the possibility of providing information useful for diminishing apparent problems warranted the execution of this study.

IV. TERMS AND OPERATIONAL DEFINITIONS

Extra-Curricular Instrumental Program

This term refers to a school band or school orchestra program with voluntary participation.

School Band

This term refers to the typical organization of wind and percussion instruments which is structurally similar to the standard concert band.

School Orchestra

This term refers to the typical organization of string, wind, and percussion instruments which is structurally similar to the symphonic orchestra.

Non-Participant

This term refers to a student who had been asked to state his interest in a beginners' program for instrumental music and had responded negatively.

Short-Term Participant

This term refers to a student who had been accepted for participation in an instrumental program but discontinued within the first two years of training.

Long-Term Participant

This term refers to a student who remained in an

instrumental program for a period longer than two years.

Socio-Economic Level of Parents

The occupation of the student's father was used as the indicator of the socio-economic level of the parents. Information was secured by means of personal interviews.[2] The occupation indicated was assigned a numerical rating suggested by The Plishen Socio-Economic Index Scale.[3]

Family Background in Music

This factor was designed as a multi-facet variable, and contains several components:

(1) It refers to whether or not a parent had been exposed to instrumental training. This information came from Section 1 of Question Series E.

(2) It refers to the frequency of usuage of acquired musical skills in adult life. This information was secured from Section 2 of the above mentioned Series.

(3) It refers to the interest of parents in music as listeners. This information came from Sections 1, 2, and 3 of Series F.

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[2]Copies of the six Series of Questions used in this study for gathering information from students and parents are contained in Appendix D.

[3]See Appendix E.

(4) It refers to the family background in music over two generations by including the grandparents. Information secured from Sections 2 and 4 of Series E was transformed into scores by the use of The Two Generation Musical Background Scale.[4]

Interest of Close Friends in Instrumental School Music

Close friends refers to peers with whom a student spends most of his time outside the school. A measure of the interest of close friends in instrumental programs was obtained from Section 1 of Series A.

General Music Program in Early Grades

General music program refers to classroom music teaching which is part of the curriculum and involves the music specialist and the classroom teacher. Early grades refers to Grades K - 4. The information for this variable was secured from Section 2 of Series A.

V. DELIMITATIONS

It should be noted that this investigation was confined to students in Grades 5 - 11 in eleven selected schools within the boundaries of the city of St. John's,

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[4]See Appendix F.

Newfoundland and under the jurisdiction of the Roman Catholic School Board. Secondly, long-term records were not available. Identification of research subjects had to be made from records which covered only two school years (1970-72). Thirdly, personal variables which give an indication of individual musical talent were excluded from this study. It must be assumed that biological and non-biological factors are interrelated to some degree, which suggests a cautious interpretation of findings.

VI. ORGANIZATION OF THE REPORT

Chapter I has identified the problem and indicated its importance. Chapter II presents a review of literature related to this study and introduces three hypotheses. Chapter III contains an outline of the procedures followed in conducting this investigation and indicates how the data were treated. Chapter IV presents the statistical analysis of the data collected. The testing of the stated hypotheses is followed by profiles of participating groups and the measuring of the relative importance of selected variables as determinants of student behaviour. The final chapter gives the summary, findings, conclusions, and recommendations of this study.

CHAPTER II

RELATED LITERATURE AND HYPOTHESES

The first four sections of this chapter contain a short review of the literature which pertains to the main variables of the stated problem. The final section contains three hypotheses that were proposed for testing, and which in part were derived from the aforementioned literature.

The Social Influence on Preferred Musical Experience

Dejager studied the process of music socialization in Europe and America and concluded that schools seem to be less effective and important in this process than educators would like to believe. Students attending schools bring with them attitudes, aspirations, expectations, and skills which are largely socially determined. It is his opinion that influences exerted from factors outside the school are often quite important determinants of student participation in music programs.[1]

In reference to the social aspect of music, Glenn, McBride, and Wilson state that "music as a subject and a fine art is a social invention," and contend that each culture

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[1]H. Dejager, "Musical Socialization and the Schools," Music Educators Journal, LIII (February, 1967), pp. 39-41, 108-11.

conceives and develops music to be used for its own purpose.[2] This implies that, as far as music is concerned, there are no absolute standards, and specific norms are culturally or socially determined.

Several investigations have shown that different values and specific preferences are related to socio-economic levels in our society.[3] Music is not an isolated cultural phenomenon. It is part of the total life style of a social class. The findings of such people as Hollingshead,[4] Toffler,[5] and Whitehill[6] have revealed two facts. Firstly,

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[2]Neal E. Glenn, William B. McBride, and George H. Wilson, Secondary School Music: Philosophy, Theory, and Practice (Englewood Cliffs, New Jersey: Prentice-Hall Inc., 1970), p. 43.

[3]See for example: W. L. Warner and Paul S. Lunt, The Social Life of a Modern Community (New Haven: Yale University Press, 1941); Herbert Hyman, "The Value System of Different Classes: A Social Psychological Contribution to the Analysis of Stratification," in Reinhard Bendix and Seymour Martin Lipset (eds.), Class, Status and Power: A Reader in Social Stratification (Glencoe, Illinois: The Free Press, 1953), pp. 426-42; Richard F. Lason and Sara Smith Sutker, "Value Differences and Value Consensus by Socioeconomic Levels," Social Forces, XLIV (June, 1966), pp. 563-69.

[4]August B. Hollingshead, Elmtown's Youth (New York: John Wiley & Sons, Inc., 1966).

[5]Alvin Toffler, The Culture Consumers: A Study of Art and Affluence in America (New York: St. Martin's Press, 1964).

[6]Charles D. Whitehill, "Sociological Conditions Which Contributed to the Growth of the School Band Movement in the United States," Journal of Research in Music Education, XVII (2, 1969), pp. 179-92.

different social classes attach more or less importance to music in general and, secondly, different social classes set up their own specific norms as to what is "good" or "bad" music.

It is not difficult to link such evidence with the position each social class holds within society. The problems of the lower classes often tend to be short-range and basic, like providing for the material things necessary for day-to-day living. Only when a certain level of income is reached can people shift their attention from quantity to quality. Participation in music, actively and passively, depends on one or both of two things: money and leisure time. Both are more likely to be found among the upper classes. This point of view is held by Kaplan who refers to a national study and states that "proportionally more musical participation is found among executive, professional, and white-collar occupational groups than among wage earners."[7]

There is general agreement that individuals will engage in musical activities on a voluntary basis only if such activities are suited to their own musical taste. Schuessler, who supports this view, shows in one of his

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[7]Max Kaplan, Leisure in America: A Social Inquiry (New York: John Wiley & Sons, Inc., 1960), pp. 73-74.

studies that persons of different occupational levels exhibit differences in musical taste.[8] Toffler links aesthetic taste in general with level of education.[9] Farnsworth looks at the question of musical taste differently and stresses the importance of musical training for the improvement of taste.[10] If this view is linked with findings of a study conducted by Grough and Reeves, indicating that children from high income families receive more musical training outside school than their less fortunate counterparts,[11] the cumulative effect of the above mentioned factors becomes obvious.

It is generally accepted that children in their early years are greatly influenced by the views held by their parents. Therefore, as Kaplan points out, the first and strongest model for the development of musical attitudes, is provided by the home.[12]

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[8]Karl F. Schuessler, "Social Background and Musical Taste," American Sociological Review, XIII (June, 1948), pp. 330-35.

[9]Toffler, op. cit., p. 46.

[10]Paul Farnsworth, Musical Taste: Its Measurement and Cultural Nature (Stanford, California: Stanford University Press, 1950), p. 63.

[11]James R. Brough and Martha L. Reeves, "Activities of Suburban and Inner-City Youth," The Personnel and Guidance Journal, XLVII (November, 1968), p. 211.

[12]Max Kaplan, Foundations and Frontiers of Music Education (New York: Holt, Reinhart and Winston, 1966), p. 146.

Learning by Imitating Models

Edward Hall developed a theory of culture communication which has been given a great deal of attention. He claimed that in the process of rearing children, parents communicate with their children on three cultural levels: the formal, informal, and technical. The formal level of culture is learned by the child through precept and admonition. Parents stress the rights and wrongs, what is proper and what is taboo. This part of culture is usually accepted without challenge, and changes which affect aspects on this level come extremely slowly. Surrounding the core of the formal level is the informal. Here the child learns through imitation and observation. Informal levels of culture are usually out-of-awareness. Still, when cultural values absorbed on this level are challenged from other influential groups, a built-in defense mechanism will cause a person to resist suggested changes. The third level of culture is the technical. It is transmitted by way of formal or institutionalized education. Here innovations are accepted with greater ease. Hall claims that cultural change usually takes place in form of a complex circular process. The direction is from formal to informal to technical to a new formal level. This accounts for the fact that changes in

behavioural patterns are usually rather slow.[13]

Hall's theory was used in this study as a rationale for comparing family background in instrumental music with student participation or non-participation in instrumental programs. There is reason to believe that teaching music on the technical level can be more effective, if music had previously found entrance on the informal level. Children with parents actively involved in instrumental music may accept this behavioural pattern more readily through informal culture transmission.

Influence of Peers

Students take great pride in achievement in activities highly valued by their friends.[14] Music educators are fully aware of the importance of peer group influence. Glenn, McBride, and Wilson state:

> Students in our bands and orchestras have a number of reasons for participating in the instrumental program. They desire to learn to play well, but they also want to develop skill in order to gain acceptance from their peers and recognition from teachers and parents. Social recognition and acceptance are important motivational forces in music. Music participation of any kind is never static, but is always a dynamic form of social behaviour.[15]

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[13]Edward T. Hall, The Silent Language (New York: Doubleday and Company, Inc., 1959).

[14]James Samuel Coleman, The Adolescent Society (New York: Free Press, 1968).

[15]Glenn, McBride, and Wilson, op. cit., p. 40.

Kandel and Lesser conducted a study of peer group influence on educational plans and concluded that "the influence of peers increases with the intimacy of the friendship."[16] It can be assumed that this also applies to peer influence on aspirations in music.

Early Exposure and Musical Growth

Educators are aware that a certain amount of musical aptitude is necessary for a student with the ambition to become an instrumentalist. Without it, he will fail to reach a performance level which proves satisfactory to himself, his parents, and his teacher. A study by Bergan has shown that students reaching only a comparatively low standard are potential drop-outs. In the summary of his investigation he states that "sixty-two per cent of the drop-outs were classified among the weaker players in the group."[17]

Casey conducted a similar study and his findings revealed that one of the four main factors related to student drop-out in instrumental programs was the inability to

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[16]Denise B. Kandel and Gerald S. Lesser, "Parental and Peer Influence on Educational Plans of Adolescents," American Sociological Review, XXXIV (April, 1969), pp. 213-23.

[17]Hal Arthur Bergan, "A Study of Drop-Outs in Instrumental Music in Five Selected Schools in Michigan" (unpublished Doctoral dissertation, Michigan State University, 1957), cited in Dissertation Abstracts International (Ann Arbor: University Microfilms), 18, No. 1, p. 115.

achieve a satisfactory level of performance.[18]

There is growing support for the view that musical aptitude is a product of innate potential and early environmental influence. As Horner puts it:

> Whilst the evidence in support of a theory of the untrainability of musical ability is inconclusive, there is a great volume of research data which indicates that considerable changes can be brought about by environmental factors such as socio-economic status and formal training procedures.[19]

To support his statement, Horner points to a study by Kilpatrick which shows a strong relationship between the singing ability of pre-kindergarten children and their socio-economic background.[20] Horner also quotes a study by Reynolds which gives indication of the importance of the musical environment in the home for "musical awakening" of

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[18]George James Casey, Jr., "A Study of Instrumental Music Drop-Outs of the Moline (Illinois) Schools" (unpublished Doctoral dissertation, Colorado State College, 1964), cited in Dissertation Abstracts International (Ann Arbor: University Microfilms), 25, No. 9, p. 5317.

[19]V. Horner, Music Education: The Background of Research and Opinion (Hawthorn, Victoria: Australian Council for Educational Research, 1965), p. 31.

[20]W. C. Kilpatrick, "The Relationship Between the Singing Ability of Pre-Kindergarten Children and Their Home Musical Environment" (unpublished Doctoral dissertation, University of Southern California, 1962), cited in Dissertation Abstracts International (Ann Arbor: University Microfilms), 23, No. 3, p. 886.

pre-school children.[21]

Tonal perceptiveness is an important factor in musical aptitude. Dejager maintains that the critical age for the development of tonal perceptiveness falls between the fourth and sixth year. In his opinion, if this period is not properly utilized, further development will be hampered.[22]

Gordon comments on recent longitudinal studies which indicate that musical growth slows considerably after the age of nine. He states:

> . . . these divergent results may be attributed to the fact that level of musical aptitude is influenced by early exposure to music, but after fourth grade or so, 'ultimate' musical aptitude is well defined and impervious to practice and training.[23]

This implies that where both family and school neglect to provide suitable experiences for musical growth, a student will be handicapped by the time he reaches elementary school, unless his innate potential offsets his disadvantage.

Statement of Hypotheses

The related literature stated so far in this chapter suggests a relationship between the factors selected for this

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[21]George E. Reynolds, "Environmental Sources of Musical Awakening in Pre-School Children" (unpublished Doctoral dissertation, University of Illinois, 1960), cited in Dissertation Abstracts International (Ann Arbor: University Microfilms), 21, No. 5, pp. 1214-15.

[22]Dejager, op. cit., p. 41.

[23]Edwin Gordon, "The Source of Musical Aptitude," Music Educators Journal, LVII (April, 1971), p. 36.

study and student non-participation, short-term, and long-term participation.

The following null hypotheses were therefore proposed for testing:

1. There is the same degree of probability for students with a high socio-economic background and students with a low socio-economic background to join an extra-curricular instrumental program.
2. There is the same degree of probability for students with an extensive family background in music and students without such background to become long-term participants.
3. There is no cumulative effect of the factors socio-economic level of parents, family background in music, interest of close friends in instrumental school music, and general music program in early grades on non-participation, short-term, and long-term participation in instrumental school programs.

CHAPTER III

METHODOLOGY, SAMPLE, AND DATA COLLECTION

This chapter describes the procedures followed in conducting the investigation. Separate sections deal with the sample, the instrument, and the collection and treatment of data.

I. THE SAMPLE

As stated in Chapter I, the general purpose of this study was to identify some distinguishing characteristics of three groups of students, namely, non-participants, short-term, and long-term participants in extra-curricular instrumental programs, and to establish relationships between their social and situational factors and their musical behaviour.

The first task was to identify students falling into one of the three categories and to select a random and a suitable number of sample subjects. Such a sample is not representative of the student population in Newfoundland. Students who had never been asked to participate, as well as students who wanted to participate in such programs and were not accepted, were not included in the sample. Students who were still active but who had not yet completed two years in the program were also excluded. The defining characteristics

of the final sample permit us to generalize our findings to the population of each of the three kinds of participants under investigation. This is, we will not make statements either about the general student population in Newfoundland, or about the musical background of a selected subgroup of that population. Rather, this study will permit us to make statements about the probable musical behaviour of students with a given set of characteristics. For example, we will be able to conclude with a certain degree of confidence, the probability that a student with little or no parental encouragement will stay enrolled in an instrumental program for more than two years. We cannot estimate how many students in St. John's or Newfoundland there are with this characteristic.

The eleven schools under the Roman Catholic School Board for St. John's were chosen as the focus for this research because combined, they had the largest concentration of instrumental programs in Newfoundland. Furthermore, the combined enrollments of these schools represented a population with a wide range of socio-economic status. A list of participating schools is presented in Appendix H.

A preliminary survey conducted in February, 1972 revealed that, at that time, 391 students were participating actively in extra-curricular instrumental programs established in the above mentioned schools. Music teachers were then

asked to gather numbers of identifiable long-term and short-term participants from records of the concurrent and previous school year. This resulted in the identification of 116 long-term and 76 short-term participants. Similarly, 432 students in Grades 5 and 6 had been asked to indicate their interest in instrumental programs and had responded negatively. It was felt that the number in the individual groups sufficed to conduct a meaningful investigation and the Board was approached to grant permission for the study.

Approval was granted, and alphabetized lists of students for each of the three groups under investigation were compiled. The sample subjects were then selected randomly. Originally, 55 students from each group were selected for participation. This number was large enough to permit reliable statistical manipulation of the data, and was small enough so that the researcher was able to conduct personal interviews within the time constraints under which he was working. In three cases, permission to interview the student in school was refused by the parents. As a result, the final number of respondents in each group was as follows: non-participants 53, short-term participants 54, long-term participants 55. (See Table I).

Since eight of the eleven target schools were all-boy schools, the majority of the sample subjects were boys.

TABLE I

NUMBER OF STUDENTS IN POPULATION
AND SAMPLE BY GROUP

Sample Group	Available Cases	Students Randomly Selected	Parental Refusals	Final Sample Size
Non-Participants	432	55	2	53
Short-Term Participants	76	55	1	54
Long-Term Participants	116	55	0	55
Total	624	165	3	162

Table II gives the number of boys and girls in each of the three sample groups.

TABLE II

THE DISTRIBUTION OF BOYS AND GIRLS IN PARTICIPATING GROUPS

Sample Group	Boys	Girls	Total
Non-Participants	42	11	53
Short-Term Participants	44	10	54
Long-Term Participants	47	8	55
Total	133	29	162

In the study by Casey, mentioned in Chapter II, no significant difference was found between the behaviour of boys and girls regarding short-term and long-term participation in instrumental school programs.[1] Although the number of girls in the sample was too small to test for meaningful sex differences, we felt we could safely assume that the sex distribution of participants in this study had no bearing on the findings.

Since the opportunity to join instrumental programs in schools usually concurs with the entry into Grade 5 or

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[1]Casey, loc. cit.

Grade 6, and because programs are carried through to Grade 11, the ages of the sample subject ranged from ten to seventeen years. Table III gives a percentage breakdown of age categories by sample groups. The virtual absence of non-participants and short-term participants in the higher age categories resulted from the fact that long-term departmental records were not available. However, this did not affect this particular research project.

II. THE INSTRUMENT

Six series of structured questions were used to solicit information from students and parents.[2] The student questionnaires were administered personally by the author, while information was gathered from parents by means of telephone interviews. While the questionnaire protocol was strictly adhered to, consideration was given to the age range of the participants. As a result, slight wording changes may have occurred, but in no discernible way did they seem to affect the quality of information gathered.

Question Series A was directed to all three types of sample subjects: non-participants, short-term, and long-term participants. These questions were designed to gain information concerning the interest of close friends in

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[2]See Appendix D.

TABLE III

SAMPLE GROUPS BY AGE
(Per Cent)

Sample Group	Age 10	11	12	13	14	15	16	17
Non-Participants	52%	38%	57%	22%	0%	0%	0%	0%
Short-Term Participants	48	62	20	13	6	11	0	0
Long-Term Participants	0	0	23	65	94	89	100	100
Total	100% (N=21)	100% (N=53)	100% (N=30)	100% (N=23)	100% (N=16)	100% (N=9)	100% (N=7)	100% (N=3)

Total Sample (N=162)

instrumental school music and the type of general music program the student was exposed to in early grades. Series B was specifically directed to the non-participants, Series C to the short-term, and Series D to the long-term participants. Series E and F addressed the parents and were designed to gain information about family background in instrumental music and the interest of parents in music as listeners.

The decision to use personal interviews was made for the following reasons. Firstly, experience has shown that both the response rate and the quality of usable information obtained by this method is comparatively high. This, subsequently, proved to be the case in this study. Almost all persons who agreed to participate were later contacted and provided the requested information. The refusal rate for participation, as indicated earlier, was less than two per cent. Secondly, this method lowers the probability that questions will be misinterpreted by respondents. A personal interview provides the investigator with the opportunity to make clarifying comments. This was felt to be especially important in this study where the majority of the students in the sample were age twelve or younger, and where the study dealt with music and its special terminology.

III. COLLECTION OF DATA

In May, 1972, the Superintendent of the Roman Catholic

School Board for St. John's was contacted and permission sought from him to conduct the study. A copy of this letter is shown in Appendix A. Permission was granted after the request had been tabled at a Board meeting. The letter of reply is contained in Appendix B. A letter was then sent to all parents concerned, asking permission to interview the selected students in school. A copy of this request is shown in Appendix C. The signed letters indicating parental approval were returned to the school office. The principals of participating schools were asked to arrange schedules for student interviews. These were individually held in full privacy. At the completion of the interview, the student was asked to indicate suitable hours for contacting parents by phone. Telephone interviews with parents were usually held the following day.

IV. TREATMENT OF DATA

The information gathered during the interviews was recorded on specially prepared answer sheets. Answers were then coded, transferred to intermediary sheets, and punched on I.B.M. cards. For coding the occupation of the head of the family, the Blishen Scale was used.[3] This index assigns

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[3]Bernard R. Blishen, "A Socio-Economic Index for Occupations in Canada," The Canadian Review of Sociology and Anthropology, IV (January, 1967), pp. 41-53.

a numerical value to 320 occupations, using the 1961 Census of Canada information to rank occupations. The scores are based on the percentage of males in each occupation whose income was reported to be $5,000 or over during the preceding twelve month period and the percentage who had attended at least the fourth year of high school. A copy of the Blishen Scale is contained in Appendix E.

The facilities of The Newfoundland and Labrador Computer Services were engaged to conduct the statistical analysis. The Statistical Package for the Social Sciences Program (SPSS) was used for statistical data processing.[4]

For the testing of stated hypotheses, frequency distributions and multivariate techniques, including cross-tabular analysis and multiple regression, were used.

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[4]Norman H. Nie, Dale H. Bent, and C. Hadlai Hull, Statistical Package for the Social Sciences (New York: McGraw-Hill Book Company, 1970).

CHAPTER IV

STATISTICAL ANALYSIS

The first three sections of this chapter deal with the testing of the hypotheses stated in Chapter II. The fourth section contains profiles of the three participating groups, and the final section describes the results of two multiple regression analyses designed to find the relative effect of each independent variable on student participation in extra-curricular instrumental programs.

I. THE TESTING OF HYPOTHESIS NUMBER ONE

A review of selected literature dealing with social influences on preferred musical experience suggested there was a relationship between the socio-economic background of students and their participation in extra-curricular instrumental programs. In view of this, the following null hypothesis was proposed:

H_o 1. There is the same degree of probability for students with a high socio-economic background and students with a low socio-economic background to join an extra-curricular instrumental program.

Several strategies were employed in an effort to test this and other hypotheses. Included among these were:

percentage distribution of categorized socio-economic index scores, Goodman and Kruskal's Gamma,[1] and comparison of sample group mean scores, including a t-Test for the determination of statistical significance.

Since the first hypothesis deals with the probability of joining instrumental programs, the scores obtained from both groups of participants, short-term and long-term, were combined and compared with those of non-participants. The sample scores, ranging from 26.09 to 75.57 index points, were grouped into six categories and cross-tabulated.

Table IV shows the percentage distribution of Blishen Scale socio-economic index scores of non-participants and participants. An examination of the figures from low to high socio-economic index categories reveals a percentage drop for non-participants, with percentage figures for participants increasing accordingly. Half of the students falling into each of the two lowest socio-economic categories were non-participants, and half were participants. In sharp contrast, only 12 per cent of the students falling into the two highest socio-economic categories were non-participants, while 88 per cent were participants. The percentage figures show a

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[1]Leo A. Goodman and William H. Kruskal, "Measures of Association for Cross Classification," Journal of the American Statistical Association, XLIX (December, 1954), pp. 732-64.

TABLE IV

PERCENTAGE DISTRIBUTION OF BLISHEN SCALE SOCIO-ECONOMIC INDEX SCORES OF NON-PARTICIPANTS AND PARTICIPANTS

Sample Group	Index Category					
	Below 30	30-39	40-49	50-59	60-69	Above 69
Non-Participants	50%	50%	37%	27%	12%	12%
Participants	50	50	63	73	88	88
Total	100%	100%	100%	100%	100%	100%
	(N=16)	(N=26)	(N=38)	(N=44)	(N=17)	(N=17)

N 158
NA 4*
Total 162

Gamma + .43

*Four students in the sample were institutionalized orphans. Socio-economic index scores could therefore only be obtained from 158 students.

positive association between the two variables under consideration. For the purpose of comparison, it was of considerable interest to determine the actual strength of this association. Goodman's and Kruskal's Gamma is a useful statistical technique for determining the strength of relationships between ordinal variables.[2] With this technique, the existence or non-existence of a relationship between given variables can be expressed by a single figure, the gamma coefficient. The higher the gamma coefficient the stronger the relationship. A gamma coefficient was computed from the frequency distributions indicated in Table IV and found to be +.43, showing that there is a distinct positive association between the two variables under consideration.

A gamma coefficient can further be interpreted as a per cent measure of error reduction in the mutual predictability of two variables.[3] In other words, a calculated gamma coefficient indicates to what degree a prediction based on a revealed relationship can be expected to be correct beyond the level of chance.[4] To give an example, let

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[2]Dean J. Champion, Basic Statistics for Social Research (Scranton, Pennsylvania: Chandler Publishing Company, 1970), p. 220.

[3]Ibid., p. 224.

[4]Andrew M. Greeley and Peter H. Rossi, The Education of Catholic Americans (Chicago: Alsine Publishing Company, 1966), p. 80.

us assume we have to predict the socio-economic background of each individual in a randomly selected sample of participants in instrumental programs, and we always predict the socio-economic index score to be 50 or above. We will be correct 43 per cent more of the time than if we had relied on the law of chance by flipping a coin.

Table V presents the means and standard deviations of Blishen Scale socio-economic index scores of non-participants and participants. As previously mentioned, the total sample scored ranged from 25.09 to 75.57 index points. As Table V indicates, the mean score of non-participants was found to be 43.1 as compared to 51.7 for participants. A one-tailed t-Test for independent samples resulted in a t-Score of 3.87, indicating that the mean score difference between these sample groups is statistically significant at the .0005 level of confidence.

All measurements used for testing the first hypothesis suggested a rejection of the stated null hypothesis. Finding demonstrated a distinct relationship between the stated variables, thus supporting the contention that students with a high socio-economic background are more likely to join extra-curricular instrumental programs than students with a low socio-economic background.

TABLE V

MEANS AND STANDARD DEVIATIONS OF BLISHEN SCALE SOCIO-ECONOMIC INDEX SCORES OF NON-PARTICIPANTS AND PARTICIPANTS

Sample Group	Mean Score	Standard Deviation	Sample Size	t-Score	Level of Significance
Non-Participants	43.1	11.7	51		
				3.87	.0005*
Participants	51.7	13.7	107		

N	158
NA	4**
Total	162

*A t-Score of 3.37 is needed for the .0005 level of significance.

**Scores could not be obtained from orphans.

II. THE TESTING OF HYPOTHESIS NUMBER TWO

Theories and findings of related studies stated in Chapter II suggested a relationship between family background in music and student participation in extra-curricular instrumental programs. The following null hypothesis was therefore proposed for testing:

H_0 2. There is the same degree of probability for students with an extensive family background in music and students without such background to become long-term participants.

The hypothesis was operationalized by selecting and focusing on the following variables:

- instrumental training of mother
- instrumental training of father
- mother's activity as an instrumentalist
- father's activity as an instrumentalist
- number of records and tapes in the family
- number of classical records and tapes in the family
- listening preference of family
- evidence of active musicianship over two generations (parents and grandparents).

The Variables Determining the Instrumental Background of Parents

Information regarding the relationship between instrumental training of mothers and student participation in

instrumental programs is presented in Table VI. The mothers of long-term participants were more likely to have had instrumental training than either short-term or non-participants. The figures are 44 per cent, 38 per cent, and 18 per cent respectively. Also, non-participants had the highest percentage of mothers with no training.

Table VII shows the relationship between the instrumental training of fathers and student participation. Again, long-term participants were most likely to have fathers with instrumental training. However, Tables VI and VII also show that the percentage differences between long-term and short-term participants are relatively small. It should further be noted that a much greater number of mothers than fathers received instrumental training. Indications are that there is a stronger association between instrumental training of mothers and student participation than between instrumental training of fathers and student participation, as demonstrated by the two calculated gamma coefficients (+ .42 for Table VI and + .28 for Table VII).

In this study, a parent was classified as an active instrumentalist if the interview revealed that he or she played an instrument at least once a week. Parents who never received an instrumental training or did not continue to use their skills in adult life were classified as not active. Table VIII gives an analysis of the relationship between

TABLE VI

PERCENTAGE OF MOTHERS WITH AND WITHOUT INSTRUMENTAL TRAINING BY PARTICIPATING GROUPS

Sample Group	Students' Mothers	
	Without Instrumental Training	With Instrumental Training
Non-Participants	44%	18%
Short-Term Participants	29	38
Long-Term Participants	26	44
Total	99%*	100%
	(N=86)	(N=72)

N	158
NA	4**
Total	162

Gamma + .42

*Does not equal 100% due to rounding.

**Data from orphans unavailable.

TABLE VII

PERCENTAGE OF FATHERS WITH AND WITHOUT INSTRUMENTAL TRAINING BY PARTICIPATING GROUPS

Sample Group	Students' Fathers	
	Without Instrumental Training	With Instrumental Training
Non-Participants	35%	18%
Short-Term Participants	32	37
Long-Term Participants	33	45
Total	100% (N=131)	100% (N=27)

N	158
NA	4*
Total	162

Gamma + .28

*Data from orphans unavailable.

TABLE VIII

PER CENT OF MOTHERS FOR EACH CATEGORY OF STUDENT PARTICIPATION WHO WERE CLASSIFIED AS ACTIVE AND INACTIVE INSTRUMENTALISTS

Sample Group	Students' Mothers Classified as	
	Not Active	Active
Non-Participants	38%	7%
Short-Term Participants	35	24
Long-Term Participants	27	69
Total	100% (N=129)	100% (N=29)

N 158
NA 4*
Total 162

Gamma + .69

*Data from orphans unavailable.

mothers' continued usage of instrumental skills and student participation. By far the largest percentage of students whose mothers were classified as active fell into the category long-term participants, i.e. 69 per cent as compared to 24 per cent for short-term and 7 per cent for non-participants.

In Table IX, which reports the relationship between fathers' continued usage of instrumental skills and student participation, the trend is not quite as explicit, although the data clearly support the hypothesis. A fairly high percentage of students whose fathers were classified as active fell into the category long-term participants (53 per cent), but the percentage for non-participants is higher than for short-term participants (32 and 16 per cent respectively). The difference in calculated gammas (+ .69 for Table VIII and + .21 for Table IX) again demonstrates a much stronger association between mothers' continued usage of instrumental skills and student participation than between fathers' continued usage of instrumental skills and student participation in extra-curricular instrumental programs.

The Variables Determining the Interest of Parents in Music as Listeners

As indicated in Table X, there is little evidence that the families of long-term participants own more records than families of students in other participating groups. There is no distinct positive trend from non-participants to long-term

TABLE IX

PER CENT OF FATHERS FOR EACH CATEGORY OF STUDENT PARTICIPATION WHO WERE CLASSIFIED AS ACTIVE AND INACTIVE INSTRUMENTALISTS

Sample Group	Students' Fathers Classified as	
	Not Active	Active
Non-Participants	32%	32%
Short-Term Participants	35	16
Long-Term Participants	32	53
Total	99%*	101%*
	(N=139)	(N=19)

N 158
NA 4**
Total 162

Gamma + .21

*Does not equal 100% due to rounding.

**Data from orphans unavailable.

TABLE X

NUMBER OF RECORDS AND TAPES IN FAMILY BY PARTICIPATING GROUPS

(Per Cent)

Sample Group	Numerical Category of Records and Tapes in Family			
	5 or less	6-25	26-75	76 or more
Non-Participants	29%	29%	36%	31%
Short-Term Participants	24	43	39	26
Long-Term Participants	47	29	25	43
Total	100%	101%*	100%	100%
	(N=17)	(N=21)	(N=59)	(N=61)

N 158
NA 4**
Total 162

Gamma + .05

*Does not equal 100% due to rounding.

**Data from orphans unavailable.

participants, which is expressed by the low gamma coefficient of + .05.

Table XI shows the relationship between the number of classical records and tapes in the family and student participation. The figures reveal that non-participants distinguish themselves from the other two groups in the highest numerical category (25 or more). None of the students whose families owned twenty-five or more classical records or tapes fell into the category short-term participants. However, there is very little distinction between short-term and long-term participants in this particular variable. It will be noted that in the highest numerical category, the percentage stated for short-term participants is higher than the one for long-term participants (53 and 47 per cent respectively).

The statistics in Table XII indicate that the families of students in each of the three participating groups show differences in regard to the type of music preferred. The calculated Chi-square of 10.78 indicates that this difference is statistically significant at the .05 level of confidence. The percentage figures in this table suggest that families of non-participants are more likely to prefer Rock Music or Country Western and, secondly, that families of long-term participants are more likely to prefer Classical or Semi-Classical or Jazz Music.

TABLE XI

NUMBER OF CLASSICAL RECORDS AND TAPES IN FAMILY BY PARTICIPATING GROUPS

(Per Cent)

Group Sample	Numerical Category of Classical Records and Tapes in Family		
	4 or less	5-24	25 or more
Non-Participants	39%	29%	0%
Short-Term Participants	32	29	53
Long-Term Participants	30	41	47
Total	101%*	99%*	100%
	(N=98)	(N=41)	(N=15)

N 154
NA 8**
Total 162

Gamma + .30

*Does not equal 100% due to rounding.

**Four parents were unwilling to supply information; data from orphans unavailable.

TABLE XII

LISTENING PREFERENCE OF FAMILY BY PARTICIPATING GROUPS

(Per Cent)

Sample Group	Preferred Type of Music: Rock Music or Country Western	Folk Music or Musicals or Light Listening	Classical or Semi-classical or Jazz	Row Total
Non-Participants	55%	27%	18%	100% (N=49)
Short-Term Participants	38	24	38	100% (N=50)
Long-Term Participants	26	32	42	100% (N=53)

N 152
NA 10*
Total 162

Chi-sqaure = 10.78 (4 df); $p > .05$)

*Six parents indicated no listening preference; data from orphans unavailable.

The Two Generation Musical Background Variable.

This variable was introduced to find out whether or not there is evidence that children are more predisposed toward instrumental programs in the schools if instrumental music was part of the family tradition for more than one generation. The Two Generation Musical Background Scale was used for measuring this variable. The matrix from which the scale was built, and the scale itself are contained in Appendix F.

The percentage distribution of the calculated scores is presented in Table XIII, and there is evidence of a relationship between family tradition in instrumental music and student long-term participation in instrumental school programs. It will be noted, however, that the number of students falling into the two high score categories is rather small. Combined they represent only 14 per cent of the total sample population. The relative strength of the relationship between active musicianship over two generations and student participation in instrumental school music is expressed by the calculated gamma coefficient of + .36.

In summary, various aspects of family background in music have been examined. Statistical analysis of five variables designed to determine the instrumental background of parents, as well as the instrumental family background over two generations suggested the rejection of the second

TABLE XIII

PERCENTAGE DISTRIBUTION OF TWO GENERATION MUSICAL BACKGROUND SCORES BY PARTICIPATING GROUPS

Sample Group	Score Category			
	1.33-1.66	1.67-1.99	2.00-2.32	2.33-2.67
Non-Participants	39%	25%	18%	0%
Short-Term Participants	35	39	18	0
Long-Term Participants	25	36	65	100
Total	99%* (N=99)	100% (N=36)	101%* (N=17)	100% (N=6)

N 158
NA 4**
Total 162

Gamma + .36

*Does not equal 100% due to rounding.

**Data from orphans unavailable.

null hypothesis. Thus, we support the contention that students with an extensive family background in music are more likely to become long-term participants than those without such background. A comparatively strong positive relationship was found between mothers active as instrumentalists and student long-term participation in instrumental programs. No evidence was found, however, that a greater number of records or tapes in the family, either classical or non-classical, can be associated with student long-term participation in instrumental programs. The results of the examination of these two variables do not support an alternative hypothesis. On the other hand, some evidence was found to suggest a positive relationship between family listening preference (for "more" or "less sophisticated" types of music) and student participation in instrumental programs. This also supported the rejection of the stated null hypothesis.

III. THE TESTING OF HYPOTHESIS NUMBER THREE

As stated in Chapter I, the general purpose of this study was to identify and measure distinguishing characteristics of three groups of students. Individual relationships between variables, as well as the intra-relationship between their combined effect and the dependent variable had to be established. The following null hypothesis was therefore

proposed for testing:

H_0 3. There is no cumulative effect of the factors socio-economic level of parents, family background in music, interest of close friends in instrumental school music, and general music program in early grades on non-participation, short-term, and long-term participation in instrumental school programs.

Information pertaining to variables that, so far, have not been treated in detail are presented in Tables XIV-XVI. Table XIV shows the association between the socio-economic level of parents and the degree of student participation in instrumental programs. Long-term participants are more likely than either short-term or non-participants to come from high socio-economic backgrounds. The figures indicate a definite positive association between these two variables. The relative strength of the relationship is expressed by the calculated gamma coefficient of + .32. It will be noted that the percentages for short-term and long-term participants are distinctly different in the three index categories ranging from 40-69 index points. By far the highest per cent of students with parents in the 50-69 index categories were long-term participants. In the two lowest (below 30-39) as well as in the highest index category (above 69), the percentage differences between these two groups were

TABLE XIV

PERCENTAGE DISTRIBUTION OF BLISHEN SCALE SOCIO-ECONOMIC INDEX SCORES BY PARTICIPATING GROUPS

Sample Group	Index Category					
	Below 30	30-39	40-49	50-59	60-69	Above 69
Non-Participants	50%	50%	37%	27%	12%	12%
Short-Term Participants	25	23	42	30	29	47
Long-Term Participants	25	27	21	43	59	41
Total	100%	100%	100%	100%	100%	100%
	(N=16)	(N=26)	(N=38)	(N=44)	(N=17)	(N=17)

N 158
NA 4*
Total 162

Gamma + .32

*Data from orphans not available.

found to be rather insignificant. They contrast, however, strongly with the figures for non-participants.

The relationship between interest of close friends in instrumental school music and the degree of participation in instrumental programs is depicted in Table XV. Figures reveal a comparatively strong association between these two variables, as expressed by the calculated gamma coefficient of + .51. It is noteworthy that from the total number of students who stated that none of their friends showed interest in instrumental school music, only 10 per cent fell into the category long-term participants. Also, the highest percentage of students who indicated that some or most of their friends were interested, fell into the same group of long-term participants (51 and 75 per cent respectively).

One section of the student interview sought information regarding the type of general music program experienced in Grades K-4. The findings pertaining to this variable are presented in Table XVI. Figures indicate a slight positive association between the variables referring to the general music program in early grades and student participation in instrumental programs (gamma coefficient = + .22). However, the overall trends discernible are only vague. It will be noted that non-participants distinguish themselves to some measure from participants in the second, third, and fourth program category. On the other hand, the

TABLE XV

PERCENTAGE DISTRIBUTION OF INTEREST OF CLOSE FRIENDS IN INSTRUMENTAL SCHOOL MUSIC RATINGS BY PARTICIPATING GROUPS

Sample Group	Number of Close Friends Interested in Instrumental Music			
	None	One	Some	Most
Non-Participants	50%	36%	18%	0%
Short-Term Participants	40	30	31	25
Long-Term Participants	10	34	51	75
Total	100%	100%	100%	100%
	(N=52)	(N=47)	(N=55)	(N=8)
Total (N=162)				
Gamma + .51				

TABLE XVI

PERCENTAGE DISTRIBUTION OF K-4 GENERAL MUSIC PROGRAM RATINGS BY PARTICIPATING GROUPS

Sample Group	K-4 General Music Program Category			
	Very Little Singing	Voice and Ear Training Only	Voice and Ear Training Plus Some Music Appreciation	Voice and Ear Training Plus Complete Music Appreciation
Non-Participants	44%	43%	24%	27%
Short-Term Participants	56	26	38	32
Long-Term Participants	0	31	38	41
Total	100%	100%	100%	100%
	(N=9)	(N=58)	(N=58)	(N=37)

Total (N=162)

Gamma + .22

difference between percentage figures for short-term and long-term participants in the above mentioned three categories is minimal.

To determine the cumulative effect of these four selected factors on non-participation, short-term, and long-term participation, the score values or categories of each variable was dichotomized at some relevant point. For the variable Socio-Economic Level of Parents, scores above the overall sample mean of 48.97 were classified as high. The Two Generation Musical Background variable was chosen as a single measure for family background in music. A score of 1.83 or better was rated as a high score, and it was achieved if either one parent and one grandparent or three grandparents of the student were active instrumentalists.[5] For the variable Interest of Close Friends in Instrumental School Music, a student's statement that some or most of his or her friends showed an interest was given a high rating. The four categories of the variable General Music Program in Early Grades were dichotomized between the second and the third category, which gave a program containing voice and ear training plus some music appreciation a high rating. The number of students in each participating group scoring high

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[5]The complete Two Generation Musical Background Scale is shown in Appendix F.

on either none, one, two, three or all of the above mentioned variables was computed and cross-tabulated.

Table XVII shows the percentage of students in each participating group scoring high on these four selected variables. The largest percentage of students scoring high on none or one were non-participants (59 and 44 per cent respectively). The largest percentage of students scoring high on two variables were short-term participants (40 per cent). The largest percentage of students scoring high on three or four variables were long-term participants (56 and 100 per cent respectively). Furthermore, a comparison of percentage figures in each row reveals that about two-thirds (64 per cent) of the non-participants scored high on either none or one of the four variables, about two-thirds (69 per cent) of the short-term participants scored high on either one or two, and about two-thirds (64 per cent) of the long-term participants scored high on either two or three of the four selected variables. The strength of the relationship between high scores on a greater number of the four selected variables and participation in instrumental programs is expressed by the calculated gamma coefficient of + .54.

The measurements used for testing this hypothesis suggested a rejection of the third null hypothesis, thus supporting the contention that there is a distinct cumulative effect of the factors socio-economic level of parents, family

TABLE XVII

PERCENTAGE OF STUDENTS IN EACH PARTICIPATING GROUP SCORING HIGH ON SELECTED VARIABLES*

Sample Group	Students with High Scores on					Row Total
	None	1 Variable	2 Variables	3 Variables	4 Variables	
Non-Participants	59%	44%	26%	16%	0%	/100%
	31%	33%	26%	10%	0%	(N 51)
Short-Term Participants	26	41	40	28	0	/ 99%**
	13	31	38	17	0	(N 52)
Long-Term Participants	15	15	34	56	100	/100%
	7	11	31	33	18	(N 55)
Total	100% (N=27)	100% (N=39)	100% (N=50)	100% (N=32)	100% (N=10)	

N 158
NA 4***
Total 162

Gamma + .54

*The four variables: Socio-Economic Level of Parents, Two Generation Musical Background, Interest of Close Friends in Instrumental School Music, General Music Program in Early Grades.

**Does not equal 100% due to rounding. ***Data from orphans not complete.

background in music, interest of close friends in instrumental school music, and general music program in early grades on non-participation, short-term, and long-term participation in instrumental school programs. This means that students with a majority of characteristics which received a low rating in this four variable analysis are more likely not to join, and students with a majority of characteristics which received a high rating are more likely to join an instrumental program and remain in it for a period longer than two years.

IV. PROFILES OF PARTICIPATING GROUPS

The identification and measurement of distinguishing characteristics of three groups of students has previously been stated as the general purpose of this study. Answers to interview questions suggested there were two additional variables which were of importance: Encouragement Received by Students and Training through Private Music Lessons. There was a distinct positive relationship between these two variables and student participation in instrumental programs.

To obtain some comparative measure of the amount of encouragement a student received from others, an Encouragement Scale was constructed. This scale is described in detail in Appendix G, and took into account the encouragement received from the mother, the father, the music teacher, the best friend, and other friends. Each contribution to the scale

was arbitrarily weighted in accordance with the assumed influence of each of these persons on student behaviour. Table XVIII presents the percentage distribution of the calculated encouragement scores. By far the largest percentage of students scoring 19 points or less were non-participants (64 per cent). The largest percentage of students in the second lowest score category were short-term participants (58 per cent). By far the largest percentage of students in either of the two highest categories were long-term participants (67 and 82 per cent respectively). The strength of the positive relationship between these two variables is expressed by the high gamma coefficient of + .78.

Table XIX gives information regarding the association between training through private music lessons and participation in instrumental school programs. Ninety-two per cent of all students who underwent musical training through private lessons were classified as participants, with 42 per cent falling into the category short-term, and 52 per cent falling into the category long-term participants. The relative strength of the relationship between the two variables under consideration is expressed by the calculated gamma coefficient of + .59.

Both additional variables, Encouragement Received by Students and Training through Private Music Lessons, were dichotomized and, together with five variables treated

TABLE XVIII

PERCENTAGE DISTRIBUTION OF ENCOURAGEMENT SCORES BY PARTICIPATING GROUPS

Sample Group	Encouragement Score Category			
	12-19	20-27	28-35	36-45*
Non-Participants	64%	9%	4%	0%
Short-Term Participants	24	58	30	18
Long-Term Participants	12	33	67	82
Total	100% (N=75)	100% (N=43)	101%** (N=27)	100% (N=17)
Total (N=162)				
	Gamma + .78			

*Highest score obtained; highest possible score = 48.

**Does not equal 100% due to rounding.

TABLE XIX

PERCENTAGE DISTRIBUTION OF STUDENTS WITH AND WITHOUT TRAINING THROUGH PRIVATE MUSIC LESSONS BY PARTICIPATING GROUPS

Sample Group	Students	
	Without Training through Private Lessons	With Training through Private Lessons
Non-Participants	40%	6%
Short-Term Participants	30	42
Long-Term Participants	26	52
Total	100% (N=114)	100% (N=48)
Total (N=162)		
	Gamma + .59	

earlier, used to build profiles of each participating group. An encouragement score of 20 or better was considered a high score. A score of 20, for example, meant that the mother, father, or music teacher encouraged a student several times, and the best friend encouraged the student once or twice. A score of 21 meant that the mother, father, or music teacher encouraged the student many times. In regard to the variable Training through Private Music Lessons, a high rating was simply given to students who indicated exposure to private lessons. A third variable included in the profile, Mothers' Activity as an Instrumentalist, was dichotomized in the same way. Students with active mothers were given a high rating.

The profiles obtained by listing the percentages of high scores in declining order for each participating group are presented in Tables XX, XXI, and XXII.

Table XX gives a clear indication of the distinguishing characteristics of non-participants. Firstly, students in this participating group received very little encouragement to join instrumental programs. Only 6 per cent scored high on this variable. It can be assumed that this is related to the fact that an equally small percentage received private music lessons. Secondly, comparatively few of the adult family members of students in this group could be classified as active instrumentalists. Thirdly, only 19 per cent of the students in this group indicated that more than

TABLE XX

PER CENT OF HIGH SCORES FOR NON-PARTICIPANTS

Rank	Variable	Per Cent of Students Scoring High
1	General Music Program in Early Grades	45
2	Socio-Economic Level of Parents	33
3	Interest of Close Friends in Instrumental School Music	19
4	Two Generation Musical Background	18
5	Training through Private Music Lessons	6
6	Encouragement Received by Students	6
7	Mothers' Activity as an Instrumentalist	4

Total (N=53)

one of their close friends showed an interest in instrumental school music. Fourthly, only one-third of the students scored high on the variable Socio-Economic Level of Parents. This is considerably below the percentage of short-term participants (50 per cent) and long-term participants (69 per cent).

A profile of short-term participants is given in Table XXI. Several characteristics are discernible. Students in this group received a good deal more encouragement from influencial persons than non-participants. Secondly, comparatively few students in this participating group scored high on variables indicating active musicianship among the adult members of the immediate or extended family. Thirdly, the percentage figure indicating interest of close friends in instrumental school music (35 per cent) is considerably below that of the long-term participants (62 per cent). It is further noteworthy that a comparatively high percentage of students in this participating group received private music lessons.

Table XXII presents a profile of long-term participants. In this group, the most distinguishing characteristic is the high percentage of students who were strongly encouraged to join an instrumental program (82 per cent). Secondly, a comparatively high percentage of students indicated that some or more of their friends were interested in instrumental

TABLE XXI

PER CENT OF HIGH SCORES FOR SHORT-TERM PARTICIPANTS

Rank	Variable	Per Cent of Students Scoring High
1	General Music Program in Early Grades	63
2	Encouragement Received by Students	59
3	Socio-Economic Level of Parents	50
4	Training through Private Music Lessons	37
5	Interest of Close Friends in Instrumental School Music	35
6	Mothers' Activity as an Instrumentalist	13
7	Two Generation Musical Background	8
	Total (N=54)	

TABLE XXII

PER CENT OF HIGH SCORES FOR LONG-TERM PARTICIPANTS

Rank	Variable	Per Cent of Students Scoring High
1	Encouragement Received by Students	82
2	Socio-Economic Level of Parents	69
3	General Music Program in Early Grades	67
4	Interest of Close Friends in Instrumental School Music	62
5	Training through Private Music Lessons	46
6	Two Generation Musical Background	46
7	Mothers' Activity as an Instrumentalist	36
	Total (N=55)	

school music (62 per cent). Thirdly, 36 per cent of the students had mothers who were classified as active instrumentalists and 46 per cent of the students scored high on the variable indicating family background in instrumental music over two generations. Furthermore, 46 per cent of the students in this group received training through private music lessons. Finally, 69 per cent of the students had socio-economic index scores above the sample mean.

In summary, the listing of high score percentages of each participating group revealed several distinguishing characteristics. It was found that only a small percentage of non-participants had parents or grandparents classified as active instrumentalists. A great percentage of students in this participating group indicated that most or all of their close friends had no interest in instrumental school programs. A significantly low percentage of students in this group received extensive encouragement to join an instrumental program. The short-term participants distinguished themselves very little regarding evidence of active musicianship in the immediate and extended family. However, the degree of interest of close friends in instrumental school music and the amount of encouragement received from others to join such programs was found to be considerably higher among short-term participants than non-participants. A great deal more of active musicianship was found in the immediate and extended

families of long-term participants than in any other participating group. A comparatively high percentage of students in this participating group indicated that several of their close friends were interested in instrumental school music, and a great majority of students in this participating group received extensive encouragement to join instrumental programs.

V. MULTIPLE REGRESSION OF SELECTED VARIABLES ON PARTICIPATING GROUPS

In order to make more detailed conclusions, multiple regression analyses were carried out. The purpose of these regressions was to find the relative effect of each independent variable on the dependent variable, Student Participation in Instrumental School Programs, when all other factors were "held constant." In the data presented the beta coefficients are the indicators of the relative importance of the independent variables. Beta coefficients indicate "how much change in the dependent variable is produced by a standardized change in one of the independent variables when the others are controlled."[6] Another way of stating this is that beta coefficients "demonstrate the comparative worth of the independent variables as they bear upon the determination of

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[6]Hubert M. Blalock, Jr., Social Statistics (New York: McGraw-Hill Book Company, Inc., 1960), p. 345.

the criterion."[7]

The relative importance of each of the four independent variables first taken under consideration in this study is demonstrated in Table XXIII. It will be noted that the variable General Music Program in Early Grades has the lowest beta coefficient (+ .06), a clear indication that this variable is comparatively unimportant. The beta coefficient for the variable Socio-Economic Level of Parents and for the variable Two Generation Musical Background is much higher (+ .18), and indicates that these two variables are comparatively more important than the school related variable. The highest coefficient (+ .29) belongs to the variable Interest of Close Friends in Instrumental School Music, which makes this variable a much more important determinant of participation in instrumental programs than any other variable in this model.

The squared multiple correlation coefficient (R^2) indicates the percentage of the variance in the dependent variable that can be explained by the independent variables.[8] It is noteworthy that the four independent variables in

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[7]Joseph E. Hill and August Kerber, Models, Methods, and Analytical Procedures in Educational Research (Detroit: Wayne State University Press, 1967), p. 283.

[8]John T. Roscoe, Fundamental Research Statistics for the Behavioral Sciences (New York: Holt, Rinehart and Winston, Inc., 1969), p. 270.

TABLE XXIII

FINAL SQUARED MULTIPLE CORRELATION COEFFICIENTS, R^2 CHANGES, AND BETA COEFFICIENTS FOR THE REGRESSION OF FOUR VARIABLES ON PARTICIPATING GROUPS

Selected Variable	Squared Multiple Correlation Coefficient (R^2)	R^2 Change (Percentage Increase)	Beta Coefficient
Interest of Close Friends in Instrumental School Music	.13	-	+ .29
Socio-Economic Level of Parents	.18	.05	+ .18
Two Generation Musical Background	.22	.04	+ .18
General Music Program in Early Grades	.22	.00	+ .06
Total (N=162)			

Table XXIII can only explain 22 per cent of the variance in student participation. This means that a fairly high percentage of the variance is due to other factors not included in this model.

We are speaking more about relative importance of variables than about absolute importance. The relative importance of each of six independent variables is stated in Table XXIV. Two variables found earlier to be distinctly related to student participation, namely, Encouragement Received by Students and Training through Private Music Lessons, were included in the second regression model. The stated beta coefficient (+ .56) for the variable Encouragement Received by Students, clearly demonstrates its comparative value as an important determinant of the criterion. Its effect is more than two-and-one-half times greater than the variable Interest of Close Friends in Instrumental School Music (beta coefficient + .20). Third and fourth in the ranking are the variables Training through Private Music Lessons and Socio-Economic Level of Parents with calculated coefficients of + .13 and + .10 respectively. In this model, the numerical values calculated for the variables Two Generation Musical Background, as well as the variable General Music Program in Early Grades were found to be statistically insignificant, which resulted in automatic elimination by the SPSS program. This means that these two variables have

TABLE XXIV

FINAL SQUARED MULTIPLE CORRELATION COEFFICIENTS, R^2 CHANGES, AND BETA COEFFICIENTS FOR THE REGRESSION OF SIX VARIABLES ON PARTICIPATING GROUPS

Selected Variable	Squared Multiple Correlation Coefficient (R^2)	R^2 Change (Percentage Increase)	Beta Coefficient
Encouragement Received by Students	.42	-	+ .56
Interest of Close Friends in Instrumental School Music	.48	.06	+ .20
Training Through Private Music Lessons	.50	.02	+ .13
Socio-Economic Level of Parents	.51	.01	+ .10
Two Generation Musical Background	-*	-*	-*
General Music Program in Early Grades	-*	-*	-*

Total (N=162)

*F-level or tolerance level was insufficient for further computation.

comparatively very little importance as independent determinants of the criterion.

The final squared multiple correlation coefficient in this model shows that 51 per cent of the variance in student participation can be explained by the top four variables in the table. This percentage figure is considerably higher than the respective figure in Table XXIII (22 per cent). This means that combined, the top four variables in Table XXIV have more than twice the value as effective determinants of student participation in instrumental programs than the combination of variables in Table XXIII. It follows that the top four variables in the second regression model are, as a group, much better predictors of student behaviour in instrumental music than the combination of variables in the first model.

VI. SUMMARY OF CHAPTER V

The results of measurements chosen for testing the first hypothesis suggested a rejection of the null hypothesis, thus lending support to the view that students with a high socio-economic background are more likely to join extra-curricular instrumental programs than students with a low socio-economic background.

To test the second hypothesis, eight different aspects of family background in music were examined. Statistical

analysis of five variables designed to determine the instrumental background of parents and the instrumental family background over two generations, as well as the variable indicating family listening preference, showed results that suggested the rejection of the second null hypothesis, therefore this suggests that students with an extensive family background in music are more likely to become long-term participants than students without such background. The findings pertaining to two variables indicating the number of classical and non-classical records and tapes in the family did not support an alternate hypothesis.

Evidence of a distinct relationship between high scores on a greater number of selected variables and student participation in instrumental school programs suggested the rejection of the third null hypothesis. Thus, a tentative conclusion is that there is a cumulative effect of the factors socio-economic level of parents, family background in music, interest of close friends in instrumental school music, and general music program in early grades on non-participation, short-term, and long-term participation in instrumental school programs.

A profile for each of the three participating groups was built by listing the percentages of high scores on seven variables in declining order. Several distinguishing characteristics could be stated for each participating group. The

most prominent distinguishing factor was found to be the amount of encouragement received by students from influential persons (such as parents, teachers, and peers).

The fifth section of this chapter discussed the results of two multiple regression analyses designed to determine the relative importance of six independent variables. The variable General Music Program in Early Grades was found to be comparatively unimportant. Only slightly more importance could be attributed to the variable Two Generation Musical Background. The two variables Socio-Economic Level of Parents and Training through Private Music Lessons ranked somewhat higher. Distinctly higher in the ranking came the variable Interest of Close Friends in Instrumental School Music. By far the greatest relative importance could be attributed to the variable Encouragement Received by Students. The top four variables could explain 51 per cent of the variance in student participation in extra-curricular instrumental programs.

CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents a brief summary of the procedures followed in conducting this research. Following a listing of the main findings, several conclusions are stated. The final section contains the author's recommendations, based on the findings and conclusions presented.

I. SUMMARY

The general purpose of this research was to identify and measure distinguishing characteristics of three groups of students: Non-participants, short-term, and long-term participants in extra-curricular instrumental programs. Educators have become aware of the influence of certain outside factors on instrumental programs in public schools. This study has therefore attempted to analyze and evaluate social and situational determinants of student behaviour with regard to instrumental music. Four factors, seemingly related to student participation in instrumental programs, were selected for investigation: Socio-economic level of parents, family background in music, interest of close friends in instrumental school music, and the general music program in early grades.

Eleven schools under the Roman Catholic School Board

for St. John's were selected for this study. Alphabetized lists of students belonging to each of the three groups under investigation were compiled and sample subjects selected randomly.

Six series of structured questions were used for gathering data from students and parents. The student questionnaires were administered personally by the author during school hours, while information was secured from parents by means of telephone interviews.

Answers from students and parents were first recorded on specially prepared sheets, and then coded and punched on I.B.M. cards. The facilities of The Newfoundland and Labrador Computer Service were engaged to conduct the statistical analysis. The Statistical Package for the Social Sciences computer program was used for statistical data processing. During the initial stage of data processing it was found that in addition to the four variables originally selected as the focus, two other factors were distinctly related to student participation in extra-curricular instrumental programs: Encouragement received by students to join such programs, and exposure to musical training through private lessons. These factors were included in the subsequent stages of data analysis.

II. FINDINGS

The testing of the first hypothesis revealed a distinct positive relationship between socio-economic level of parents and student participation in extra-curricular instrumental programs. The mean of the socio-economic index scores of participants was considerably higher than the mean score of non-participants.

For the testing of the second hypothesis, eight different aspects of family background in music were examined. Findings indicated that (1) instrumental training of mothers, (2) instrumental training of fathers, (3) mothers' continued usage of instrumental skills, (4) fathers' continued usage of instrumental skills, (5) evidence of active instrumental musicianship over two generations, and (6) listening preference of family were positively associated with student long-term participation in extra-curricular instrumental programs. By far the strongest relationship appeared between mothers' continued usage of instrumental skills and student long-term participation. No evidence was found that a greater number of records or tapes in the family, either classical or non-classical, was associated with student long-term participation in instrumental school programs.

In testing the third hypothesis, a cumulative effect of the factors socio-economic level of parents, family

background in music, interest of close friends in instrumental school music, and general music program in early grades on non-participation, short-term, and long-term participation in extra-curricular instrumental programs was detected. Findings revealed a strong positive relationship between high scores on a greater number of variables under consideration and student participation in instrumental school music.

In order to identify distinguishing characteristics of each participating group, profiles were constructed by listing high score percentages obtained on seven variables. It was found that a large percentage of non-participants had parents or grandparents who could not be classified as active instrumentalists. An equally large percentage of students in this group indicated that all or most of their friends were disinterested in instrumental school music. The small percentage of non-participants who received extensive encouragement to join an instrumental program emerged as the outstanding characteristic of this group.

The short-term participants differed very little from non-participants in terms of active musicianship in the immediate and extended family. However, a considerably larger percentage of short-term participants indicated that several of their close friends showed interest in instrumental school music, and, in comparison with non-participants, a

much larger percentage of students in this group underwent musical training through private lessons. Furthermore, close to two-thirds of short-term participants stated that they received extensive encouragement to join instrumental programs.

A great deal more active instrumental musicianship was found in the immediate and extended families of long-term participants than in the families of the two other participating groups. A comparatively high percentage of long-term participants stated that several of their close friends were interested in instrumental school music. The significantly high percentage of long-term participants who received extensive encouragement to join instrumental programs emerged as the outstanding characteristic of this group.

Multiple regression analyses were carried out to determine the relative effect of each independent variable on student participation in instrumental programs. It was found that the variable "General Music Program in Early Grades" was relatively ineffective or unimportant as a determinant of student behaviour in instrumental music. The variable "Two Generation Musical Background" ranked only slightly higher. More importance could be attributed to the two variables "Socio-Economic Level of Parents" and "Training through Private Music Lessons." The most important variables

were "Interest of Close Friends in Instrumental School Music," and "Encouragement Received by Students." The four highest ranking variables explained 51 percent of the variance in student participation in extra-curricular instrumental programs, indicating that approximately half of the variance was due to factors which were not under consideration.

III. CONCLUSIONS

The evidence gathered in this study strongly suggests that the home environment and the peer group are factors which greatly influence student behaviour with regard to extra-curricular instrumental programs. It follows that student achievement or non-achievement in instrumental school music should not be considered in isolation from such influential factors. Talent for music and the desire for musical expression are undoubtedly important determinants of student behaviour, yet they are only two of the many forces that bear on student behaviour with regard to instrumental music. Less involvement in existing instrumental school programs among students from low income families and the comparatively high student drop-out rate during the first two years of instrumental training have been cited earlier as problems which school authorities presently face. Perhaps the first important step for diminishing such problems is to

increase the amount of attention given to the social environment to which prospective or active instrumental students are exposed. By doing so, measures can be introduced which hold promise to increase the positive and reduce the negative influence of social factors on participation in instrumental school programs.

An overall comparison of findings resulting from various analyses suggests that certain factors are more important for joining, while other factors influence the probability of continued participation in extra-curricular instrumental programs. Instrumental training of parents, especially of the mother, is an important factor for students joining such programs. In addition, the factors socio-economic level of parents and experience of private music lessons are also important in this respect. In other words, coming from a family with a high socio-economic status, having at least one parent who is trained as an instrumentalist, and having been exposed to private music lessons will greatly enhance the chances that a student will join an instrumental school program. The same three factors seem to be less important for holding students in such programs for longer than two years.

The findings of this study suggest that several factors are influential for both joining and staying in instrumental programs. These are: Receiving strong

encouragement from parents, music teachers, and friends to join such programs; having close friends who are interested in instrumental school music; and the presence of active instrumental musicianship in the immediate and extended family. These factors not only greatly enhance the chances that a student will join, but also that he or she will remain in such a program.

It is obvious that only some of the factors under consideration here can be directly or even indirectly influenced by music educators or school administrators. For example, as far as educators are concerned, the socio-economic level of parents or the instrumental training of parents are unchangeable factors. This limits the area on which any attempt to increase participation and reduce drop-out rates can be focused. These findings lead to the conclusion that special efforts should be made to make parents fully aware of (a) the importance of parental encouragement, and (b) the importance of parental activity as instrumentalists for student achievement in instrumental school music. This might be achieved through already existing lines of communication between the school and the home, or through special speaker nights in which such topics are treated.

Since peer group encouragement ranked high among influential factors, it too should be given due attention.

In the light of the findings of this study, the creation of a positive attitude among all students toward instrumental school programs seems to be of prime importance. It is often easier to effect changes through a peer group than through any of the individuals who are part of the group. Students are motivated to join sports teams representing the school and to perform brilliantly because any honours gained for the school automatically bring social rewards to the individual athlete. Success in sports frequently increases the status of a student within the peer group.[1] Perhaps the same motivational force could be brought more into play in the field of music education. Teachers and administrators should make students fully aware that school bands and orchestras are groups representing the whole school, and as such, are worthy of full support. Also, no effort should be spared to find new and better ways to promote a thorough understanding of the educational value of instrumental programs among young people. Furthermore, since the amount of encouragement received by students from music teachers seems to be important for student achievement, the instrumental teacher must act in a dual capacity: As instructor and counsellor.

The findings suggest that extra-curricular

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[1]James Samuel Coleman, The Adolescent Society New York: Free Press, 1968.

instrumental programs, in the present form, are more beneficial to some students than to others. The home environment has obviously a lot to do with participation or non-participation in existing programs. This raises several questions. Are existing instrumental programs too restrictive? Are they catering too much to one type of student? If we believe in equal opportunity with regard to education, should other types of instrumental programs be added which appeal to students who are presently not participating? In this day and age, students are greatly attracted to the guitar. This existing interest could definitely be utilized by music educators. The concepts of music and the appreciation for music in general can be taught through a great variety of musical instruments.

Indications are that we are heading towards a further reduction in working hours. This means that students of today will have more leisure time to spend than previous generations. Also, as far back as the Greek culture, music has been recognized as an excellent means for relieving emotional tension. These are two additional important reasons why music educators and administrators should take steps to increase participation in existing instrumental programs, reduce the drop-out rate, and experiment with new types of instrumental programs, thereby bringing the benefits of instrumental music to a larger number of students.

IV. RECOMMENDATIONS

The findings of this study suggest that consideration should be given to the following recommended courses of action:

1. The communication between music teachers and parents of prospective or participating instrumental students should be optimized, so that fathers and mothers become thoroughly informed of the importance of their role with regard to student achievement in instrumental music. Suggested channels of communication are: Band Parent Clubs, Parent Teacher Associations, and other social clubs affiliated with schools. Also, where this is not the case already, instrumental teachers should make arrangements to meet parents individually on a regular basis.
2. The Sociology of Music should be given a more prominent place in the pre-service and in-service training of music educators, especially instrumental teachers. This will enable them to act competently in the capacity of a music counsellor.
3. School administrators and music educators should strive to create a positive attitude toward instrumental music programs among the whole student body. This might be achieved through inter-school

competitions, the awarding of certificates of merit for intra-school group competitions, and student involvement in decision-making in connection with certain band or orchestral activities. A recent survey conducted by Mercer gave evidence that these are measures which, in some instances, have produced the desired results.[2]

4. In aiming for a more functional relationship between the social setting in which individual schools operate and the school music program, several pilot programs should be established to determine whether students not benefiting from existing programs could be attracted to other programs and become long-term participants. Suggested are group instructions in guitar, mandolin, or banjo playing.

Recommendations for further research:

1. The study could be repeated several times with different indicators for family background in music, peer group influence, and classification of music programs in early grades. Such additional information would be useful for either refining or

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[2]Jack R. Mercer, "Directors and Drop-Outs," The School Musician Director and Teacher, XLII (December, 1970), pp. 62-63.

invalidating present findings.

2. The connection between family background, musical attitude of students, and participation in instrumental programs could be investigated on a larger scale by including various geographical areas of Newfoundland. A considerably larger student sample would allow to control for more variables. Findings may reveal behavioural differences between students from rural and urban areas with regard to instrumental school music. Such information could be useful for initiating instrumental music in schools which presently have no such programs.
3. In this study, the members of school bands and school orchestras were not grouped separately. A future study could investigate whether band and orchestral programs are equally affected by social and situational factors. The information gathered could be used for planning future expansions of existing string programs.

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APPENDICES

APPENDIX A

COPY OF LETTER TO THE SUPERINTENDENT OF EDUCATION

38 Fox Avenue
St. John's
Newfoundland.

May 17, 1972

Mr. F. J. Kearsey,
Superintendent of Education,
Roman Catholic School Board,
St. John's,
Newfoundland.

Dear Sir:

The undersigned graduate student in Educational Administration at Memorial University is contemplating a study involving a sample of approximately 150 students enrolled in eleven schools under the jurisdiction of your Board. A copy of the proposal for this study is attached to this letter. Questions to be used are stated in the final section.

If permission is granted, I would contact the school principals concerned and arrange for a suitable time to conduct the student interviews. Each interview will take approximately five minutes.

I thank you in advance in anticipation of your cooperation.

Yours truly,

Ewald Hajek

APPENDIX B

COPY OF LETTER FROM THE SUPERINTENDENT OF EDUCATION

ROMAN CATHOLIC SCHOOL BOARD FOR ST. JOHN'S

May 29, 1972

Mr. Ewald Hajek,
38 Fox Avenue,
St. John's.

Dear Mr. Hajek:

Reference is made to your recent request to this Board concerning student participation in instrumental music programs.

Permission is hereby granted to undertake this study in the schools concerned. It is understood, of course, that this study will be done in co-operation with school principals and teachers concerned and with minimum disruption in school activities. Regarding the questions to be addressed to parents or guardians and the method of contacting these people, I would request that you contact this office before proceeding with this part of the survey. We have had considerable difficulties in the past in this aspect of research studies and we certainly do not wish any conflict to develop due to misunderstanding on anyone's part.

With every good wish for success in your study, I remain,

Yours sincerely,

F. J. Kearsey,
Superintendent of Education.

FJK/ms

APPENDIX C

COPY OF LETTER TO PARENTS

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
St. John's, Newfoundland, Canada

Department of Educational Administration

May 29, 1972

To the Parents
of _____

Dear Parents:

The undersigned graduate student in Educational Administration at Memorial University is presently engaged in a survey of music programs in elementary and secondary schools in St. John's. The study is under the supervision of Dr. David Kirby.

It is hoped that information gathered will be helpful in planning future music programs.

The survey involves a short personal interview with students in school and some questions directed to the parents by phone.

I would like to ask your permission to interview your child.

Thank you very much for your cooperation.

Yours sincerely,

Ewald Hajek
Tel: 722-8329

Parental Approval: _____
Signature

APPENDIX D

QUESTIONNAIRES

Question Series A

Questions directed to all students:

For our purpose, close friends are those with whom you spend most of your time outside the school.

1. Are any of your close friends participating in an instrumental program or would like to do so, if they had the chance and the ability?

   If yes: How many: One, some, most of them?

2. In the school you attended Grades K-4, what type of general music program did you have?

   Did you learn about notes, scales, and intervals?
   Did you learn about musical instruments and composers?
   Did you listen to records of instrumental music?
   Did you sing in two or three part harmony?
   How much classroom singing did you have?

3. In the school you attended Grades K-4, did all students take part in classroom or stage choirs?

   If not: Did you participate in singing groups all the time, some times, seldom, or never?

Question Series B

Questions directed to non-participants:

1. How old are you?

2. Did you ever take private music lessons?

   If yes: For what?

3. In how many after school activities are you involved?

4. What is the main reason you did not join an instrumental program? Can you name other reasons?

5. Did your mother try to encourage you to join an instrumental program?

   If yes: Once or twice, several times, many times?

6. Did your father try to encourage you to join an instrumental program?

If yes: Once or twice, several times, many times?

7. Did your music teacher try to encourage you to join and instrumental program?

   If yes: Once or twice, several times, many times?

8. Did your best friend try to encourage you to join an instrumental program?

   If yes: Once or twice, several times, many times?

9. Did other friends try to encourage you to join an instrumental program?

   If yes: Once or twice, several times, many times?

Question Series C

Questions directed to short-term participants:

1. How old are you?
2. What instrument did you play in the instrumental group?
3. For how long were you in the program when you quit?
4. Did you own the instrument?
5. Did you ever take private music lessons?

   If yes: For what?

6. In how many after school activities are you involved?
7. Did your mother encourage you to join the instrumental program?

   If yes: Once or twice, several times, many times?

8. Did your father encourage you to join the instrumental program?

   If yes: Once or twice, several times, many times?

9. Did your music teacher encourage you to join the instrumental program?

   If yes: Once or twice, several times, many times?

10. Did your best friend encourage you to join the instrumental program?

    If yes: Once or twice, several times, many times?

11. Did other friends encourage you to join the instrumental program?

    If yes: Once or twice, several times, many times?

12. What was the main reason for quitting the program? Can you name other reasons?

Question Series D

Questions directed to long-term participants:

1. How old are you?
2. What instrument do you play?
3. How long?
4. Do you own the instrument?
5. Did you ever take private music lessons?

   If yes: For what?

6. Other than the instrumental program, in how many after school activities are you involved?
7. Did your mother encourage you to join the instrumental program?

   If yes: Once or twice, several times, many times?

8. Did your father encourage you to join the instrumental program?

   If yes: Once or twice, several times, many times?

9. Did your music teacher encourage you to join the instrumental program?

   If yes: Once or twice, several times, many times?

10. Did your best friend encourage you to join the instrumental program?

    If yes: Once or twice, several times, many times?

11. Did other friends encourage you to join the instrumental program?

    If yes: Once or twice, several times, many times?

12. Are you still in the instrumental program?

    If not: What was the main reason for quitting the program? Can you name other reasons?

Question Series E

Questions directed to the mother and father of all students:

1. Do you have any instrumental training?

   If yes: How much?

   Are you a professional musician or a music teacher?

2. Do you now play a musical instrument?

   If yes: Do you play it once a week or more?

3. What instrument can you play best?

4. Did your mother play an instrument?

   Did your father play an instrument?

Question Series F

Questions directed to the mother or father of all students:

1. Approximately how many records and tapes do you have?

2. In reference to records and tapes, what type of music is your family listening to mostly?

3. Do you have any records or tapes of classical or symphonic music?

   If yes: How many?

4. What is the occupation of the head of the family?

APPENDIX E

THE BLISHEN SOCIO-ECONOMIC INDEX SCALE

SOCIO-ECONOMIC INDEX FOR 320 OCCUPATIONS

IN 1961 CENSUS OF CANADA*

OCCUPATION	SOCIO-ECONOMIC INDEX
Chemical Engineers	76.69
Dentists	76.44
Professors and College Principals	76.01
Physicians and Surgeons	75.57
Geologists	75.49
Mining Engineers	75.42
Lawyers and Notaries	75.41
Civil Engineers	75.16
Architects	74.52
Veterinarians	74.46
Electrical Engineers	74.34
Professional Engineers, n.e.s.**	74.27
Physicists	73.81
Optometrists	73.77
Biological Scientists	73.22
Physical Scientists, n.e.s.	72.94
Pharmacists	72.87
Mechanical Engineers	72.78
Judges and Magistrates	72.24
Economists	71.90
Chemists	70.94
Industrial Engineers	70.43
Osteopaths and Chiropractors	70.25
School Teachers	70.14
Accountants and Auditors	68.80
Owners and Managers, Education and Related Services	68.32
Actuaries and Statisticians	67.78
Computer Programmers	67.50
Owners and Managers, Services to Business Management	67.28
Agricultural Professionals, n.e.s.	66.96

*Bernard R. Blishen, "A Socio-Economic Index for Occupations in Canada", The Canadian Review of Sociology and Anthropology, IV (January, 1967), pp. 41-53

**n.e.s.: Not elsewhere specified

OCCUPATION	SOCIO-ECONOMIC INDEX
Owners and Managers, Chemical and Chemical Products Industries	66.79
Advertising Managers	66.05
Air Pilots, Navigators and Flight Engineers	66.04
Owners and Managers, Electrical Products Industries	65.78
Owners and Managers, Primary Metal Industries	65.29
Owners and Managers, Paper and Allied Industries	64.78
Owners and Managers, Finance, Insurance, Real Estate	64.52
Authors, Editors, Journalists	64.23
Owners and Managers, Rubber Industries	64.09
Owners and Managers, Machinery Industries	63.76
Librarians	63.75
Owners and Managers, Petroleum and Coal Products Industries	63.02
Sales Managers	62.04
Owners and Managers, Mines, Quarries, and Oil Wells	61.99
Owners and Managers, Textile Industries	61.96
Owners and Managers, Transportation Equipment Industries	61.75
Professional Occuptaions, n.e.s.	60.93
Credit Managers	60.81
Office Managers	60.42
Owners and Managers, Health and Welfare Services	60.07
Security Salesmen and Brokers	59.91
Radio and Television Announcers	59.81
Owners and Managers, Printing, Publishing and Allied Industries	59.69
Owners and Managers, Federal Administration	59.60
Owners and Managers, Knitting Mills	59.28
Clergymen and Priests	59.20
Owners and Managers, Miscellaneous Manufacturing Industries	58.29
Other Health Professionals	58.27
Artists (except commercial), Art Teachers	58.21
Inspectors and Foremen, Communication	58.17
Draughtsmen	57.82
Owners and Managers, Metal Fabricating Industries	57.60

OCCUPATION	SOCIO-ECONOMIC INDEX
Owners and Managers, Leather Industries	57.23
Social Welfare Workers	55.62
Owners and Managers, Non-metallic Mineral Products Industries	55.41
Advertising Salesmen and Agents	55.37
Purchasing Agents and Buyers	55.22
Insurance Salesmen and Agents	55.19
Owners and Managers, Clothing Industries	54.77
Science and Engineering Technicians, n.e.s.	54.75
Brokers, Agents and Appraisers	54.74
Owners and Managers, Provincial Administration	54.54
Artists, Commercial	54.06
Owners and Managers, Transportation, Communication, and other Utilities	53.85
Owners and Managers, Wholesale Trade	53.80
Owners and Managers, Local Administration	53.29
Surveyors	53.25
Commercial Travellers	52.68
Owners and Managers, Furniture and Fixtures Industries	52.11
Teachers and Instructors, n.e.s.	52.07
Stenographers	51.96
Owners and Managers, Food and Beverage Industries	51.70
Radio and Television Equipment Operators	51.51
Physical and Occupational Therapists	51.11
Athletes and Sports Officials	51.11
Musicians and Music Teachers	50.93
Nurses-in-training	49.91
Bookkeepers and Cashiers	49.55
Funeral Directors and Embalmers	49.47
Foremen, Transportation Equipment Industries	49.21
Foremen, Primary Metals Industries	49.11
Real Estate Salesmen and Agents	48.74
Medical and Dental Technicians	48.56
Photoengravers	48.26
Photographers	48.07
Engravers, except Photoengravers	47.95
Ticket, Station and Express Agents, Transport	47.61
Batch and Continuous Still Operators	47.60
Office Appliance Operators	47.12

OCCUPATION	SOCIO-ECONOMIC INDEX
Owners and Managers, Construction Industries	46.95
Foremen, Electric Power, Gas and Water Utilities	46.75
Power Station Operators	46.20
Locomotive Engineers	45.99
Conductors, Railroad	45.68
Owners and Managers, Wood Industries	45.52
Owners and Managers, Miscellaneous Services	45.48
Foremen, Paper and Allied Industries	45.36
Owners and Managers, Motion Picture and Recreational Services	45.19
Linemen and Servicemen--Telephone, Telegraph and Power	45.05
Foremen, Other Manufacturing Industries	45.01
Lithographic and Photo-offset Occupations	45.00
Toolmakers, Diemakers	44.82
Inspectors, Construction	44.76
Interior Decorators and Window Dressers	44.37
Foremen, Trade	44.32
Foremen, Mine, Quarry, Petroleum Well	44.27
Telephone Operators	44.20
Owners and Managers, Forestry, Logging	44.00
Actors, Entertainers, and Showmen	43.85
Owners and Managers, Retail Trade	43.69
Mechanics and Repairmen, Office Machines	43.05
Clerical Occupations, n.e.s.	42.98
Mechanics and Repairmen, Aircraft	42.76
Nurses, Graduate	42.57
Compositors and Type-Setters	42.30
Deck Officers, Ship	42.13
Religious Workers	41.84
Members of Armed Forces	41.43
Locomotive Firemen	40.92
Electricians, Wiremen, and Electrical Repairmen	40.68
Auctioneers	40.48
Canvassers and Other Door-to-Door Salesmen	40.23
Brakemen, Railroad	40.22
Paper Makers	40.17
Owners and Managers, Personal Services	40.14
Printing Workers, n.e.s.	40.13
Mechanics and Repairmen, Radio and T.V. Receivers	40.12

OCCUPATION	SOCIO-ECONOMIC INDEX
Photographic Processing Occupations	40.05
Engineering Officers, Ship	39.86
Millwrights	39.83
Inspectors, Graders and Samplers, n.e.s.	39.82
Inspectors, Examiners, Gaugers--Metal	39.76
Patternmakers (except paper)	39.75
Typists and clerk typists	39.66
Postmasters	39.65
Well-Drillers and Related Workers	39.55
Foremen, All Other Industries	39.54
Pressmen, Printing	39.49
Telegraph Operators	39.37
Inspectors and Foremen, Transport	39.21
Projectionists, Motion Picture	39.15
Foremen, Textile and Clothing Industries	39.03
Lens Grinders and Polishers; Opticians	38.82
Bookbinders	38.54
Foremen, Food and Beverage Industries	38.21
General Foremen, Construction	37.90
Operators, Electric Street Railway	37.80
Stationary Enginemen	37.79
Rolling Mill Operators	37.76
Chemical and Related Process Workers	37.75
Prospectors	37.73
Foremen, Wood and Furniture Industries	37.63
Sales Clerks	37.14
Machinists and Machine Tool Setters	36.90
Jewellers and Watchmakers	36.55
Civilian Protective Service Occupations	35.80
Stewards	35.32
Farm Managers and Foremen	35.05
Other Occupations in Bookbinding	34.97
Baggagemen and Expressmen, Transport	34.85
Metal Treating Occupations, n.e.s.	34.79
Mechanics and Repairmen, n.e.s.	34.77
Riggers and Cable Splicers, except Telephone and Telegraph and Power	34.77
Furnacemen and Heaters--Metal	34.75
Cellulose Pulp Preparers	34.69
Stock Clerks and Storekeepers	34.63
Logging Foremen	34.61
Beverage Processors	34.44
Plumbers and Pipefitters	34.38
Heat Treaters, Annealers, Temperers	34.09

OCCUPATION	SOCIO-ECONOMIC INDEX
Paper Making Occupations, n.e.s.	34.07
Hoistmen, Cranemen, Derrickmen	34.06
Inspectors, Graders, Scalers--Log and Lumber	33.80
Electrical and Electronics Workers, n.e.s.	33.80
Switchmen and Signalmen	33.76
Fitters and Assemblers--Electrical and Electronics Equipment	33.57
Sheet Metal Workers	33.49
Metal Drawers and Extruders	33.40
Miners	33.38
Bartenders	33.29
Insulation Appliers	33.22
Roasters, Cookers and Other Heat Treaters, Chemical	33.14
Furriers	33.03
Boilermakers, Platers and Structural Metal Workers	32.93
Welders and Flame Cutters	32.79
Timbermen	32.61
Tire and Tube Builders	32.34
Filers, Grinders, Sharpeners	32.18
Service Workers, n.e.s.	32.17
Nursing Assistants and Aides	32.14
Shipping and Receiving Clerks	32.14
Millmen	32.13
Bus Drivers	31.86
Forest Rangers and Cruisers	31.85
Metal Working Machine Operaters	31.67
Quarriers and Related Workers	31.61
Moulders	31.32
Porters, Baggage and Pullman	31.30
Mechanics and Repairmen, Motor Vehicle	31.30
Mechanics and Repairmen, Railroad Equipment	31.29
Fitters and Assemblers--Metal	31.28
Crushers, Millers, Calenderers--Chemical	31.12
Electroplaters, Dip Platers and Related Workers	31.07
Cutters, Markers--Textiles; Garment and Glove Leather	31.06
Production Process and Related Workers, n.e.s.	31.00
Lodging and Boarding Housekeepers	30.94
Barbers, Hairdressers, and Manicurists	30.94
Cabinet and Furniture Makers, Wood	30.88
Driver--Salesmen	30.74

OCCUPATION	SOCIO-ECONOMIC INDEX
Labourers, Primary Metal Industries	30.68
Metalworking Occupations, n.e.s.	30.60
Deck Ratings (ship), Barge Crews and Boatmen	30.56
Paper Products Makers	30.53
Postmen and Mail Carriers	30.52
Service Station Attendants	30.48
Butchers and Meat-cutters	30.48
Meat Canners, Curers, Packers	30.48
Motormen (vehicle) (except railway)	30.48
Waiters	30.47
Hawkers and Peddlars	30.43
Oilers and Greasers--Machinery and Vehicles (except ship)	30.43
Tobacco Preparers and Products Makers	30.39
Upholsterers	30.27
Tailors	30.26
Labourers, Trade	30.19
Bleachers and Dyers--Textiles	30.18
Painters (Construction and Maintenance), Paperhangers and Glaziers	30.08
Taxi Drivers and Chauffeurs	30.07
Operators of Earth-Moving and Other Construction Machinery	30.03
Painters (except Construction and Maintenance)	30.00
Coremakers	30.00
Baby Sitters	29.99
Labourers, Mine	29.96
Blacksmiths, Hammermen, Forgemen	29.93
Bricklayers, Stonemasons, Tilesetters	29.93
Attendants, Recreation and Amusement	29.92
Plasterers and Lathers	29.90
Other Food Processing Occupations	29.89
Bottlers, Wrappers, Labellers	29.80
Clay, Glass and Stone Workers, n.e.s.	29.77
Materials--Handling Equipment Operators	29.76
Labourers, Paper and Allied Industries	29.73
Carpenters	29.71
Vulcanizers	29.62
Fruit and Vegetable Canners and Packers	29.60
Other Rubber Workers	29.51
Labourers, Communication and Storage	29.51
Milk Processors	29.49

OCCUPATION	SOCIO-ECONOMIC INDEX
Cooks	29.43
Construction Workers, n.e.s.	29.43
Longshoremen and Stevedores	29.41
Truck Drivers	29.31
Gardeners (except farm) and Groundskeepers	29.27
Bakers	29.26
Labourers, Electric Power, Gas and Water Utilities	29.26
Messengers	29.23
Warehousemen and Freight Handlers	29.18
Polishers and Buffers--Metal	29.12
Boiler Firemen (except ship)	29.10
Labourers, All Other Industries	28.96
Launderers and Dry Cleaners	28.93
Other Agricultural Occupations	28.93
Dressmakers and Seamstresses	28.77
Riveters and Rivet-Heaters	28.76
Millers of Flour and Grain	28.75
Furnacemen and Kilnmen, Ceramics and Glass	28.69
Knitters	28.68
Transport Occupations, n.e.s.	28.63
Labourers, Other Public Administration and Defence	28.61
Woodworking Occupations, n.e.s.	28.56
Stone Cutters and Dressers	28.52
Apparel and Related Products Makers	28.44
Tanners and Tannery Operatives	28.42
Sawyers	28.29
Woodworking Machine Operators	28.29
Labourers, Other Manufacturing Industries	28.22
Janitors and Cleaners, Building	28.22
Labourers, Food and Beverage Industries	28.12
Kitchen Helpers and Related Service Workers	28.11
Engine-room Ratings, Firemen and Oilers, Ship	28.11
Newsvendors	28.08
Labourers, Railway Transport	28.03
Finishers and Calenderers	27.97
Elevator Tenders, Building	27.96
Shoemakers and Repairers, Not in Factory	27.87
Sewers and Sewing Machine Operators	27.87
Cement and Concrete Finishers	27.86
Guides	27.79
Farm Labourers	27.77
Labourers, Transportation, except Railway	27.72

OCCUPATION	SOCIO-ECONOMIC INDEX
Labourers, Wood Industries	27.57
Labourers, Transportation Equipment Industries	27.49
Other Textile Occupations	27.44
Carders, Combers and Other Fibre Preparers	27.37
Labourers, Construction	27.25
Other Leather Products Makers	27.19
Fishermen	27.17
Leather Cutters	27.10
Loom Fixers and Loom Preparers	27.09
Lumbermen, including Labourers in Logging	27.01
Spinners and Twisters	26.94
Weavers	26.77
Teamsters	26.71
Labourers, Local Administration	26.71
Winders and Reelers	26.63
Sectionmen and Trackmen	26.57
Labourers, Textile and Clothing Industries	26.56
Shoemakers and Repairers--In Factory	26.56
Fish Canners, Curers, and Packers	29.09
Trappers and Hunters	25.36

APPENDIX F

THE TWO GENERATION MUSICAL BACKGROUND SCALE

NUMERICAL WEIGHTS USED IN THE CONSTRUCTION OF THE TWO GENERATION MUSICAL BACKGROUND SCALE

(Activity of Family Members as Instrumentalists)

Family Member	Weighted Code	
	not active	active
Mother	2	4
Father	2	4
Maternal Grandmother	1	2
Maternal Grandfather	1	2
Paternal Grandmother	1	2
Paternal Grandfather	1	2
Total	8	16

Note: Scores for The Two Generation Musical Background Scale were computed by dividing the weighted code total by the number of family members under consideration (six). The highest possible score was 2.67, and it was achieved if both parents and all four grandparents could be classified as active instrumentalists. The lowest possible score was 1.33, and it was given if none of the family members could be classified as active instrumentalists.

APPENDIX G

RECEIVED ENCOURAGEMENT SCALE MATRIX

RECEIVED ENCOURAGEMENT SCALE MATRIX

Person	Encouragement Responses used in Questionnaire				Weight Factor	Weighted Code	
	never	once or twice	several times	many times		minimum	maximum
Mother	1	2	3	4	3	3	12
Father	1	2	3	4	3	3	12
Music Teacher	1	2	3	4	3	3	12
Best Friend	1	2	3	4	2	2	8
Other Friends	1	2	3	4	1	1	4
Total						12	48

Note: Highest possible score = 48; lowest possible score = 12. For example, if mother, father, or music teacher encouraged a student many times (score = 12) and all other persons under consideration encouraged the student never (score = 9), a total Received Encouragement score of 21 was given.

APPENDIX H

LIST OF PARTICIPATING SCHOOLS

LIST OF PARTICIPATING SCHOOLS

Name of School	All Boys School	All Girls School	Approximate Student Enrolment
Brother Rice High School	*		775
Holy Cross Elementary School	*		775
Holy Heart of Mary Regional High School		*	1385
Our Lady of Mercy School		*	800
St. Bonaventure's School	*		805
St. Joseph's Boys School	*		220
St. Patricks Hall Elementary School	*		560
St. Patricks Hall Junior High School	*		530
St. Pius X School for Boys	*		560
St. Pius X School for Girls		*	600
St. Theresa's Boys School	*		505