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The Importance of Selected Variables in Predicting Student Participation in Junior High Choir

Ann Callistro Clements

A Dissertation submitted in partial fulfillment
of the requirements for the degree

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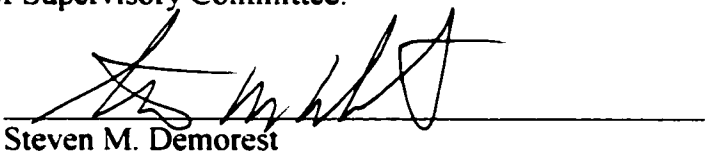

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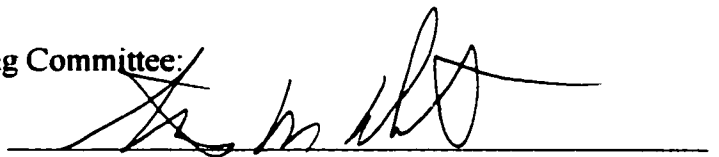

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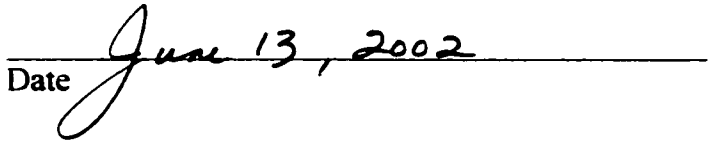

Date June 13, 2002

University of Washington

Abstract

The importance of Selected Variables in Predicting
Student Participation in Junior High Choir

Ann Callistro Clements

Chair of Supervisory Committee:
Professor Steven M. Demorest
Music Education

The purpose of the study was to determine if there was a set of variables that best predicted choral or music participation at the middle level, and if these variables changed by gender or junior high school.

This study consisted of 504 sixth-grade students from 7 of 8 elementary schools within one school district. Prior to seventh grade registration sixth-grade subjects were administered three measurements during their regularly scheduled general music classes. These measurements consisted of the Children's' Sex-role Self-concept Inventory (Stericker & Kurdek, 1982), the Junior Eysneck Personality Questionnaire (Eysneck, 1975) and a research-devised Student Music Questionnaire. The three measurements contained seventeen variables that prior research has suggested may have an impacted on student decision making in regards to music participation at the junior high level. In addition to student variables which may have contributed to the subjects' participation choices, teacher and school variables were evaluated using the Bems Sex-role Inventory (Bems, Bems, 1974), the Eysneck Personality Questionnaire (EPQ, Eysneck, 1975), and a researcher devised Music Teacher Questionnaire.

After seventh grade registration, the subjects individual measurement scores, their percentile ranking on three categories of the ITBS, and a rated score of their musical and singing ability by their general music teacher were analyzed using direct discriminant function analyses. The first analysis was based on the subjects participation choice of Choral Music, Non-choral Music, or No-music. This analysis found a significant difference between predictor variables for Music Participants verses Non-music Participants with the most significant predictor variables being a high musical self-concept, a positive attitude towards music, a greater positive impact of peer influence, and a lower perceived cost of participation.

Separate discriminant function analyses by gender and school resulted in a variance of predictor variables. Choral and Non-choral female music students were similar to the total analysis with musical self-concept being the strongest predictor, however, actual ability was more significant predictor for Female Music Participants. Male Choral Participants' predictor variables were similar in structure to the female music participants, whereas Male Non-choral Music Participants' strongest predictors were family musical background and a lower than average score in psychoticism.

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My husband Gary Clements, my parents Alice and Richard Callistro, and my brother Charles Callistro have been an unwavering source of encouragement for me, and it was their strength and support that made this project possible. Thank you to my dear friends Debbie and Eric, for their wonderful laughter and hours of encouragement, and thank you Mollie, my true comrade in music education, for her time in editing and for giving me the opportunity to verbalize my ideas.

Dedication

To all of my former junior high choir students,

who taught me the power of music.

CHAPTER 1

INTRODUCTION

For years choral directors at the middle level (middle school and junior high) have been seeking the best way to recruit new students and to retain those students already enrolled in their programs. For teachers to be able to attract more students to their programs it is imperative to understand who is enrolling in choral classes and why. Furthermore, there is a need to investigate why students are making the choice to become involved in choral singing and what commonalties, if any, these students share.

Many students who express interest in singing at the elementary level fail to continue choral study at the middle level. Broquist (1961) found that attitudes towards general music education declined as students advanced from third to eighth grades. Although singing was the preferred activity of students at all grades, he contributed the decline in positive attitude to the increased number of activities that students disliked. Bowman (1988) found a similar decline in positive attitudes towards school music activities from fourth to sixth grade.

In spite of the fact that many children receive music instruction at the elementary school level and that much of that instruction is vocally based (Forsythe, 1977; Moore, 1987-88), the amount of students participating in vocal music at the secondary level is relatively small. A survey conducted for the Center for Education Statistics in 1988 concluded that across the United States 23% of students in the seventh and eighth grades participated in choral music, but that figure dropped to 12% for eleventh and twelfth graders. Castelli (1988) also identified a decline in enrollment, particularly male

enrollment. Factors associated with the decline in enrollment in choral classes at the secondary level have not been identified clearly. Attitudes towards music in general are at least positive among upper level elementary students (Broquist, 1961; Taebel and Crocker, 1980; VanderArk, Nolin, and Newman, 1980). Positive attitude towards school music activities has been found to decline with advance in age (Haladyna & Thomas, 1979; Taebel and Crocker, 1980; VanderArk, Nolin, Newman, 1980; and Mizener, 1993); and research has indicated that at all grade levels, girls generally hold a more favorable attitude toward music than do boys (Crowther & Durkin, 1982; VanderArk, Nolin, & Newman, 1980; and Mizener, 1993).

Research has also shown that a general decline in choral participation at the secondary level has occurred during the past twenty years. Van Camp (1988), in his survey of 325 members of the American Choral Directors Association, found that 26% of the directors from all regions of the United States found greater participation in their ensembles during the 1980s; while 44% found less participation of both males and females in their programs. He also found a difference with regards to the gender make-up of ensembles. 64% of the directors teaching grades seventh through twelfth reported proportionally more women singing than men; 42% of the respondents reported having an all-women ensemble in their schools; and only 21% percent reported having an all-male ensemble. On average the non-auditioned ensembles contained only thirty-percent male enrollment, while the auditioned choirs contained an average of forty-percent males. The research suggests that there is a great need to determine what factors influence a

student's decision to participate in choral music, particularly, what factors motivate males to participate.

While much research has been conducted on the factors which influence a student's decision to drop out of music programs (Austin, 1990), little has been conducted on the decision making process and the characteristics which effect a student's desire to continue participation. Furthermore, a lack of research exists on the decision-making processes and the characteristics of both participants and non-participants in the attempt to describe similarities and differences among all students. The majority of music education participation research is in the area of instrumental music, which leaves a great need for investigation into choral participation at the secondary level.

Participation

Participation is defined in a variety of ways dependent on which field of study is investigating it. The phenomenon of participation has been studied from a number of different social science perspectives including anthropology, geography, sociology, economics, psychology and education. Within the field of sociology it is mainly studied as a factor of the field of leisure theory, the study of human participation in recreational activities. Although much of this research is specific to activities outside of the realm of music, such as sports and travel, many of the frameworks within leisure theory may have application in the musical world. Tinsely (1997), in an article on the importance and theoretical bases of leisure theory, states that leisure theory is most interested in the

effects of participation in activities on the individual, the conditions necessary for those effects to occur, and the lasting consequences or benefits of those effects.

Shamir and Ruskin (1982) found sociological differences between sports participants, sports spectators, and those who did not identify with sports at all. During an investigation of these three groups they found that benefits to individuals, regardless of their group, were individually defined. Said another way; the benefits that attracted and continued to reinforce the efforts of members of one group were irrelevant to the others. What is important to the matter of participation is that they found few crossovers between participants and spectators: people who found participation in a sport rewarding seldom became avid spectators of the same sport and those who were spectators seldom played the sport they most enjoyed watching. It has yet to be determined if this theory is applicable to the music setting. Are some of us more prone to participate while others are prone to be music consumers or have little interest in music?

Educational researchers have investigated areas involving student choice such as student ability and self-concept (Brookover & Erickson, 1975; Dober, 1987; Frakes, 1984), personality (Drews & Williams, 1989; Goldschmid, 1967; Martain, 1976), gender (Eagly, 1987), race or ethnicity (Dusek & Joseph, 1983; Gay, 1974; Good & Brophy, 1984; Walker, 1988), and socioeconomic status (Lindsay, 1982; Shaw & Tomcala, 1976). Participation in music education has focused more directly on student choice and decision making.

Gates (1991) developed a theory of music participation. According to Gates' theory, musical participation refers to a specific pattern of behavior that leads to the

production of music, thus eliminating audience behavior from his definition. Within this broad definition, Gates listed personal outcomes that form distinct areas for the study of participation theory: the choice of participation, attitudes towards participation, and factors that influence retention or dropout in music programs. He suggested that participation choice, attitudes, and retention/dropout be studied separately, as findings can not necessarily be generalized across areas. Although participation can be broken down into smaller more easily explainable groups, it is imperative to remember that these smaller variables of participation combine into a larger, more dynamic process that is the foundation of student decision making. This process affects all three areas of Gates' theory simultaneously. A student's attitude towards school music affects his or her decision to participate and is often a determinant in the decision to continue study or dropout. It is important that researchers investigate the whole picture of participation in order to explain most accurately the multidimensional phenomena of student choice.

The best approach to studying the difficult and multi-dimensional process of participation has been debatable. Gates (1991) stated that past quantitative designs have fallen short of accurately describing the participation phenomenon. This, he writes, is due to limitations based on the manageability of relevant variables accountable for behavior related to music participation. Since the introduction of Gates' theory of participation researchers have made improved efforts to insure that investigations are as open-ended and sensitive to unanticipated features as possible. As a result, participation variables have been expanded to include not only those perceived by researchers, but also those identified by choral participants as having been influential in their decision making.

This study will attempt to investigate quantitatively the wide range of variables that have emerged in both quantitative and qualitative participation research.

Prediction is one of the most important outcomes for research in participation and may prove the most practical application. "Music participation behavior is based on psychological construct, manifestations of which can be categorized typologically; therefore, a person's musical participation type can be predicted by measuring this psychological construct once it stabilizes" (Gates, 1991, p. 23). If this metahypothesis is supported, the predictability of participant type will be open to the same ethical controls and practical limitations that now effect musical aptitude assessment. Choral music educators can benefit professionally from knowing the typological compositions of their groups. A comparison of students who choose to participate with those who do not can help directors to determine how best to attract a diverse enrollment to their programs.

Gates believes that for his theory of participation to be tested, the metahypothesis of predictability must be tested. This testing must include measures that have high reliability coefficients, sufficient for revealing individual differences. Music participation prediction measures must be sensitive enough to reveal the limits of an individual's tolerance for the pressures commonly found in music performing groups. These pressures are the pragmatic source of many of the psychological costs with which participants unconsciously compare the benefits of participation.

Need for the Study

The benefits of investigating those factors that influence student enrollment choice are clear. If secondary music educators are to promote participation in their programs effectively, they must gain insight into the thought processes and attitudes of their prospective students. If factors exist that are within educators' control, then steps can be taken to design experiences and disseminate information about secondary music in accordance with student needs. The study of music participation can potentially develop an understanding of students' values and their unique motivations and interests.

Choral music participation needs further investigation. Many previous studies on student decision making and participation have focused on general, choral, or instrumental music separately. In order to start constructing a model for all students' participation choices, researchers must study all three settings together to gain a broader understanding of the commonalties or differences between student groups. There is a need for studies that compare not only music participants to non-participants, but that also take into account any possible similarities or differences that may occur between choral and instrumental participants.

Gates (1991) suggests that researchers take a broader look at participation and take into account individual differences. These differences are psychological and environmental. Not all students have the same musical aptitude or ability, attitude towards music education, personality, home musical environment, or gender role concept. Teachers vary in their recruitment strategies, personalities, views on gender in the

classroom, and delivery of instruction. All school environments vary in their schedules, choral and music opportunities, and general school structure. It is a combination of these factors--students' characteristics, teachers' characteristics, and school environments--that have an impact on student decision making. In order to understand choral music participation, researchers must take both individual characteristics and environmental factors into account simultaneously.

Purpose of the Study

This study will attempt to take a broad look at student choice and participation in middle level choir. Specifically, it will investigate student, teacher, and school characteristics within an entire school district. It is the goal of this study to investigate the many factors and influences affecting sixth grade students as they choose whether or not to participate in choral music at the middle level. Of the students who choose not to participate, the study will include both students who choose to participate in another form of school music, such as band or general music, and those who do not choose to participate in any school music. This study will look for commonalties within and between these three groups in the attempt to identify predictor variables for choral participation. Knowing whether predictors for participation exist will help choral teachers and schools determine how to make their programs desirable to the greatest number of students.

Description of the Study

In order to explain the phenomenon of participation in the choral classroom, this study will focused on student choice within one school district. It is believed that the study of one complete district will lend greater insight into individual student and teacher characteristics and environmental factors. The middle level was chosen for this study, as it is usually the first opportunity for students to decline participation in music education. The focus of this study was on sixth grade students before and after seventh grade registration, the choral music teacher at the school they will attend in seventh grade, and the school environments and structure of the junior high that they will attend.

Student characteristics that were studied include: (1) personality, (2) sex-role and gender perception, (3) academic ability, (4) actual singing and musical ability, (5) attitude towards singing and music, (6) perceived costs of participation, (7) family musical background, (8) perceptions of the junior high choir program, (9) peer influences, and (10) miscellaneous non-musical characteristics. Teacher characteristics to be studied include: (1) personality; (2) gender roles; (3) employment history, education and continued study activities; and (4) recruitment strategies. School characteristics to be studied include: (1) choral opportunities, (2) music opportunities, (3) structure, (4) schedule, (5) socioeconomic status, and (6) academic record.

Information on student characteristics were gained through the use of the Junior Eysenck Personality Questionnaire (JEPQ, Eysenck & Eysenck, 1975), the Children's Sex Role Self-Concept Inventory (CSSI, Stericker & Kurderk, 1982), and a researcher

devised Student Musical Questionnaire. In order to easily compare student and teacher findings, teacher characteristics were examined using the Eysenck Personality Questionnaire (EPQ, Eysenck & Eysenck, 1975), the Bem Sex Role Inventory (BSRI, Bem, 1974), a researcher-devised Music Teacher Questionnaire and structured interviews. The EPQ and BSRI are the adult versions of the JEPQ and CSSI. School environments were examined using researcher-devised questionnaires accompanied by reviewing existing data, interviewing, and observing the classroom environments.

The purpose of this study was to determine predictors for choral participation at the middle level. The first analysis consisted of a comparison of choral participants, non-choral music participants, and non-music participants in the attempt to find variables that predicted group membership. The second analysis examined predictor variables of the three groups by gender to determine if there were differences in prediction variables by gender. The third analysis examined discriminant function of the three groups by junior high school to explore junior high teachers and school environments on student decision making, and included descriptive data and data from inventories.

Research Questions

(1) Is there a set of variables that best predict choral or music participation in middle level education?

(2) Do predictor variables for choral or music participants in middle level education vary by gender?

(3) Do predictor variables of choral or music participants in the middle level vary by school?

Definition of Terms

Middle level education was the term used to define students entering into either middle school or junior high school. This study focused on students in a seventh-ninth grade formation. The term middle level was substituted for junior high school as many school districts are now reformatting junior high schools into middle schools. It is believed this study may be of interest to music teachers in both middle schools and junior high schools.

Participation choice is a student's individually chosen elective for 7th grade. In this study students chose to be in choir, a non-choral music class (such as band or general music), or a non-music course. In this study students' first choice elective course determined their group membership.

Personality was analyzed using psychiatric classification. This study will use the four prescribed categories used in the Junior Eysenck Personality Questionnaire (JEPQ, Eysenck & Eysneck, 1975).

Sex- roles are described as the categorization of students' personal beliefs regarding traits commonly associated with the male or female gender. The Children's Sex Role Self-Concept Inventory (CSSI, Stericker & Kurderk, 1982) and Bem Sex Role Inventory (BSRI, Bem, 1974) classify people into four main categories dependent on how often they feel they possess a particular masculine or feminine trait.

Perceived and actual musical ability refers to students' musical self-concepts and actual musical abilities as shown in their elementary music classrooms. Students' perceptions of their musical and singing abilities were contrasted with their elementary music teachers' ratings of their singing and musical abilities.

Attitudes about school music incorporated students' feelings about participation in music classes and their like or dislike of performance and other musical experiences.

Academic achievement was based on students' academic test scores on the Iowa Test of Basic Skills in the categories of Math, Reading, and Language.

Home and family musical environment was determined by asking students if they agreed or disagreed with given statements regarding their enjoyment of music making in the home, their participation in music with family members, and their perception of their parents' responses to their personal music making and performing.

Perceptions of the junior high music program were gathered through a questionnaire that contained items regarding students' perceptions of their junior high choral music teachers and the music program at the junior high schools they will be attending.

Peer influence was defined as the amount of impact the students' peers had on their decision making as measured by the Student Musical Questionnaire.

Perceived costs of Participation in music was defined as students' perception of the responsibilities and time needed to participate in a music ensemble as measured by the Student Musical Questionnaire.

Delimitations

As previously mentioned, the focus of this study is on one school district. Due to the extensive amount of data that were collected, this district was not selected at random. The school district was selected due to its willingness to participate, the high recommendation from choral music educators in the area, the history of a strong choral and music program at the junior high level, and the feasibility of location to the researcher. The ability to generalize the results may be limited to school districts of similar size and demographics.

CHAPTER 2

REVIEW OF LITURATURE

Participation is a multidimensional phenomenon. Theories described in chapter one identify the main problem with research in this area; student choice is not dependent on one variable, it consists of a multitude of variables. The purpose of this study is to investigate predictor variables for student involvement in choral music at the middle level. In order to understand the various factors which may influence student participation, a summary of research specific to participation and student characteristics, teacher characteristics, and school environment is provided.

Participation

The term "participation" in this study is defined as a specific pattern of behavior, the effect of which is to take part in a music class. Participation is multi-dimensional phenomena consisting of a multitude of factors which may influence a student's decision to participate (Gates, 1991).

Past research in music participation has indicated that student decision making regarding music participation may be a mixture of student-centered characteristics and teacher and school centered characteristics. A student may choose to participate based on individual attributes, such as personality, perception of the junior high program, attitude towards music, or family musical background, or they may choose to participate based on outside factors, such as peer-influence, recruitment strategies of the junior high music teacher, or the variety and number of music courses available to students at the junior

high level. It is not know the extent to which student-centered characteristics and teacher and school characteristics influence a student's decision to participate, however, past studies on music participation reveal some characteristics, both student-centered and teacher and school centered, that may play a role in student decision making.

Student Characteristics

Student specific factors which research has shown may influence a student's decision making include: (1) personality, (2) sex-role and gender perception, (3) academic ability, (4) actual singing and musical ability, (5) attitude towards singing and music, (6) perceived costs of participation (7) family musical background, (8) perceptions of the junior high choir program, (9) peer influences, and (10) miscellaneous non-musical characteristics.

Personality

Personality is what makes each of us unique. Aspects of our personality define who we are, whether we like to be alone or in large groups, read books or play sports, sing in choir or play in band. Are there commonalties among musician's personalities that inspire them to participate in music making? Understanding personality and its effect on student decision making and musicianship may be an important factor in determining why some students are drawn to music classes while others are not. Researchers have examined student personalities in a variety of ways. Goldsmith (1967) in his study of personality and career choice found that "particular personality patterns are indeed associated with educational choice" (p.307). Drews and Williams (1989)

questioned "whether students are attracted to music due to already formed personality characteristics or whether a person's personality is affected by studying music" (p. 46).

Kemp (1981a, 1981b, 1982a, 1982b, 1985) has conducted research on the personality characteristics of musicians. Relevant to the study of children's personality and music choices is the Kemp article "Identifying a Profile of Traits for the Performer" (1981a). Using the High School Personality Questionnaire (HSPQ, Cattell, & Cattell, 1970) on high school aged musicians and the Sixteen Personality Factor Questionnaire (16PF, Cattell, Eber, & Tatsuoka, 1970) with university aged musicians, Kemp found a group of primary factors for performing musicians that exists across a large age span (13-25) and are linked with introversion, pathemia, and intelligence. A group of secondary factors includes "single-mindedness" which Kemp sees as a growing and changing trait that enables musicians to acquire the necessary technical skills to become a performing musician. A person who chooses music as a career "probably has both the ability and the temperament" (Kemp, 1981a, p. 3). Kemp (1981b), again using the 16PF questionnaire, strengthens his case that there are similar personality characteristics shared by musicians in a study of composers that found higher than normal scores in introversion and creativity.

Kemp's study of music educators (1982a) contrasted the findings of his two prior studies. Using the 16PF and HSPQ, he found that music teachers tended to score high on extraversion, tough mindedness and realism when compared to student performers. These findings were similar to those of Shatin, Kotter, and Longmore (1968) which found performance musicians to be intelligent, surgent (i.e. extroverted), and sensitive. Dyce

and O'Connor (1994), using the Interpersonal Objective Scale- Big Five (IASR_B5, Trapell & Wiggins, 1990) found that popular musicians (those involved in rock and country bar bands) were significantly more extroverted, arrogant, and dominant when compared to population norms. Given these studies it is difficult to conclude if musicians as a whole can be classified as introverted or extraverted.

Cutietta and McAllister (1997) studied the personalities of students grades 7-12 who participated in their school band or orchestra and the impact of their personality traits on their choice to participate or continue participation in instrumental music. Using the Junior Eysenck Personality Questionnaire (Eysenck, 1975) the results suggested that instrumentalist were a fair representation of the general school population. Thus it seems that "students with whom instrumental teachers work possess personalities that are not unique or unusual in any way" (p. 291). These findings are echoed in Kemp (1982b), which found that instrumentalists were very similar to non-instrumentalists, differing only in the variable of dependence with instrumentalists exhibiting a higher level of dependence.

Summary of Student Personality

The research findings on personality types and music participation have been contradictory. Some researchers have found personality similarities between performers, between music educators, and between student musicians, while others have not.

Although there appears to be vastly different findings regarding personality traits of musicians, a closer examination reveals that part of the conflict may be due to the

variety of different testing materials and procedures used to determine personality types. Personality is a multifaceted construct and most likely cannot be determined by a single measure. However, when the research is examined collectively there appears to be some consistent differences between professional musicians and non-musicians, music teachers and professional musicians, and that students' personality traits interact with those of their music teachers in different ways. There is limited research on school aged musicians, particularly in the choral area, thus it is much more difficult to draw conclusions regarding young school-aged musicians and their non-musician counterparts.

Gender

Since the turn of the century American music educators have seen a dramatic decline in the participation of males in the choral environment (Castelli, 1989; Gates, 1989; Koza, 1993; Pemberton 1992). Choral music is inherently dependent on the participation of both genders, but choral directors and music teachers often find themselves asking, "Where are the boys?" "Why do girls tend to enroll in choir while boys do not?" "Are the differences in boys and girls singing abilities in upper elementary grades to blame for boy's change in attitude towards singing?" Gender in music education is an emerging field of study albeit most studies fall into musical abilities related to sex differences or factors mediating gender differences (Trollinger, 1994).

Gender Perception

Research on gender perception, the extent to which musicians possess masculine or feminine traits, revealed that it is unclear if there are differences between musicians

and the general population. Kemp (1985) used the Bem Sex Role Inventory to access personality characteristics of college-age musicians. The subjects were groups of music majors and non-music majors. Female musicians had high scores in both the masculine and feminine catagories, while male musicians had lower scores in masculine traits, however, both were rather androgynous. Kemp concluded that unconscious sex-stereotyping practices may have long-term effects on the development of abilities, aspirations, and achievements of both genders. There is some evidence that girls with a high masculine and low feminine scores perform better on spatial and mathematical tasks. Kemp believes that if spatial ability is requisite for a high level of creativity in music, educators need to encourage females to be less concerned with correct, traditional responses and more willing to take risks, to be self-reliant, and to defend their beliefs. Cutietta and McAllister (1997) found a different result regarding gender perception. In their study of 7^{th}-12^{th} grade students musicians, they found no differences in gender perception scores between student musicians and the general school population.

The inconclusive research on gender perceptions reveals that gender perception may not be as important a predictor of group membership as students perception of how others feel about their music making and musical interests. Drews and Williams (1989) found that young male musicians, both choral and non-choral, felt bothered by public misunderstanding. The subjects reported a lack of public acceptance and understanding of what they do, as well as feeling pressured by the lack of social status for male musicians. This may challenge men to perform at very high levels or more commonly lead them to choose alternative vocations and avocations. There is evidence that males

have a strong need for peer approval, and teacher, public, and parental support in developing and expressing musicality. Teachers need to examine, understand, and address societal pressures upon males with regard to music learning and performing (Trollinger, 1994).

Singing Ability

Early research in the area of sex differences focused on male verses female vocal production. Differences in pitch-matching ability may account for differences in perceptions about singing and participation in choral music classes. It is traditionally thought that more males than females are monotones, drones, of out-of tune singers (Bently, 1969; Klemish, 1974; Davies and Roberts, 1975; Jones, 1979). It has also been suggested that girls tend to have a better perception of pitch in the upper elementary grades (Edmonson, 1972; Goetz and Horii, 1989), benefit significantly more from training than their male counterparts (Jordan-DeCarbo, 1982), and respond more accurately to a child model, followed by that of a female model in pitch matching (Green, 1990; Yarbrough, 1992).

Children's vocal ranges have been investigated with contradicting reports. Welch (1979) reported that females in the upper elementary grades attained a wider singing range than boys, and that their range increased with age. Wassum (1979) showed that there was no significant difference in vocal range due to gender or age. This was echoed in Moore (1991) who compared intermediate children with pre-service teachers and found that both groups had an approximate range of two octaves. Petzold (1969)

conducted a longitudinal study requiring sung responses of children, ages 6 through 12, for testing perception of melody, rhythm, harmony, and timbre. He found boys and girls to be similar in grades 1 and 2. Girls tended to perform melody with greater accuracy between grades 4 and 6 while boys did poorer in grades 5 and 6. Petzold attributed boy's scores to poorer attitudes toward singing. Additional research is needed to determine if boys lack of singing is a matter of the lowering of ability in the upper elementary grade levels or if it is a result of student attitudes toward classroom singing.

Vocal maturation and voice change also need to be considered during late elementary and through out middle level education. Voice changes for both boys and girls occur during adolescence, this is usually between the seventh and ninth grade years. Boys go through a much more dramatic change than girls do and their special needs must be considered. John Cooksey (1978) found that vocal maturation is directly related to physiological and psychological changes that occur in the adolescent male. He believes that males should be fully informed about these changes so that they can be eased and comforted through the change with as little psychological conflict as possible.
In primary grades, varying maturation rates of boys and girls may account for gender differences in singing ability, however it does not explain fully the downfall of male interest in school music.

Attitude Towards Music

Gender identification begins to develop in early childhood, most likely due to both biology (Money, 1987) and socialization (Eagly, 1987). Many studies have shown

that boys and girls prefer music that is sung by a person of the same gender as himself or herself (LeBlanc and Cote, 1983; Baker, 1980; LeBlanc & Sherrill, 1986). It is possible that that the primary aged boy becomes aware through observation and interaction with primarily female teachers, that music is a female pursuit. "With few male singing models and minimal positive reinforcement, boys may learn not to expect to do well in singing and label it a girl's activity" (Trollinger, 1994).

Research in student musical attitude has focused on the differences between male and female children's' attitudes towards music education (MacGregor, 1968; Siemens, 1969; Nolin, 1973). These findings showed that boys did not like classroom music as much as the girls did. This difference in student attitude by gender was also found by Pogonowski, (1985), and Boswell (1991) who assessed attitudinal patterns among boys and girls towards music. They found that girls expressed more favorable attitudes towards classroom music than did boys.

MacGregor (1968) suggests that male students may not be as engaged in elementary general music classroom activities as females are. In a two-year longitudinal study, he found that girls preferred singing and listening to moving and creating, while boys did not show a significant preference for any activity over another.

Musical Self-concept

Musical self-concept or musical self-esteem may differ between males and females. Austin (1990) in a study of self-esteem differences among fifth and sixth grade students found the boys and girls differed in music self-esteem, with the mean female

score higher than the mean male score. This reveals that female students may perceive themselves as being more musical than male students.

Family Musical Background

Family musical background has been thought to influence student decision making regarding music participation, however, there has been very little research on possible differences between the response of males and females to their family musical background. Zdzinski (1992) in a study of instrumental students' musical ability and improvement over time found that male students with low ability and high family musical background improved more than males with low ability and low family musical background. These results differed for female subjects. There was no difference in improvement among low ability females in regards to family musical background. Female students improved at the same rate regardless of their family musical background.

Summary of Student Gender

The research examined here revealed differences by gender on the variables of gender perception, singing ability, attitude towards music, musical self-concept, and family musical background. It appears that males and females are affected differently by many of the variables often studied in participation research.

The review of literature on gender revealed that gender differences in participation research have been segregated; meaning that often gender differences are the outcome of studies focused on various other variables and that gender is seldom the

principal variable of interest. With the decline in male choral participation, and music participation in general, gender and its affect on students' decision making warrants further investigation.

Additionally, the studies reviewed have not been able to show the extent to which gender and gender perception may influence student decision making across multiple combined student characteristics. Many of the studies where gender differences became an important outcome were focused on a single or few variables of the participation puzzle. There is need for a study which examines gender differences among a greater number of possible participation predictor variables to determine the extent to which gender influences students decision making in regards to music participation.

Musical and Academic Ability

Both musical and academic ability have been studied as a means of predicting student participation in music. Webber (1976) in a study of musical and non-musical predictors of success in beginning instrumental classes found that the most significant predictor was the student's composite score on the Iowa Test of Basic skills, implying that a measure of academic achievement was the best predictor of participation and achievement. Klinedinst (1991) in a study of fifth grade instrumental students found retention was best predicted by the socioeconomic status, musical self-concept (self-identity), reading/math achievement, and scholastic ability of participants. These five factors collectively predicted retention with ninety-seven percent accuracy. He suggested that music teachers often overlook student potential for music learning and support

recruitment of academically talented students. Mawbey (1973) expressed an elitist attitude toward participation by recommending a more rigorous selection process for participants. Accordingly, student dropout would be reduced if participants' potential for attainment of musical skills were considered. "Wastage" or dropout was noted in more secondary than elementary instrumental music programs.

Demorest & Morrison (2000) in their review of resent studies on music participation and academic or intellectual achievement found that the results which indicate that music will contribute positively to a students academic or intellectual abilities are often misinterpreted or overstated. They warrant caution about the way in which results that directly tie academic improvement to music participation are viewed until there is significant reliability that the study of music results in increased spatial or cognitive thinking skills, and not that students with higher than average abilities in this area are drawn to music participation.

Summary of Musical and Academic Ability

Research has shown that they may be a link between music participation and academic achievement particularly among instrumental students, however, it remains unclear if the study of music increases a student academic ability or if students with higher than average academic ability choose to participate in music activities. Among the research which found that high academic achievement was a predictor variable for participation, mathematics and reading came to the forefront as the most discriminating variables for prediction.

Musical Self-concept

Ability, either real or conceived, may affect a student's desire to participate. Self-identity or "role identity" is defined by Simmons (1971) as "his imaginative view of himself as he likes to think of himself being and acting as an occupant of that position" (p. 65). Students act and become what they are based on how they view themselves, or how they imagine themselves to be. In this sense imagination can determine reality. A student's imagination becomes a warehouse for stored self-concepts and self-identity.

The belief in one's own ability to perform in an elective course emerges as an important factor in choice behavior and retention. Dober (1987) examined reasons for continued participation in college chemistry classes and found that an interplay of factors was responsible for perseverance in the subject. Factors included successful performance as well as positive self-concept in the subject, the effect of effort on achievement, and expectations of self and others regarding future performance. Parsons (1983) offered "expectation of future success" as an important influence in choice conduct in class selection. The way in which students perceive themselves musically may be as important to participation choice as their actual ability.

Austin (1990) studied the relationship of music self-esteem to the degree of music participation in school and in out-of-school music activities. The subjects were 252 fifth- and sixth-grade students in a moderate sized school district and rural community, one third of the subjects in this sample were not participating in any type of elective music activity. The Self-Esteem of Music Ability scale (SEMA) and an experimenter devised

background questionnaire were administered. Results indicated significant music self-esteem differences for the factor of gender (mean female score higher than male). Level of music self-esteem was a significant predictor of participation in both school and out-of-school music activities. Degree of participation in school music activities was not significantly related to out-of-school participation.

Hallam (1998) investigated the effect of time spent learning, divided by the length of time required for learning an instrument, on music participation. Her study included 109 violin and viola pupils aged 6-16. The results indicate that length of time learning and the ability to understand instructions were the best predictors of level of achievement. The quality of achievement was best predicted by the teachers' rating of musical ability. Student who believed that their teacher thought highly of their skills performed at a higher level. This again highlights the importance of perceived ability. Dropping out was best predicted by a range of ability and attitudinal measures including overall attitude and influence of parents and overall attitude and influence of friends. In considering the quality of learning outcome (the degree to which students improved as a result of teacher instruction), ability and personal/family motivational factors seem to become important. Motivational influences related to friendships appeared to have a negative influence on learning outcomes.

Self-concept and self-identity play a significant role in the choral music classroom. Roberts (1999) investigated the role of self-identity in vocalists. He makes the distinction that unlike instrumentalists, who are able to separate themselves from their instrument, vocalists are their instruments. "Physically we are our total instrument " (p.

39). This direct tie to the physical self creates a stronger sense of identity as a musician. One of Robert's students while being interviewed stated "I'm a singer and I play the flute" (1999, p. 39) implying that she *is* her vocal instrument, the instrument that she was born with, and has learned, through years of rehearsal and practice, to play the flute. A students' perception of voice as self within the choral classroom may increase the importance of self-concept as a factor of participation beyond its relevance in instrumental classes.

Summary Musical Self-concept

Research has shown that students' musical self-concept may affect their desire to participate in musical activities. Many of the studies discussed in this section relate to instrumental or choral music instruction independently. There appears to be a lack of studies that consider all three typical kinds of school music programs; choral, instrumental and general or the comparison of music students to non-music students. The one musical self-concept study which did evaluate all three group classifications was Austin (1990) in which he found that all 6th grade subjects participating in music showed higher than average music self-esteem (self-concept) and that there was a significant differences for the factor of gender, females scoring higher in this category than males.

Attitude

Attitude has been shown to affect achievement in the music classroom. Hedden (1982) studied fifth and sixth grade students' attitudes toward music, self-concept in

music, music background, and academic achievement. A positive attitude and self-concept in music were significant predictors of music achievement, although academic achievement surfaced as the best predictor. Anthony (1974), one of the first researchers to examine reasons why students' continue in elective music programs, determined that students' participated due to 'social reasons' and 'love and enjoyment of music'. Reasons for dropping out tended to be specific to school districts and non-global in nature.

Morehouse (1987) developed a String Student Attitude Measure for exploring potential categories of student attitude that might predict and discriminate between music program dropouts and stay-ins. Attitude towards strings as a class, music played, classmates, practice, instrument choice and playing in concerts were significant factors in student's choice. Frakes (1984) developed a questionnaire for secondary music students to investigate factors influencing attitude of participants, dropouts, and non-participants. Factors included: teacher, course content, self-perception, interest, family influence, peer involvement, and time involvement. Of the seven, all but peer influence were found to significantly correlate with student attitude toward participation. Frakes also noticed a larger dropout rate in choral than instrumental music, with most students dropping out of music programs during junior high.

Mizener (1993) examined the attitudes of elementary music students towards singing and choir participation in relation to a variety of variables. Based on evidence in the fields of mathematics and art, the researcher sought to find if good singing skills would result in a more positive attitude towards singing and continued enjoyment and

participation in choral activities after the elementary years. Using a seven-point criteria scale for rating singing accuracy, Mizner found no significant relationship between singers' accuracy and their attitude towards singing or choir participation. She concludes that other factors, including grade level, gender, family background, and perception of ability maybe stronger predictors of participation.

Summary of Student Attitude

Research on student attitude has focused mainly on the affect of attitude on music achievement and the retention of music students in the instrumental or choral classroom. These studies found that a positive attitude towards music was significant predictor of music achievement and a desire to remain involved in music classes and that musical ability may not be related to attitudes about music. As in the research of musical self-concept there was a lack of studies that included all three group classifications, choral, instrumental, and non-music participants. And there is need for a study that would consider attitudinal difference between the three groups.

Peer Influence and Perceived Costs

The opinion of significant others can often be persuasive in altering participation patterns for school activities such as athletics. Brown, Frankel, and Fennel (1989) noted the influence of peers on the continuance of participation in sports by adolescent females. The degree of continued participation correlated positively with the source, amount, and type of influence received from significant others. The pattern of participation was

strongest among those who: (1) received encouragement and support, (2) believed their participation was valued and viewed as socially appropriate by significant others, and (3) reported increased support for their athletic participation as they grew older.

The influence of peer relationships and the perceived costs or sacrifices of participation often affect students' decisions regarding participation or continued participation in any music activity. Klinedinst (1991) found that the most often cited reasons for discontinuation of instrumental instruction among elementary band students are: (1) scheduling conflicts, (2) time demand, and (3) increased academic load. Hagner (1985) also explored reasons why students drop out of instrumental music. Possible explanations include: music not matched to the abilities of students, instrument choice unsatisfactory, peer relations within performing group are a problem, negative attitude of parents regarding participation and financial or transportational difficulties prohibited participation (p. 34). Hagner also stresses that there may be no identifiable reason for discontinuation. Exploration of interests and activities is appropriate for adolescents as part of the development process and formation of self-identity.

Furman and Duke (1988) observed that stated preferences of members of a peer group affected choices made by other members with college-aged students in musical situations. Royse (1989) found that if college-age, non-music majors "got along well" with other members in a concert band setting, they were more likely to remain in the group. Finnas (1989) noted when reviewing the research on peer relationships in music classrooms that behaviors such as students enjoying the company of their peers, getting along well with others in the class, believing they had good friends in the ensemble,

occurred across various age groups and social settings with many different types of music. Hurley (1995), in a qualitative study of student motivations for beginning and continuing/discontinuing string music instruction found that those students who dropped out viewed continuing to play as demanding too great a time cost for the relatively small rewards playing offered them.

Summary of Student Peer Influence and Perceived Costs

Research in this area found that students are more likely to remain involved in music classes if they got along well with others involved in the program. Research has also found that students are likely to drop out of instrumental music classes when the perceived costs of participation are high. These costs can include an increased academic load or the perception that continued study of music takes too much time.

Missing from these studies is the effect of peer influence and perception of costs for student who have not yet made a decision about initial participation in music, particularly choral students prior to enrollment for middle level education.

Family Musical Background

Researchers in all areas relating to education are evaluating the role parents and family play in the education of their children. What influence do parents have on their children's music making skills and attitudes? Do parents attitudes towards music have an affect on how student perceive music making in the classroom?

In most theories of socialization, parents are considered to be the primary sources of influence on the child's socialization process, in that they are the most immediate social agents for the child (Garbarino, 1989; Zigler & Seitz, 1978). A growing body of literature has pursued aspects of parental influence on the early development of musical talents. Manturzewska (1990) studied a group of polish musicians whose careers were considered strongly dependent upon environmental conditions, particularly in the early stages. She found that 93 percent of those musicians came from families where there was evidence of musical tradition and professional musicians among their parents. Sloboda and Howe (1991) found similar results for parental involvement and influence, but to a lesser degree. They stressed the importance of parental and teacher influence upon early musical development. Their student musician subjects reported having active parental supervision and encouragement, 72 percent of whom were actively involved in music themselves. They established, however, that not only did the most highly accomplished members of the group come from less musically active families, but they also received fewer early music lessons than the less highly accomplished students.

Zdzinski (1992) found that parental involvement, music aptitude, and gender interacted significantly with instrumental students' achievement and aptitude. He used the Parental Involvement Measure in combination with other measures to study parental involvement and aptitude among brass and woodwind students ages ten to fourteen. Males with both low aptitude and low parental involvement did poorest on the Watkins-Farnum Performance scale, while males with low aptitude but high parental involvement did well. Females differed from the males in that low aptitude and low parent

involvement females outperformed those with low aptitude and high parent involvement. Overall males scored higher than females on Colwell's Music Achievement Test. The author suggests that parent involvement may inhibit females of low musical aptitude while males, on the other hand, may view feedback from parents as information of task competence.

Mizener (1993) examined children's attitudes toward singing and participation in choir. She found that the girls and younger children, who indicated the more positive attitudes towards singing, showed a stronger perception that family members encouraged their singing efforts and took part in singing activities with them. This further supports earlier research which states that out of school singing experiences, especially those in the home, have been found to have significant relationships to attitude towards music (Kirkpatrick, 1962; Mawbey, 1973).

Kehrberg (1989) questioned 169 students from fourth grade through high school students on a variety of family and out of school activities. He found that although the relationship between musical aptitude and out-side of school factors were inconclusive, aspects regarding home musical environment and out of school experiences such as parental involvement and outside of school performance opportunities did impact students in-school musical experiences: (1) Musical aptitude, home musical environment, out-of-school instrument playing activities, and the degree of participation in school musical activities were strong predictors of general music achievement among high school students, (2) Home musical environment, attitude towards school musical activities, and grade level were strong determinants in assessing the differences among

high school students with differential participation in school music activities, and (3) School music participants may have had richer home musical environment than non-participants and participants may possess a more positive attitude toward school musical activities.

Summary of Student Family Musical Background

Research points to an effect of home musical environment and parent involvement on students' decision regarding the study of and participation in music. Research also shows that the genders may react differently to parental involvement. Regardless of whether the students see family involvement negatively or positively, research suggests that it does have an impact on students' music making or attitudes regarding music.

Summary of Student Characteristics

The review of literature on variables which may effect a students desire to participate in music classes focused on personality, gender, ability, musical self-concept attitude, and family musical background.

Findings in the areas of personality and academic ability have contradictory results. Some studies have shown that these variables are strong predictors for music participation or the continued study of music while other studies have determined they are not strong variables for prediction. Further research is needed to determine if these variables have an effect on student decision making regarding participation in music

classes. The variables of gender, attitude, ability, and musical self-concept, have appeared to be stronger predictors for music participation due to the number of studies showing similar results among different music courses.

The review of literature leads to many questions regarding the possible impact of these variables on student decision making. The degree of influence these variables have on whether a student participates in music is unknown. Additionally, it is unclear how music participants differ from non-participants. Few studies have examined the impact of these variables among different kinds of music groups (band, choir and orchestra) to determine if there is any difference by group. Even fewer have compared music students to non-music students to determine if the importance or influence of these variables change by group membership, gender, or junior high school. There is a need for further research that combines these variables and can evaluate how each variable impacts student decision making by group classification.

Teacher Characteristics

Teacher characteristics which may influence student participation in music include the areas of (1) personality, (2) gender, (3) employment history, and (4) recruitment strategies and extracurricular activities.

Personality

Most personality studies in music education have been conducted to determine the predominant personality types of music teachers or future music teachers. Bergee (1992) found three personality traits that that were found to be prominent among the more

successful pre-service teachers in music education. The most effective teachers were found to have scored highly in the areas of stimulator, developer, and commander. Similar to the above findings, Kemp (1981a) found that music teachers demonstrated higher levels of extraversion, realism, and tough-mindedness than did their performance counterparts. Kemp's study is in agreement with an earlier study by Krueger (1974) showing that music teachers are unique among all teachers in having increased extraversion and realism.

Teacher personality may be an important aspect of a student's decision regarding involvement in a music program. Gerber's (1989) study of 168 upper level elementary general music subjects listed "nice", "funny", "fair", and "understanding" as the most desirable teacher characteristics and responded most frequently that the teacher was what they liked most about general music class. While high school students are more impressed by talent and the global virtues of musical experience (Royes, 1983), many feel that students at the middle level are likely to view the teacher's mode of interaction and subject matter as synonymous (Miller, 1988, Veaco & Brandon, 1986). Clements (2000) qualitatively observed and interviewed 34 students in a successful high school guitar program. She concluded that many of the students chose to participate based on their affection for the teacher and that teacher personality was a major factor in their continued study of their instrument. Cox (1989) in his study of various rehearsal structures found that students were influenced by the teacher personality and that teaching style seemed to be of great importance to students, regardless of which rehearsal structure was used.

Summary of Teacher Personality.

The review of literature on teacher personality reveals that music teachers in generally extraverted. The one study which focused on elementary general music found that elementary students like teachers who are nice, funny, and understanding. Secondary students are impressed with teachers that are talent in music and have had many different kinds of musical experiences.

Gender

Music education research is only just beginning to evaluate the significance of teacher gender and race as elements of student success and involvement in school music. As previously mentioned, studies have shown that boys and girls prefer music that is sung by a person of the same gender as himself or herself (LeBlanc and Cote, 1983; Baker, 1980; LeBlanc and Sherrill, 1986). Killian (1990) studied the effect of model characteristics on musical preferences of junior high students and found subjects tended to prefer same race and same gender models when expressing preferences regarding musical performances. This tendency was stronger for males than females. It is currently unknown if a lack of male singing models encourages boys to perceive singing as a female pursuit or if a lack of minority teachers affects minority students' decisions to participate. The drop in male singing does seem to parallel a decline in the number of males teaching choir in the middle level.

Veaco and Brandon (1986) noted teacher gender as a determinate of student preference for certain teachers. Male students prefered a disproportionate amount of male teachers, possibly due to the developmental need of boys to identify with positive male role models. Girls indicated no such gender preference for teachers.

Walker and Hamann (1995) studied high school students' perceptions about continuance in music classes at the college level. The subjects consisted of African American, White, Hispanic, and Asian students. Among all racial groups the highest mean rank for reasons to participate in music was teacher/director effectiveness (M=3.40), while other sociocultural and gender factors, such as race of participants in the group (M=2.44), teachers' race (M=1.82), and teachers' gender (M=1.66) were ranked much lower. Contradictory to Veaco and Brandon, in this study teachers' gender was ranked the least importance of all variables. This research implies that teacher race and gender and the racial make-up of the class are secondary to other factors such as teacher effectiveness and teacher popularity.

Summary of Teacher Gender

Research on teachers' gender revealed that students may be effected by their teachers' gender, but the extent to which this affects participation choice is unknown. Students appear to like vocal models that are the same gender as themselves, and this tendency was stronger for males than female students. Males have also shown a disproportionate amount of favoritism for male teachers, while girls had no such preference. Some studies state that students did identify gender of the teachers as a factor in student perceptions about continuance in music classes, but that it was not as important

to students as teacher effectiveness. The study of the impact of teacher gender and student participation warrants further investigation, particularly as it may be more common to have female music teachers at the elementary and middle levels.

Recruitment Strategies

The subject of recruitment is of great interest to music teachers, however there have been very few research studies to determine which strategies best attract students. Miller (1988) claimed that the validity and attractiveness of a program was incentive enough for students to desire continued participation. Porter (1977) and Hoffer (1983) agreed that recruiting was unnecessary if an excellent program existed and suggested that actively seeking participants might attract the least productive students seeking "an easy grade". Hoffer (1983) found that student decisions to join music were influenced by: (1) recommendations of current membership, (2) student's own assessment resulting from hearing the group perform, (3) student's opinion of the teacher. Despite these authors opinions, recruitment of students remains a topic of much discussion in music education journals.

Castelli (1986) in his study of 16 secondary level music educators and 25 elementary public school students found that a decline in male enrollment in secondary vocal music programs was dichotomous with difference between the students and teachers opinions concerning the factors with influenced this decline. This research suggests that teachers at the secondary level may not understand the variables which

students believe are important for their continued or initial participation in vocal performance classes at the secondary level.

Summary of Recruitment Strategies

Research presented in this review has shown that teachers use a variety of strategies to recruit new ensemble members. Some of these strategies include the quality of the music program, students' personal assessment of the quality after hearing an ensemble, the sharing of information about the program through peers, and students' opinions about the teacher. It has also revealed that teachers may not be as aware of the variables which students, particularly male students, deem as the most important variables of their decision whether or not to participate at the secondary level.

School Environment

American elementary and middle schools have a variety of grade configurations that are usually the outcome of educational considerations, space, enrollment variables, and fiscal realities. Holland and Andre (1987) identified two school perspectives towards elective courses which affected extracurricular activities: (1) focus on academic excellence with extracurricular activities for fun and diversion; and (2) developmental approach with shared emphasis on academic and nonacademic pursuits.

Administrative support and administrators beliefs and understandings of music education can affect course scheduling and student participation. Colley (1991) compared the beliefs of administrators and arts specialists about school art and music

programs. They expressed conflicting expectations due to their training, organizational constraints, and poorly-defined program goals. Principals identified "appreciation" as the purpose of arts education resulting in students becoming effective consumers of art and music. However, arts specialists were focused on creative pursuits and performance goals. Important to this discussion was the assessment of responsibility for arts program promotion in the schools. Principals expected arts teachers to be outstanding communicators and motivators while arts teachers believed the integrity and worth of their programs should speak for themselves. Principals viewed their role to be that of facilitator and resource person; arts specialists stressed advocacy and promotion of all programs in the school as primary responsibilities of principals.

Influences of the educational setting which research has stated may influence student participation include (1) scheduling, choral opportunities, and school structure, and (2) attrition between school levels and variances in curriculum.

Scheduling, Choral Opportunities, and Structure

School size often influences opportunities for involvement. As school enrollment increases, the number of opportunities to participate in extracurricular activities proportionally decreases (Barker & Grump, 1964; Lindsay, 1982). Lindsay noted gender differences for participation rates, with school size making more of a difference for females with increased competition for activities. For example, many schools offer girls' choirs in addition to mixed choirs to augment opportunities for girls to participate in vocal music.

A good workable schedule is vital for a successful choral program. Regardless of how many students wish to join choir, if it is scheduled in conflict with required classes, membership will suffer and little growth is realized. A review of attrition research showed that students commonly cite scheduling conflicts as one of the main reasons for dropping out of music classes (Delzell & Doerksen, 1998). Obviously, scheduling conflicts also have the potential of adversely affecting the number of students who can participate. These problems can multiply if the choirs are set against any single classes, which are offered only one period a day, such as trigonometry or physics. With ever increasing elective choices and requirements for graduation or college entrance, some choral classes have been moved outside of the school day. This is growing particularly common with jazz and popular music ensembles. With limits on the amount of electives students may take they must often choose between participation in either band, choir, or orchestra. Without question the academic schedule of a school building can have a significant influence on the quality of the choral music program, with one of the key issues being whether the schedule permits reasonable access to enrollment.

With the increased efforts to reform schools, many school buildings are electing to change the overall format of the school day. The most common reforms at the intermediate level are use of the "middle school" concept or the implementation of one of the many forms of alternative scheduling such as block scheduling. It is not uncommon for schools using the middle school concept to group students into pods or houses based on criteria other than musical aptitude, which can interfere with a music teacher's desire for proper student placement within their classes. Contrary to this assumption, Clements

and Demorest (1998) in a study of secondary schools which had recently changed from a traditional schedule to a modified schedule found that most schools had little or no change to enrollment numbers and that some actually increased in either students numbers or courses offered. Despite the results indicating little or no difference, teacher attitude towards alternative scheduling was negative.

Attrition between School Levels and Variances in Curriculum

Attrition in elective courses such as music increases when students move from one building to another (Wolfle, 1969) and, probably even more so when they change teachers (Allen, 1981/1982). Hartley (1996) compared grade-level organization with seventh grade student attitude towards band participation. In her comparison of seventh grade students who changed buildings between fifth and sixth grades, she found those that began instrumental instruction in sixth grade had a more positive attitude than those who began in fifth grade and changed to another building. This difference was not seen when comparing students who remained in the same building for fifth and sixth grades, but started instrumental music instruction at either fifth or sixth grade. This implies that students who enter the middle level with only a limited amount of experience may have a less positive attitude about music than those who have had either more or no experience simply based on the change in schedule and relationship with the new teacher.

Summary of School Environment

Individual school size, daily schedule, format of the daily schedule, number and variety of music courses offered, and length of class meeting times often define which students may enroll for which music classes. A small school size will often decrease music opportunities for students. A complex daily schedule coupled with limitations in the number of elective courses students may take were found to be significant reasons for attrition from music courses. Research in attrition found that the movement of student musicians from one school to another was a vulnerable time for students and that some students lost interest as a result of having a new teacher and the change in daily schedule.

Multivariate Participation Research

Few studies in music participation research had examined a large number of student variables in the choral classroom. One of the few multivariate studies found is Miller (1992), "The Effect of Middle School Student/Choral Teacher Interaction and Other Factors on Enrollment Choice of Perspective Singers".

The primary factor under investigation was the influence of prior acquaintance and experience with prospective secondary choral teachers upon student enrollment in middle school choral music. Additional factors examined included student and teacher gender, school setting, middle school vocal teacher, school district, and whether students must choose between band and choir. Subjects were drawn from intact classrooms of middle schools and junior highs in seven counties in Northeast Kansas which met specified criteria. An original student questionnaire was designed to assess

student reasons for vocal music enrollment and was administered to sixth or seventh graders currently enrolled in vocal music. Cooperating vocal teachers of respondents were interviewed to gain information regarding their interaction (i.e. elementary visits, festivals, concert tours, correspondence with potential middle school participants) with prospective singers prior to enrollment. On the basis of this information, canonical and multiple regression analysis were performed to determine the degree of relationship among criterion variables and questionnaire subscale scores characterizing different reasons for choosing to participate in vocal music. The researcher obtained significant correlations among independent and dependent variables: four significant roots were identified, making it possible to characterize subjects groups on the bases of descriptive traits and subscale performance.

Factors including school setting, district, middle school vocal music teacher, student gender, and whether students had to choose between instrumental and vocal music were significant predictors of subscale measures. Of these variables, teacher interaction level was the only independent variable that was a significant predictor for all six subscales. High teacher interaction scores were related to more favorable perception of middle school vocal music teachers and programs.

Chapter Summary

This chapter reviewed the literature regarding factors which may influence student participation in music. Studies that relate enrollment choice to student characteristics, teacher characteristics, and school environment were also discussed. The

decision to participate in choral music at the secondary level is a complex issue and includes numerous factors. It is possible that student attitude, ability, peer influences, perceived costs, teacher and student personality, the way in which students perceive gender roles, and school make-up, schedule, and demographics are variables that affect student participation. Research also suggests that there may be difference by gender and junior high for participation choice.

From a review of literature it is evident that a number of studies have investigated many of these variables independently or in small clusters, however, few have taken a wider scope to evaluate the interdependency of many of these variables. Furthermore, there has yet to be an in-depth analysis of the microcosm of one school system and how these students, teachers, and school characteristics combine to influence student decision making regarding participation in choral music at the junior high level. Additional research which seeks to present a more comprehensive overview of those factors which contribute to participation choice in junior high music programs is needed. Through further analysis of these factors, combined influences may be discovered or previously identified factors re-evaluated. If there is a clearer understanding of the roles these factors take in student participation choice, teachers and schools could have a better understanding of why some students are driven to participate, and of perhaps greater importance, why some are not.

CHAPTER 3

METHODS

As evident in the review of literature, a need has arisen for further investigation into student decision making and participation in middle level choir. The purpose of this study was to develop a predictive model for student participation that would discriminate potential choral participants from other students. The variables used in this study were linked to student choice regarding musical ensemble participation. It was the intent of this study to examine the interaction of variables in the attempt to draw a broader picture of middle level choir participation and to discover why some students choose to participate while others do not.

The design of this study was twofold. In the first phase data were gathered on student choral participants, non-choral music participants, and non-music participants. All eligible sixth grade students of one school district were given three instruments to measure personality, gender roles perception, and other characteristics believed to influence participation. After registration for seventh grade classes (when students had selected their elective courses) the data were analyzed to determine if there were variables that discriminated between those students who chose to participate in choral music, those who chose to participate in non-choral music, and those who did not choose to participate in music. Student responses to the given predictor variables were examined using multiple independent discrimnant function analyses. The first analysis was of predictor variables for the total subject population by group classification, and the second analysis was a comparison of predictor variables of group classification by gender. The

second segment of the analysis examined teacher characteristics and school environment. Analysis was performed through the use of school questionnaires and teacher personality inventories, surveys, interviews, and classroom observation. A series of school-by-school discriminant function analyses were interpreted in light of teacher personality and gender roles, recruiting strategies, school scheduling, and school demographics.

Student Characteristics

The review of literature identified a number of variables that previously have been studied with regard to student participation in music. This study focused on many of those student-centered variables including personality, sex-role and gender perception, academic ability, musical and singing ability, attitude towards singing and music, perceived costs of participation, family musical background, perceived ability and musical self-concept, perceptions of the junior high choir program, peer influences, and miscellaneous non-musical characteristics. Measures were identified or developed that were appropriate for use with sixth grade students.

Personality

Based on previous investigations of student personality as a variable in decision-making and participation, it was difficult to determine how significant a role personality plays. This may be due in part to the isolation of student personality testing from the many other variables which have been thought to influence and guide students to a decision, or because of the lack of consistency in testing materials used. Tools used in personality inquiry have a multitude of descriptors and definitions of the participants.

Results from personality tests are not easily comparable due to the use of differing terms that describe personality characteristics.

In this study, personality was evaluated using the Junior Eysenck Personality Questionnaire (JEPQ). Cutietta and McAllister (1997) administered this questionnaire to music students in a study of band and orchestra students' decisions to participate in instrumental music. It was hoped that by using the same tool the results of this study could be more easily connected to existing research in this area. The JEPQ evaluates subjects in four categories: Extraversion, Neuroticism, Psychoticism, and the Lie scale.

Psychologists have always recognized the importance of describing the major patterns of behavior in human subjects, and they are often in search of the main dimensions of personality. A review of literature by Eysenck (1975) cited strong support for a view that recognizes the existence of two very clearly marked dimensions. These have been named Extraversion-Intraversion (outgoing or shy) and Neuroticism (emotionality or stability-instability).

In 1951, Eysenck hypothesized that a third major dimension could be postulated which was independent of the above-mentioned temperaments. This third dimension of personality was labeled "Psychoticism", and it was argued that just as neurosis is a pathological exaggeration of high degrees of some underlying trait of neuroticism, so psychosis is a pathological exaggeration of high degrees of some underlying trait of psychoticism. The Lie Scale was first introduced into the JEPQ to measure the tendency of some subjects to answer questions untruthfully. Eysenck & Eysneck (1975) says of the lie scale "it is clear that the scale possesses a considerable degree of factorial unity with

individuals having high loadings on this factor, and on no other; however, there are certain difficulties in regarding scores as nothing but indicators of dissimulation"(p. 6). The main difficulty seems to be that in addition to measuring dissimulation, the Lie scale also measures some stable personality factor which may possibly denote some degree of social naivete.

Table 3.1 describes the "typical" high scoring Extrovert–Introvert, Neurotic, and Psychotic personalities as stated by Eysenck and Eysenck (1975, p. 5). These may be regarded as idealized end-points of a continuum which real people may approach to a greater or lesser degree.

Table 3.1
Typical Traits of High Scorer in the Four Areas (Eysenck, 1975)

Extroversion	Introversion
• Sociable, has many friends • Does not like reading or studying by themselves • Craves excitement, acts on the spur of the moment, is impulsive • Is fond of practical jokes • Always read to answer • Generally likes change • Carefree, easy-going, optimistic and likes to laugh • Tends to be aggressive and loses temper easily • Feelings are not always under control, is not always a reasonable person	• Quiet, reserved person • Fond of books rather than people • Reserved and distant except to intimate friends • Tends to plan ahead, distrusts the impulse of the moment • Does not like excitement • Takes matters seriously, likes a well ordered mode of life • Keeps feelings under close control • Seldom behaves aggressively, does not lose temper easily • Is reliable, although somewhat pessimistic • Places great value on ethical standards
Neuroticism	**Psychoticism**
• An anxious, worrying individual • Moody, frequently depressed • Is likely to sleep badly, or suffer from psychosomatic disorders • Overly emotional, reacting too strongly to stimuli • Finds it difficult to return to normal after each emotionally arousing experience • Often reacts in irrational, sometimes ridged ways • Is worrisome, constantly preoccupied with things that may go wrong • Has a strong emotional reaction of anxiety when things do go wrong • When combined with extroversion, an individual is likely to be touchy and restless, to become excitable and even aggressive	• Solitary, not caring for other people • Often troublesome, not fitting in anywhere • May be cruel and inhumane to others and animals • Lacking in feelings of empathy • Can be aggressive, even to loved ones • Liking for odd or unusual things • Disregard for danger • Likes to make fools of others and upset them • Tries to make up for a lack of feeling by indulging in sensation-seeking "arousal jags" • Socialization is a relatively alien concept • Feelings of guilt and sensitivity are strange notions

Children's Sex-role Self-concept Inventory

As evident in the review of literature, gender and students' perception of gender roles may influence a student's desire to participate in choral activities at the middle level. In order to evaluate students' perception of gender and gender roles, students were given

the Children's Sex-Role Self-Concept Inventory (CSSI; Stericker & Kurdek, 1982). This is a modified version of the adult Bem Sex Role Inventory (BSRI; Bem, 1974). This modified version was written for use with children and adolescents.

The CSSI is based on sixty items of the BSRI, forty of which are traits considered more desirable in American society for women or men. The test is divided into three categories of recognition: masculine, feminine, and neutral.

The inventory is modified from the BSRI in two important ways. First, the language was modified into more readily understandable behavioral phrases (instead of using the phrase "defends own beliefs" students are given "stand up for what you think is right"), and secondly, the original seven point response continuum (1=Never or Almost Never to 7= Always or Almost Always) was condensed to a four point response continuum (1=Never, 2= Sometimes, 3= Often, and 4=Always). These modifications were tested on adults and children to insure easy comprehension of the inventory.

The students' answers are then classified into four sex-role self-concept groups by means of a double median split of their Masculine and Feminine scores: (1) Masculine (high Masculine and low Feminine scores), (2) Feminine (low Masculine and high Feminine scores), (3) Androgynous (high Masculine and high Feminine scores), or (4) Undifferentiated (low Masculine and low Feminine scores).

Academic Ability

Scores on the Iowa Test of Basic Skills (ITBS) determined student academic ability. This test was taken in the students' sixth grade year (Level 6) and was

determined to be an accurate measure of their academic ability in comparison with their classmates. The ITBS consists of scored categories in reading comprehension, language (spelling, capitalization, punctuation, and usage), and mathematics. The descriptions below (Table 3.2) are brief summaries of the content and skills measured by the separate tests (Iowa Testing Program, 2001). In addition to these tests, a Practice Page, which consists of six questions covering several test areas, precedes the first test in the Level 6 booklets.

Table 3.2
ITBS Category Description

Category	Description
Reading Comprehension	The tasks in Level 6 include using print, context, and picture cues to identify unfamiliar words; completing sentences that tell about a picture by choosing a word for filling in a blank; and answering multiple-choice questions after reading a brief story. The questions associated with pictures and stories often ask students to make inferences or to generalize about what they have read.
Language	The Language tests of Level 6 measure students' abilities to understand linguistic relationships -- how language is used to express ideas. These are developmental language skills that include aural language usage and word classification tasks. Questions are presented orally by the teacher, and students choose from a set of pictorial responses.
Mathematics	The Mathematics test at Level 6 consists of questions measuring beginning math concepts, problem solving, and math operations. Areas covered include numeration, number systems, geometry, measurement, and the use of addition and subtraction in word problems. Questions are presented orally, and response options are pictures or numerals.

Musical Ability

The subjects' elementary general music teachers judged their students' musical and vocal abilities. Teachers were asked to complete a researcher-devised Ability Rating Scale (ARS) for each of their students. The ARS asks teachers to rate each student's ability on two five-point Likert scales, one judging musical ability and the other judging singing ability.

1 = Low ability (Student does not display musical or singing ability)

2 = Below Average Ability (Student displays some musical or singing ability)

3 = Average Ability (Student displays moderate musical or singing ability)

4 =Above Average Ability (Student displays above average musical or singing ability)

5 = High Ability (Student displays exceptional musical or singing ability)

Students were asked about their perceived ability by using a researcher-developed questionnaire, described below.

Student Musical Attitudes, Ability, and Background

There are many student-specific characteristics that were not covered by the use of the JEPQR, CSSI, and ARS. These characteristics include: (1) attitude towards singing and music, (2) perceived ability and musical self-concept, (3) perceived costs of participation, (4) family musical background, (5) perceptions of the junior high choir program, and (6) peer influences.

A thorough review of literature failed to identify an existing instrument which incorporated all the variables of interest for this study, however, Miller (1992) created the Vocal Music Student Participation Questionnaire of which several of the categories of interest were included. The VMSPQ served as a model for the researcher-constructed Student Music Questionnaire (SMQ).

Construction of the Student Music Questionnaire

Elements of this questionnaire were based upon several variables used in the Vocal Music Student Participation Questionnaire (VMSPQ; Miller, 1992). Miller created the VMSPQ to begin to understand why junior high choral music students had made the decision to participate in choral music classes. Her questionnaire included the categories of: (1) importance of elementary music experience, (2) middle school teacher and program traits, (3) social motivation, (4) musical self-concept and parental influence, (5) love for music, and (6) indecisive non-musical attributes. Students were surveyed for descriptors of why they had chosen to participate, and from these descriptors a questionnaire related to the above-mentioned categories was devised. The questionnaire used a five point Likert scale which asked students if they strongly disagreed, disagreed, were undecided, agreed, or strongly agreed with the given statements.

The VMSPQ was selected as a model due to the reliability and validity of its construct and because questions were originally devised from students' narrative responses as to why they had chosen to participate. Gates (1991) suggests that researchers in this field remain open to unanticipated answers and that they do not give students preconceived ideas of what could be their main reasons for participation.

The VMSPQ was adapted for this study in two important ways. As stated previously, the VMSPQ was intended for administration to students who were currently enrolled in a junior high choral music class. It asked for students to explain why they had chosen to enroll in that class. Many questions derived from the VMSPQ were reworded for students who had yet to decide if they wanted to participate in choral or school music.

Secondly, the purpose of this study was to examine a greater variety of variables than was intended with the VMSPQ. The additional categories of: (1) attitude towards singing and music, (2) perceived costs of participation, and (3) family musical background, were added to the SMQ, and the categories of (4) perceived ability and musical self-concept, (5) perceptions of the junior high choir program (program traits), (6) peer influences (social motivation), and (7) miscellaneous non-musical characteristics were redefined to allow for differences in research approach and findings from the review of literature.

A forty-two item questionnaire was devised, with six statements from each of the above seven categories. The statements were given in random order, with no two statements from the same category residing next to one another. As in the VMSPQ a five point Likert scale was used, and students were asked to circle whether they 1 = Strongly Disagreed, 2 = Disagreed, 3 = were Undecided, 4 = Agreed, or 5 = Strongly Agreed with the given statements.

Pilot of the Student Music Questionnaire

The subjects for this pilot administration consisted of fifty-two sixth grade students in two elementary general music classes from one suburban elementary school. Students were led by the researcher in completion of the JSPQ, CSSI, and SMQ to insure testing procedures were secure and that students in this age group easily understood the instruments. The testing was completed over a two-week period during students' regularly scheduled music classes. Their music class schedule consisted of 35-minute sessions, meeting every third school day. Each session, the students were administered

one of the three questionnaires beginning with the JEPQ, followed by the CSSI, and concluding with the SMQ. The students were able to complete each of the questionnaires within the 35-minute time period. Both the JEPQ and CSSI are standardized tests and needed no further testing for reliability and validity. The testing procedure for the SMQ and reliability and validity testing are described below.

The SMQ pilot (Appendix D) was administered during the third session of the pilot study. A sample statement regarding elementary instrumental music was given to insure students understood directions. The sample statement was read aloud followed by the answering of student questions. Then students were asked to complete the questionnaire independently.

Reliability of the Student Music Questionnaire

Subject responses for the pilot test of the SMQ were recorded on computer and were analyzed using the Statistical Package for the Social Sciences, Version 10.0. Internal consistency of the questionnaire instrument was examined using Cronbach's coefficient alpha (alpha = .95). The obtained reliability coefficient was considered adequate for inclusion of the SMQ in the final study. Both internal sub-scale item correlations (see table 3.3) and item-to-total correlations (see table 3.4) were reviewed.

Examination of the sub-scale item correlation revealed that the category of Miscellaneous (alpha = .55) did not meet the set criterion level (alpha > .70). It was determined that this was due to the definition of the Miscellaneous category. The Miscellaneous category was included in the questionnaire to serve as a means for

possible explanation of participation variables that were unrelated to each other, such as: meeting students from other schools, wanting to see if junior high choir is different than elementary school choir, or wanting to be in choir to get out of other classes for field trips. The decision was made to retain this category for the final study.

Table 3.3
Reliability of the SMQ

Item	Alpha	Mean	Minimum	Maximum	Range	Variance
Music Attitude	.84	3.18	2.88	3.48	.60	.05
Perception of Junior high	.83	2.98	2.79	3.19	.40	.02
Perceived Costs	.83	3.47	3.14	3.92	.79	.08
Peer Influence	.82	2.65	2.19	3.31	1.11	.16
Music Self-concept	.80	2.56	2.35	3.38	1.04	.13
Family Music Background	.75	3.41	2.58	4.06	1.48	.39
Miscellaneous	.55*	2.95	2.56	3.19	.63	.05
Total Item Correlation	.95	3.07	2.19	4.06	1.87	.18

*below .70 criterion level

Item-to-Total Correlation

Examination of the item-to-total correlation revealed two statements that did not meet the set criterion level (alpha < .30). Statement 10, "I would join choir to get out of school for field trips" (alpha = .07), was left in the final study as it remains part of the miscellaneous category in which internal correlation was not significant. Statement 29, from the sub-scale Peer Influence, "I do whatever my friends like to do" (alpha = .23), was also retained in the final study, as it was just below the set criterion level and had a high standard deviation (SD = 1.23). The item-to-total correlation coefficients are listed in table 3.4.

Table 3.4
Item-to-Total Correlation Coefficient

Item Number	Mean	SD	Item-Total Correlation	Item Number	Mean	SD	Item-Total Correlation
1.	2.58	1.29	.55	22.	2.35	1.19	.62
2.	3.81	1.03	.47	23.	2.77	1.23	.69
3.	3.08	1.34	.55	24.	3.38	1.37	.55
4.	2.94	1.36	.61	25.	2.19	1.36	.74
5.	4.06	1.08	.39	26.	2.62	1.25	.77
6.	4.02	1.26	.42	27.	2.50	1.23	.65
7.	3.11	1.04	.41	28.	2.92	1.20	.76
8.	2.85	1.39	.53	29.	2.38	1.23	.23*
9.	3.19	.84	.44	30.	3.31	1.18	.61
10.	2.56	1.51	.07*	31.	2.90	.96	.48
11.	3.04	.79	.46	32.	3.04	.74	.53
12.	2.94	.80	.30	33.	3.02	.80	.52
13.	3.02	1.42	.57	34.	3.19	.72	.39
14.	3.48	1.36	.58	35.	2.90	1.36	.78
15.	3.17	1.23	.55	36.	2.79	1.19	.69
16.	3.17	1.26	.50	37.	3.29	1.16	.51
17.	3.37	1.33	.66	38.	3.37	1.14	.53
18.	2.88	1.35	.70	39.	3.92	1.05	.59
19.	2.71	1.50	.54	40.	3.67	1.26	.41
20.	3.11	.76	.42	41.	3.13	.93	.50
21.	2.81	1.14	.58	42.	3.46	1.24	.71

*below .30 criterion level

In review of the inter sub-scale covariance, additional statements which held a squared multiple correlation of less than .30 were reevaluated. Statement 10 ($r^2 = .17$), "I believe the junior high choir teacher is exciting", and statement 29 ($r^2 = .23$), "My parents are proud of me when I sing or play an instrument", were left unchanged for the final study due to their high reliability in the VMSPQ (Miller, 1992).

School and Teacher Characteristics

As evident in the review of literature it is important for researchers to investigate the impact teacher characteristics and school environment may have on student participation choices. This study examined many school characteristics and teacher

related variables including: (1) school demographics; (2) school schedule and elective classes; (3) choral program history; (4) teacher personality; (5) teacher sex-role gender perception; (6) teacher experience; (7) extra-curricular choral activities; and (8) communication between elementary and junior high music teachers.

School Characteristics

With American elementary and junior high schools offering a variety of courses in various configurations it is imperative when examining student choice and participation to take school environment into account. Research has shown school size (Barker & Grump, 1964; Holland & Andre, 1987; Lindsay, 1982), socioeconomic status, racial diversity, and academic test scores (Colley, 1991) can and do impact the academic and elective courses offered.

Administrators or counselors at each of the schools were asked for specific information regarding demographics such as: enrollment, school schedule, socioeconomic status (the number of students on free or reduced lunches), gender make-up, cultural diversity, and academic test scores on the Iowa Test of Basic Skills (ITBS).

Teacher Characteristics

Teacher characteristics were examined to help interpret data on student choice. In order to gain insight into student participation it was determined that the exploration of teacher characteristics could be of value in understanding why some students chose to participate in choral music while others did not.

Personality

Research has shown that teacher personality may be an important aspect of a student's decision whether or not to become or remain involved in a music program (Clements, 2000; Gerber, 1989; Hoffer, 1983; Miller, 1988; Veaco & Brandon, 1986). Teacher personality in this study was examined using the Eysenck Personality Questionnaire (EPQ; Eysenck & Eysenck, 1975). This measure is the adult version of the Junior Eysenck Personality Questionnaire (JEPQ). Due to the similarity of the measures used, student and teacher results were easily comparable.

Classroom Environment

Each junior high seventh grade choir was observed a total of three times to gather information regarding: (1) student and teacher interaction, (2) delivery of music instruction, (3) student musical production techniques, and (4) the current students' feelings regarding the choral program. These variables were used to help interpret the findings and are presented descriptively in the results and conclusion.

Observations of the junior high choral music classrooms were done prior to any specific sixth grade recruitment activities. This investigation was a deliberate look at the junior high choral programs as sixth grade students viewed them. It needs to be specified that the focus of these observations was on current teaching practices and students (prior to the enrollment of sixth grade students), to gather information about the programs that sixth grade students saw during recruitment activities. Observations were done

narratively, with the focus on the instructors teaching methods, teacher-to-student interactions, and structure of lesson and course content.

Other Teacher Characteristics

Both elementary and junior high teachers were given a Music Teacher Questionnaire (MTQ) asking them to identify their gender, ethnicity, employment history (including years taught, years of teaching choral music, and years taught at current location), perceptions of their junior high choral program, and strategies used in collaboration with the teacher(s) at their corresponding junior high/elementary school(s) (including shared concerts, joint festivals, collaborative or team teaching, and frequency of correspondence). They were also asked to describe their general/choral music program in terms of class scheduling, class meetings per week, minutes spent in music per week, and extra musical activities available to students. In addition, the junior high school teachers were asked to describe the overall schedule of their school day, all elective courses available to incoming seventh grade students, the number of electives students of all grade levels may take, whether students must choose between choir and other music courses, and the occurrence of any singleton courses (courses offered only one period a day) that meet at the same time as any of the choir classes.

Recruitment and Extra-curricular Activities

Junior high teachers were asked to report their recruiting strategies via a formal structured interview with the researcher. Items discussed included visits and recruitment

presentations at elementary schools, performances at and/or tours to elementary schools, correspondence and communication with elementary students and their families, correspondence and communication with school counselors and administration, and recruitment strategies with current students.

Prior research has shown that students are often drawn to choral music programs because of the extra-curricular activities involved such as field trips, evening concerts, and special events like choral festivals (Miller, 1992). Junior high teachers were additionally asked to explain their usual schedule of extra-curricular events.

Procedures for Final Study

Sample

This study consisted of all sixth grade students in one suburban school district in Western Washington. This school district was one of the fastest growing communities in Washington State. The district consisted of eight elementary schools, three junior high schools, and one high school. This district was considered both rural and suburban. It had a 3% minority rate and two schools in which over 53% of the students were enrolled in the free or reduced lunch program. Schools in this district had been recognized locally and nationally as Blue Ribbon Schools of Excellence for outstanding academic programs and educators in the district have won more Excellence in Education awards than any other district in the state of Washington.

Grade levels in this district were configured kindergarten through sixth in elementary school, and seventh through ninth in junior high school. Each elementary

school had a general music component during the school day in which all sixth grade students participated. Each elementary school offered student the opportunity to participate in band during the 5th and 6th grade and choir during the 5th and 6th grades (one elementary school allowed students to begin choir in 4th grade). Elementary band and choir schedules differed by elementary school, although it must be noted that the band programs met regularly twice a week as a pull out program from students' regular non-music class. The choir programs met less regularly, which some schools only offering a half-year choir program. Often the elementary choir programs met during recess or before or after school. All junior high schools had choral opportunities among other music and non-music courses available for incoming seventh grade students. The district employed 23 full time (FTE=1.0) music instructors.

Through verbal and written consent from the district's superintendent, director of curriculum, and district music supervisor gave to the researcher permission to conduct this study. A meeting was held with all elementary school principals to discuss the study and the best way to receive permission from the parents of the elementary school students for this study. Due to the district's support of this project, a combination of closed and open assent forms were used (See Appendices A, B, and C). Principals contacted the researcher with names of students who were to receive the closed assent form. One principal requested that all students at that school receive the closed assent form. Parents of sixth grade students were sent either the closed or open assent form to their home address. Parents who received the closed assent form were asked to send back the signed form that allowed the student to participate, directly to the researcher or to their child's

elementary music teacher. Participation totals are listed in Table 3.5. One of the eight elementary schools in this district had too few students to make participation in the study meaningful and were excluded from the study. The low permission rate for this building was most likely due to the use of closed assent forms for all students.

Table 3.5
Student Participation

School Identification	n per School	Able to Participate	Students Who Completed Study	Percentage of Participation
A	83	82	61	73 %
B	108	105	85	79 %
C	114	81	72	63 %
D	91	90	73	80 %
E	67	67	56	84 %
F	88	86	70	80 %
G	109	108	87	80 %
H	73	22*	0	0%
Totals:	733	641	504	69 %

*Below Criterion < 35% of n

Recruitment Verses Retention

Recruitment was defined in this study as the involvement of new students to a music program and retention was defined as the continuance of student participation in a music ensemble from elementary school to junior high school. Subjects in this study who chose to participate in music at the junior high school consisted of both new recruits and retained music students.

All subjects in this study had the opportunity to participate in band or choir during their fifth and sixth grade years. Schedules for both band and choir differed by elementary school. In general, sixth grade band met either before school or during the school day as a pull-out program from their regular non-music classroom. Most choral

programs met before the start of the school day or during students' recess. Overall the elementary instrumental music rehearsals were more structured and consistently held throughout the entire school year. Students were able to participate in both musical ensembles at their school if they desired to do so.

Table 3.6 shows the number of subjects who participated in instrumental and choral music programs at the sixth-grade level by elementary school.

Table 3.6
Band and Choir Participation in Sixth Grade

School	6th Grade Band	% of 6th Grade Subjects	6th Grade Choir	% of 6th Grade Subjects	Students Participating in Both	Percent of Total Participation
A	12	20%	15	25%	3	39 %
B	15	18%	23	27%	5	39 %
C	9	12%	38	53%	7	40 %
D	11	15%	22	30%	1	44 %
E	5	9%	10	18%	0	27 %
F	8	11%	16	23%	4	20 %
G	15	17%	8	9%	2	24 %
Totals:	75	15%	132	26%	22	33%

Data Collection

All data were collected from the seven participating schools during a three-month period prior to seventh grade registration. All measurements were administered to students by the researcher during their regularly scheduled music classes. In order to accommodate the elementary music teachers' classroom and performance schedules, some classes from within the same elementary music program were combined during data collection. Procedures during testing were similar in structure to the pilot testing. In the attempt to insure that all students with parental assent were able to participate

regardless of reading level, cognitive abilities, or motor skills, a limited number of students were read the questions aloud by the researcher with the help of the in-school para-professional instructors with whom these students were used to working.

All students that participated were able to complete each of the measurements within the designated time frames of their normally scheduled music classes. As the testing was given in thirty-minute increments over a number of days, there were some students who were unable to complete all three measurements due to student absence. Students who did not complete all three measurements were not included in the final analysis.

Junior High School Registration

All three of the junior high schools in this study had the same structure and daily time schedule. As previously mentioned, each choral program at the three junior high schools was similar in course offerings. Each junior high offered 4 choir classes, a 7th grade girls beginning choir, an intermediate girls choir for 8th and 9th grade girls, a boys' choir for 7th-9th grade boys, and an advanced girls ensemble, which was a select group of 8th and 9th grade girls. Each choral class met daily for approximately 50 minutes and was considered a yearlong class.

Students entering 7th grade were offered a variety of courses. Each student was required to take mathematics, English, science, social science, and physical education. In some schools the English and social science was combined with either an alternating daily schedule or combined classes with two instructors meeting for an extended period

of time daily. In addition to the required courses, 7th grade students were able to select an elective course. Elective courses were mainly a semester long, with the exception of choir and instrumental classes. A semester long general music course was offered at Junior High B, but it failed to attract any students during registration.

A registration procedure for incoming 7th grade students was similar for each junior high school. Junior high councilors visited each elementary school and gave a short presentation to 6th grade students on how to register for classes and which classes were required and which were elective courses. Each 6th grade student was able to select three elective courses in priority of their preference for participation. Students were then given registration materials to take home and discuss with their parents. A parent signature was required on registration materials for all three schools. Registration materials were then collected by the 6th grade teachers and returned to the junior high councilors.

The junior high councilors entered all student courses into computer program to calculate student schedules. Scheduling priority was given to required classes and then elective courses based on students' preference. In this study registration was calculated by student preference, meaning their number one elective choice, and not by school generated schedule.

Each of the junior high school schedules allowed for the most flexibility of elective course scheduling at the 7th grade level. Most 7th grade elective courses were offered during specific time blocks during the day, with the exception of boys' choir and upper level instrumental classes, both of which were open to various grade levels. These

courses were often scheduled during different time blocks to accommodate the schedules of the junior high music teachers, all of whom taught a 7^{th} grade beginning level music class, and the schedules of the majority of student (7^{th}-9^{th} grade) interested in taking the course.

Research Questions

(1) Is there a set of variables that best predict choral or music participation in middle level education?

(2) Do predictor variables for choral or music participants in middle level education vary by gender?

(3) Do predictor variables of choral or music participants in the middle level vary by school?

Analysis

The purpose of this study was to develop a predictive model for student participation that might discriminate potential choral participants from other students. In order to determine which variables have the greatest impact on student participation, the data were analyzed in three stages. The first stage of analysis was for the total subject population by group membership, the second analysis was by group membership and gender, and the third analysis was by group membership and junior high school.

Analysis - Stages 1 and 2

Data were analyzed using direct discriminate function analysis (Fisher, 1936). The goal of discriminate function analysis is to predict group membership from a set of predictors to determine which variables discriminate between two or more naturally occurring groups. Discriminate function analysis seeks to develop a rule, known as a discriminate function, from a set of independent or predictor variables that can be used to discriminate between the groups. The rule can then be subsequently used to assign new individuals of uncertain group membership to the most appropriate group. MANOVA was not considered for analysis as it attempts to ask whether group membership is associated with reliable mean differences on a combination of dependent variables, whereas discriminate function analysis attempts to determine, in univariate terms, predictability of group membership based upon the independent variables as the predictors.

Within discriminate analysis the researcher must decide whether to use factor loading (sequential or hierarchical analysis) or direct analysis. Direct analysis (non-specific factor loading) was selected, as the review of literature failed to identify specific variables that have shown to predict group membership with more accuracy than other variables.

Each discriminate function analysis contained two functions. In multiple discriminate function analysis the first function provides the best separation between groups; and the second function, orthogonal to the first, best separates groups on the basis of associations not used in the first discriminate function analysis.

The variables that were included in both discriminate function analyses were a compilation of the three measurements given to the sixth grade students. These variables included: (1) personality (JEPQ), (2) sex-role and gender perception (CSSI), (3) academic ability (ITBS scores), (4) musical and singing ability (ARS), (5) attitude towards singing and music (SMQ), (6) perceived costs of participation (SMQ), (7) family musical background (SMQ), (8) perceived ability and musical self-concept (SMQ), (9) perceptions of the junior high choir program (SMQ), (10) peer influences (SMQ), and (11) miscellaneous non-musical characteristics (SMQ).

Analysis – Stage 3

The third stage of the analysis focused on teacher and school environment as variables that may influence student decision-making. The third stage of analysis included descriptive data on school demographics, teacher experience and education, teacher inventory scores, recruitment activities, and classroom observations and three independent discriminant function analyses by junior high school. These analyses were done to seek additional predictors for students' participation choices that might be related to teacher characteristics and school environment.

Summary

Through the use of pre-existing measurements of personality and gender-role perception, researcher-devised questionnaires, structured interviews, and observations, this study investigated variables of student choral participation in middle level education.

If researchers are able to identify why students choose or do not choose to participate in choral music during these important years, teachers may have a better understanding of how to attract new students to their programs. It is the overarching goal of this project to find predictors of choral music participation which will lead to new ways in which to expand choral music at the middle level and the creation of an environment that is inviting to a wider variety of students.

CHAPTER 4

RESULTS

The research questions for this study were: (1) Is there a set of variables that best predict choral or music participation in middle level education? (2) Do predictor variables for choral or music participants in middle level education vary by gender? and (3) Do predictor variables of choral or music participants in the middle level vary by school?

In order to best address the research questions, several analyses were performed. For questions one and two, independent direct discriminant function analyses were performed. To answer question one regarding group differences, the entire sample was analyzed. In question two, independent analyses were run: one on female participants and the other on male participants. For question three, the junior high schools and junior high teachers were analyzed descriptively, and a third set of direct discriminant function analyses were performed by junior high school. For all direct discriminant function analyses, an alpha level of .01 was designated as the probability level for function significance testing.

This chapter reports the reliability of the Student Music Questionnaire, the results of the three research questions tested through direct discriminant function analysis, and descriptive statistics of the sample. All analyses were performed using the Statistical Package for the Social Sciences (Version 10.1).

Reliability of the Student Music Questionnaire

Internal consistency of the final questionnaire instrument (Appendix E) was examined using Cronbach's coefficient alpha. The obtained reliability coefficient (alpha =. 94) was considered adequate for inclusion in the discriminant function analysis. Both internal sub-scale item correlations (see Table 4.1) and item to total correlations (see Table 4.2) were reviewed. Examination of the sub-scale correlation revealed that the categories Miscellaneous (p = .62) and Family Musical Background (p = .62) did not meet the set criterion level (p >. 70). The Miscellaneous category was withheld from the final analysis, as there was no intended correlation between variables in the category. The Miscellaneous category was included in the MSQ to gather subject-descriptive data which could be helpful in the analysis of the results. After further investigation, the category Family Musical Background was retained and used in the analysis. The low correlation in this category was due to one specific question, "Would your parents be proud of you if you joined choir". It was determined that many instrumental students answered this question negatively, while they answered all other questions in this category positively. In order to best understand the phenomena of family impact on students' musical decision making, the category of Family Musical Background was retained, however, caution should be used when interpreting the results of this category.

Table 4.1
Sub-scale to Item Correlations for the Student Music Questionnaire

Item	Alpha	Mean	Minimum	Maximum	Range	Variance
Music Attitude	.88	2.91	2.59	3.25	.67	.05
Music Self-concept	.87	2.60	2.18	2.93	.74	.09
Perception of Junior High	.86	3.10	2.77	3.56	.79	.12
Perceived Costs	.78	3.44	3.07	3.64	.57	.06
Peer Influence	.75	2.85	2.40	3.47	1.07	.17
Family Music Background	.62*	3.22	2.22	3.97	1.75	.52
Miscellaneous	.62*	3.00	2.62	3.50	1.33	.11
Total Item Correlation	.94	3.02	2.59	3.97	1.38	.22

* Below .70 criterion level

Examination of the item to total correlation revealed that five of the forty-two questions did not meet the .30 criterion level. Statement 40, "My family likes to listen to a lot of music at home" and statement 5, "I believe my parents would be proud of me if I joined choir", come from the category Family Musical Background. Statement 12, "I want to see if the junior high choir is different than the elementary school choir" and statement 27, "I would join choir to get out of classes for field trips", come from the Miscellaneous category. Statement 5, " I do whatever my friends like to do", comes from the category of Peer Influence. Although these five statements independently do not meet the set criterion level, their categories as described above do, and all statements (with the exception of those from the Miscellaneous category) were included in the analysis.

Table 4.2
Item to Total Correlation Coefficient

Item Number	Mean	SD	Item-Total Correlation	Item Number	Mean	SD	Item-Total Correlation
1.	2.79	1.41	.74	22.	2.18	1.27	.70
2.	3.56	1.09	.51	23.	3.00	1.19	.60
3.	2.50	1.37	.51	24.	3.17	1.06	.64
4.	2.40	1.44	.57	25.	2.92	1.37	.64
5.	3.37	2.28	.23*	26.	2.22	1.26	.44
6.	2.40	1.44	.57	27.	2.73	1.55	.08*
7.	3.34	1.32	.47	28.	3.64	1.19	.67
8.	3.25	1.41	.78	29.	3.62	1.21	.45
9.	2.61	1.20	.61	30.	3.04	1.11	.51
10.	2.83	1.10	.69	31.	2.91	1.32	.71
11.	2.75	1.13	.63	32.	3.07	1.21	.56
12.	2.84	1.34	.21*	33.	2.77	1.42	.68
13.	3.64	1.16	.42	34.	2.40	1.19	.13*
14.	3.71	1.30	..42	35.	3.4	1.33	.65
15.	3.10	1.23	.56	36.	3.47	1.16	.54
16.	2.93	1.39	.78	37.	3.33	1.28	.64
17.	2.45	1.22	.55	38.	2.83	1.29	.67
18.	3.10	1.23	.56	39.	2.61	1.01	.45
19.	3.63	2.26	.38	40.	3.97	1.14	.29*
20.	2.42	1.32	.45	41.	2.59	1.39	.54
21.	2.42	1.32	.45	42.	2.93	1.43	.67

*below .30 criterion level

Descriptive Statistics of the Sample

In order to adequately represent the subgroups under investigation, 552 sixth grade volunteers from all seven elementary schools within one school district served as subjects. The subjects represented 69% of the sixth grade population for the entire school district. Subjects with missing data (n= 43) or those who did not register for junior high within the given school district (n=5) were withdrawn from the analysis, resulting in a total of 504 subjects studied (N=504). Missing data appeared to be randomly scattered throughout groups and predictor variables.

The number of students who registered for choir, non-choral music classes, and no music classes is listed by gender in Table 4.3. All three junior high schools offered a

general music course as an elective, but no students selected one of these courses as their first choice elective. Students who registered to participate in choral activities accounted for 13%, students who registered for non-choral music courses (band) accounted for 12%, and those who did not choose to register for a music course accounted for 75% percent of the total subject population used in this study.

Table 4.3
Membership by Gender

Classification Group	Gender	Number of Participants	Percent of Group	Percent of Total N
Choral Participants				
	Male	10	15%	2%
	Female	56	85%	11%
	Total	66	100%	13%
Non-Choral Music Participants				
	Male	37	61%	7%
	Female	24	39%	5%
	Total	61	100%	12%
No Music Participation				
	Male	195	52%	39%
	Female	182	48%	36%
	Total	377	100%	75%
	Total N	504		100%

As mentioned before, the elementary students had the option of participating in band and choir classes in sixth grade. Table 4.4 and 4.5 show the number of recruited subjects (those new to a performance based class) and the number of retained students in their respective music elective at the junior high level.

Table 4.4
Recruitment Verses Retention of Junior High Schools Band Students

Junior High School	Band				
	Elementary Students	Students Retained	% Retained	Students Recruited	% Recruited
A	33	29	88%	3	9%
B	22	16	73%	1	6%
C	20	12	60%	0	0%
Totals:	75	57	76%	4	5%

Table 4.5
Recruitment Verses Retention of Junior High Schools Choir Students

Junior High School	Choir				
	Elementary Students	Students Retained	% Retained	Students Recruited	% Recruited
A	33	16	48%	3	16%
B	64	14	22%	2	13%
C	58	22	38%	9	29%
Totals:	155	52	34%	14	21%

Data on recruitment shows that 76% of band students were retained from the elementary music programs compared to the 34% of choir students retained from the elementary programs. The junior high choir programs were able to recruit 16% more students than the junior high band programs. 21% of the junior high choir programs consisted of students who had not participated in elementary school.

Dependent and Independent Variables

For this study the dependent variables were based on student's first choice of participation at the junior high level. The dependent variables were: (1) Choral

Participation; (2) Non-choral Music Participation; and (3) Non-music Participation. The independent variables are listed in Table 4.6.

Table 4.6
Independent Variables

Category		Independent Variable	Measurement Used for Attainment
Personality	1	Psychoticism	Junior Eysenck Personality Questionnaire
	2	Extroversion	Junior Eysenck Personality Questionnaire
	3	Neuroticism	Junior Eysenck Personality Questionnaire
	4	Lie Scale	Junior Eysenck Personality Questionnaire
Academic Ability	5	Reading Skills	Iowa Test of Basic Skills (percentile ranking)
	6	Language Skills	Iowa Test of Basic Skills (percentile ranking)
	7	Math Skills	Iowa Test of Basic Skills (percentile ranking)
Music and Vocal Ability	8	Musical Ability	Student Ability Rating Scale
	9	Vocal/Singing Ability	Student Ability Rating Scale
Student Music Categories	10	Family Music Background	Student Music Questionnaire
	11	Attitude Towards Music	Student Music Questionnaire
	12	Musical Self-concept	Student Music Questionnaire
	13	Peer Influence	Student Music Questionnaire
	14	Perceived Costs of Participation	Student Music Questionnaire
	15	Perception of Junior High Music	Student Music Questionnaire
Sex-Role	16	Sex-role Masculine Score	Children Sex-role Self Concept Inventory
	17	Sex-Role Feminine Score	Children Sex-role Self Concept Inventory

The primary goal of this study was to determine the dimension or dimensions along which groups differ, so that classification functions could be found that would predict group membership. In order to determine along how many dimensions the groups differ reliably, the independent variables were analyzed by participation choice into three main dependent variables: Choral Participation, Non-choral Music Participation, and No Music Participation. Based on the review of literature, it was also determined that gender might play an important role in participation choice. An

independent discriminant function analysis was run on student choice by gender. In the attempt to analyze any school by school difference in participation choice, a third independent discriminant function analysis was run on student choice by junior high school. Each of the three independent analyses resulted in two discriminant functions.

Prior to analysis, the subjects and independent variables were examined. None of the subjects analyzed (as described in Table 4.6) were considered to be multivariate outliers, as the study represented an entire population[1], and there was no random sampling for subjects. For all cases (66 choral participants, 61 non-choral music participants, and 377 non-music participants), evaluation of the assumptions of linearity, normality, multicollinearity or singularity, and homogeneity of variance-covariance matrices, revealed no threat to multivariate analysis.

Discriminant Function Analysis of Total Participation

Two discriminant functions were calculated for the entire sample, with a combined $\chi^2(34) = 131.55$, $p < .01$. After removal of the first function, there was still a strong associate between groups and predictors, $\chi^2(16) = 33.64$, $p < .01$. The two discriminant functions accounted for 76% and 24%, respectively, of the between-group variability. The means and standard deviations for the independent variables by group are listed in Table 4.7.

[1] The population for this study was the elementary students of one school district. The 6th grade subjects in this study were given equal opportunity to participate.

Table 4.7
Independent Variable Means and Standard Deviations by Group Totals

	Choral Participant		Non-choral Music Participant		Non-participant		Total	
Independent Variable	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Psychoticism	2.97	3.43	3.20	3.00	3.58	3.01	3.45	3.07
Extroversion	18.35	4.45	18.90	4.52	18.31	3.85	18.39	4.02
Neuroticism	10.56	5.66	10.30	5.46	9.48	4.91	9.72	5.09
Lie Scale	10.00	4.69	9.46	4.06	8.90	4.36	9.12	4.38
Reading Skills	61.59	21.80	60.82	25.17	55.26	24.10	56.76	24.4
Language Skills	60.30	22.34	66.08	23.53	55.30	25.85	57.26	25.37
Math Skills	63.50	21.99	68.11	23.07	56.44	24.58	58.78	24.40
Musical Ability	3.92	1.00	3.90	1.04	3.47	.94	3.59	.98
Vocal/Singing Ability	3.89	.91	3.79	1.02	3.26	.98	3.40	1.00
Family Music Background	3.70	.81	3.44	.81	3.10	.86	3.22	.87
Attitude Towards Music	3.78	.96	2.98	.97	2.77	1.07	2.93	1.09
Musical Self-concept	3.46	.97	2.76	.89	2.42	.96	2.59	1.02
Peer Influence	3.45	.80	2.80	.69	2.73	.80	2.83	.82
Perceived Costs of Participation	3.98	.79	3.59	.84	3.29	.93	3.42	.94
Perception of Junior High Music	3.69	.85	3.01	.87	3.00	.87	3.09	.90
Sex-role Masculine Score	2.94	.36	2.99	.38	2.88	.39	2.90	.39
Sex-Role Feminine Score	2.88	.38	2.73	.41	2.62	.40	2.67	.41

As shown in Figure 1 and Table 4.8, the first discriminant function maximally separates music participants, both choral and non-choral, from non-music participants. The second discriminant function separates non-choral music participants (band) from choral and non-music participants. Non-participants resided in the negative quadrant on both functions.

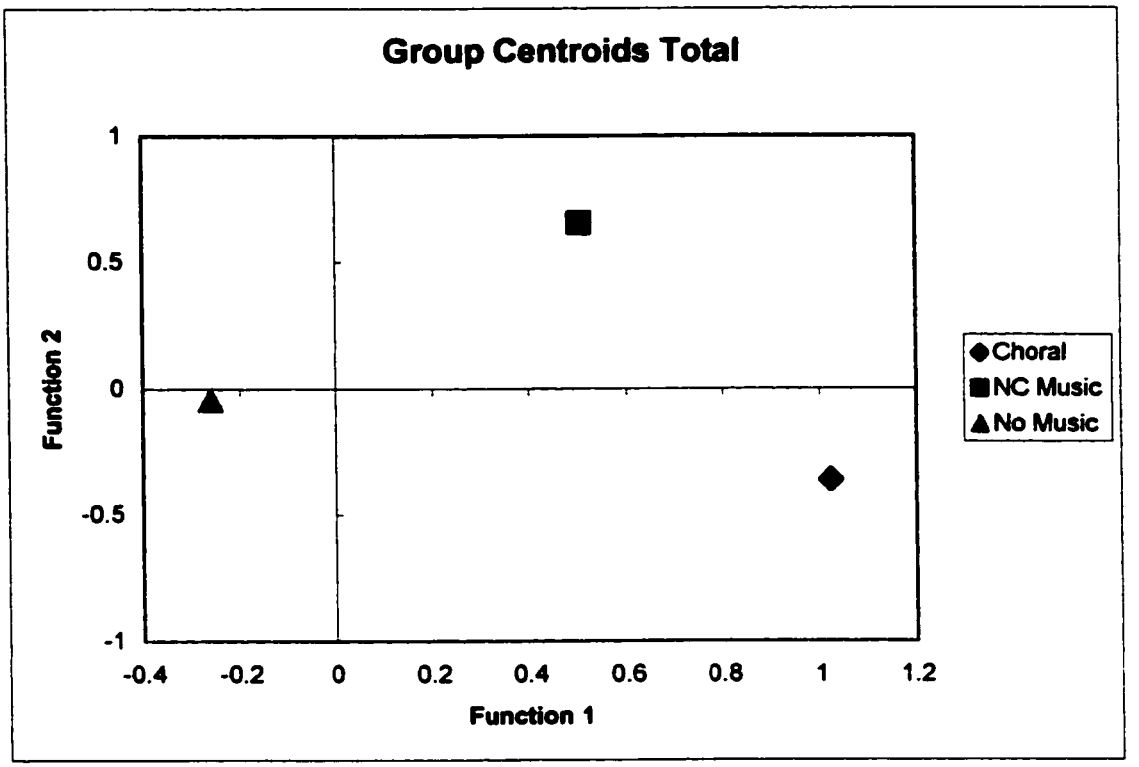

Figure 1
Centroids for Total Population for Function 1 and 2

Table 4.8
Functions at Group Centroids

Enrollment Choice	Function	
	1	2
Choral Participant	1.022	-.361
Music Participant –NC	.505	.654
Non-Participant	-.261	-4.270E-02

The structure matrix of correlations between predictors and discriminant functions, as seen in Table 4.9, suggests that the best predictors for distinguishing between Music Participants (Choral and Non-Choral) and Non-participants are musical self-concept, attitude towards music, peer influence, perceived costs, high vocal ability as rated by their music teacher, family musical background, higher than average feminine

self-perception, and high musical ability as rated by the music teacher. The second function discriminated between Non-choral Music Participants and the other two groups, with Non-choral Music Participants having a lower perception of the junior high choir program and high test scores in language and math.

Table 4.9
Structure Matrix for Discriminant Function Analysis of Total

Predictor	Function	
	1	2
Musical Self-concept	.776*•	-.330
Attitude Towards Music	.649*•	-.419
Peer Influence	.583*•	-.511
Perceived Costs	.560*•	-.144
Vocal Ability	.551*•	.173
Family Musical Background	.550*•	-.025
CSSI Feminine Score	.473*•	-.139
Music Ability	.412*•	.187
Reading Level	.227*	.084
Lie Scale	.189*	-.026
Neuroticism	.175*	.038
Psychoticism	-.157*	-.007
Perceptions of Junior High	.487	-.525*•
Language Level	.242	.350*•
Math Level	.315	.350*•
CSSI Masculine Score	.173	.226*
Extroversion	.047	.160*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
*Largest absolute correlation between each variable and any discriminant function
•significant at the $r > .33$ level

The means and standard deviations for significant predictors for the first function (Table 4.10) shows commonalties between the scores of both choral and non-choral music participants. These commonalties include a greater musical self-concept, more positive attitude towards music, perceived lower costs of participation, greater ability, stronger family musical background, and higher femininity scores. The means and standard deviations for significant predictors for the second function (Table 4.11) show

that non-choral music participants have less knowledge of the junior high choral music programs, and higher test scores in language and math.

Table 4.10
DFA First Function's Significant Predictors

Predictor	Choral		Non-Choral		Non-Participant	
	Mean	SD	Mean	SD	Mean	SD
Musical Self-concept	3.46	.97	2.76	.89	2.42	.96
Attitude Towards Music	2.98	.97	2.98	.97	2.76	1.07
Peer Influence	3.45	.80	2.80	.69	2.73	.80
Perceived Costs	3.98	.79	3.59	.84	3.29	.93
Vocal Ability	3.89	.91	3.78	1.02	3.25	.98
Family Musical Background	3.70	.81	3.43	.81	3.10	.86
CSSI Feminine Score	2.88	.38	2.73	.41	2.62	.40
Music Ability	3.92	1.00	3.90	1.04	3.47	.94

Table 4.11
DFA Second Function's Significant Predictors

Predictor	Choral		Non-Choral		Non-Participant	
	Mean	SD	Mean	SD	Mean	SD
Perceptions of Junior High	3.69	.85	3.01	.87	3.00	.87
Language Level	60.30	22.34	66.08	23.53	55.30	25.85
Math Level	63.5	21.99	68.11	23.07	56.44	24.60

The discriminant function analysis allows for the comparison of classification by model to the students' real choices, in order to determine fit. With the use of this classification procedure for the total usable sample of 504 subjects, 301 (59.7%) of the cases were correctly classified, compared to the 168 (33%) who would be correctly classified by chance alone. Of the variables determined to significantly predict group membership between both functions, 63.6 % of those who registered for choral music, 50.8% of those who registered for non-choral music, and 60.5% of those who registered for non-music classes were correctly classified. A large number of students (45) were

identified who registered for music, either choral or non-choral, and were predicted to choose the alternate music course. 21.2% of the choral music participants who were predicted as non-choral music participants and 24.6% who registered for non-choral music were predicted to be choral participants. Additionally, 39.5% of non-participants were predicted to have enrolled in a music course (18.8% for choral and 20.7 % for non-choral music).

Table 4.12
Classification Results for Predicted Group Membership

		Predicted Group Membership			
	Enrollment Choice	Choral Participant	Non-choral Music Participant	Non-participant	Total
Actual Choice		66	61	377	504
Determined Fit	Choral Participant	42	14	10	66
	Non-choral Music Participant	15	31	15	61
	Non-participant	71	78	228	377
%	Choral Participant	63.6	21.2	15.2	100
	Non-choral Music Participant	24.6	50.8	24.6	100
	Non-participant	18.8	20.7	60.5	100

Discriminant Function Analysis by Gender

The review of literature suggests that predictor variables may differ between boys and girls who enroll in choral classes. Additionally, the results of enrollment figures for this study (Table 4.1) warrant further investigation, as the ratio of female to male registration for choral classes was 85% to 15%, respectively, and for non-choral music participants 39% to 61% respectively. In order to determine if different variables that influenced boys' versus girls' participation choices, two independent analyses were run: one for female participation and one for male participation. The independent variables,

as described in Table 6.2, remained the same for both of these independent analyses. The female and male analyses yielded in two discriminant functions each.

Discriminant Function Analysis of Female Participation

The independent analysis for female participation consisted of 262 subjects. A description of female registration is listed in Table 4.13.

Table 4.13
Membership by Female Gender

Classification Group For Females	Number of Females	Percent of Chosen Group	Percent of Female N	Percent of Total N
Choral Participants	56	85%	21%	11%
Non-Choral Music Participants	24	39%	9%	5%
No Music Participation	182	48%	69%	36%
Total Female Subjects	262		100%	52%

The two discriminant functions for female participation resulted in a combined $\chi^2(34) = 83.73$, $p < .01$. After removal of the first function, the second function was found to not be significant, $\chi^2(16) = 19.75$, p (.23)> .01. The first function accounted for 78% of the variance and the second function accounted for 22%. The means and standard deviations for the independent variables by group are listed in Table 4.14.

Table 4.14
Independent Variable Means and Standard Deviations by Female Group Totals

	Choral Participant		Non-choral Music Participant		Non-participant		Total	
Independent Variable	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Psychoticism	2.41	3.10	2.63	2.90	2.49	2.34	2.48	2.56
Extroversion	18.20	4.47	19.96	3.11	18.20	3.74	18.36	3.88
Neuroticism	10.27	5.74	11.83	5.02	10.25	5.01	10.40	5.17
Lie Scale	10.43	4.36	9.33	4.12	9.60	4.46	9.76	4.40
Reading Skills	62.52	22.32	67.54	24.24	55.23	23.86	57.91	23.87
Language Skills	63.45	20.95	72.38	21.61	56.61	25.48	59.53	24.66
Math Skills	64.25	21.41	74.21	20.11	56.64	24.34	59.88	23.94
Musical Ability	3.96	.95	4.17	.92	3.51	.92	3.67	.96
Vocal/Singing Ability	3.98	.84	4.21	.88	3.45	.95	3.63	.96
Family Music Background	3.85	.71	3.61	.64	3.34	.88	3.48	.85
Attitude Towards Music	3.87	.91	3.51	.79	3.19	1.02	3.37	1.01
Musical Self-concept	3.58	.89	3.08	.83	2.72	.96	2.93	.10
Peer Influence	3.52	.75	3.08	.68	3.07	.75	3.13	.77
Perceived Costs of Participation	4.08	.69	3.90	.59	3.67	.77	3.78	.75
Perception of Junior High Music	3.81	.73	3.42	.80	3.33	.77	3.44	.78
Sex-role Masculine Score	2.89	.33	2.93	.30	2.81	.37	2.84	.36
Sex-Role Feminine Score	2.93	.34	2.91	.32	2.78	.37	2.82	.36

The first discriminant function maximally separated music participants, both choral and non-choral, from non-participants (Figure 2 and Table 4.15).

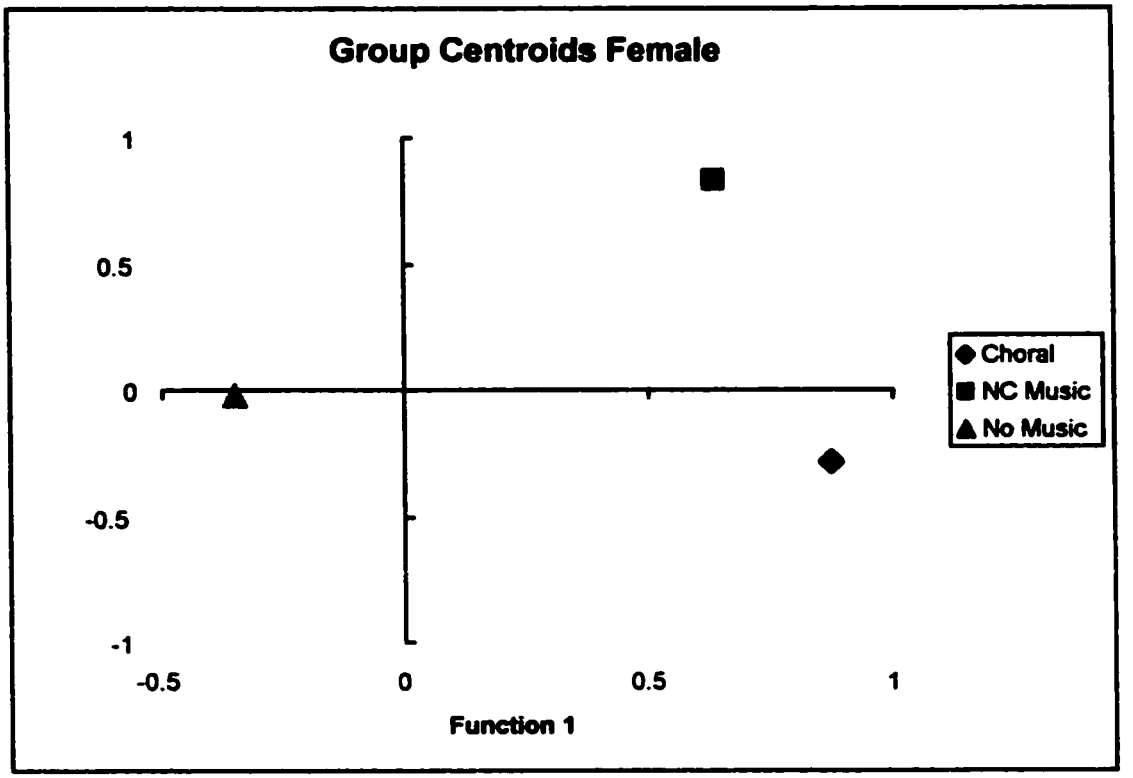

Figure 2
Centroids of Female Group Classification Functions 1 and 2

Table 4.15
Functions at Group Centroids

Female Enrollment Choice	Function 1	Function 2
Choral Participant	.873	-.287
Music Participant –NC	.639	.829
Non-Participant	-.353	-2.090E-02

The structure matrix of correlations between predictors and discriminant functions, as listed in Table 4.16, suggested that the strongest predictors for female music participation are musical self-concept, vocal ability, attitude towards music, peer influence, family musical background, musical ability, perception of the junior high music program, a perception of lower costs of involvement, and a high femininity score.

Table 4.16
Structure Matrix for Discriminant Function Analysis of Female Subjects

Predictor	Function	
	1	2
Musical Self-concept	.674*♦	-.337
Vocal Ability	.540*♦	.332
Attitude Towards Music	.513*♦	-.221
Peer Influence	.474*♦	-.434
Family Musical Background	.467*♦	-.162
Music Ability	.462*♦	.293
Perceptions of Junior High	.426*♦	-.360
Perceived Costs	.422*♦	-.123
CSSI Feminine Score	.354*♦	.007
Reading Level	.308*	.255
CSSI Masculine Score	.228*	.156
Math Level	.365	.458*
Extroversion	.092	.428*
Language Level	.315	.396*
Neuroticism	.065	.285*
Lie Scale	.109	-.200*
Psychoticism	-.009	.073*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
* Largest absolute correlation between each variable and any discriminant function
♦significant at the $r > .33$ level

The means and standard deviations for significant predictors for the first function (Table 4.17) distinguished female music participants from the female non-participants.

Table 4.17
First Function's Significant Predictors for Female Participants

Predictor	Choral		Non-Choral		Non-Participant	
	Mean	SD	Mean	SD	Mean	SD
Musical Self-concept	3.58	.89	3.08	.83	2.72	.96
Vocal Ability	3.98	.84	4.21	.88	3.45	.95
Attitude Towards Music	3.87	.91	3.51	.79	3.19	1.02
Peer Influence	3.52	.75	3.08	.68	3.07	.75
Family Musical Background	3.85	.71	3.61	.64	3.34	.88
Music Ability	3.96	.95	4.17	.92	3.51	.92
Perceptions of Junior High	3.81	.73	3.42	.80	3.33	.77
Perceived Costs	4.08	.69	3.90	.59	3.67	.77
CSSI Feminine Score	2.93	.34	2.91	.32	2.78	.37

A classification procedure was used for comparison of classification by model-to-real participation choice for the total usable sample female sample of 265. Results indicate that 151 (57.6%) of the female subjects were correctly classified, compared to the 86 who would have been correctly classified by chance alone. Of the variables determined to significantly predict group membership by function 1, 51% of those who registered for music were correctly classified (Table 4.18). The second function, which was not significant, revealed low group membership prediction for non-choral music participant groups due to the lack of solid predictors.

Table 4.18
Classification Results for Predicted Female Group Membership

		Female Predicted Group Membership			
	Enrollment Choice	Choral Participant	Non-choral Music Participant	Non-participant	Total
Actual Choice		56	24	182	262
Determined Fit by Model	Choral Participant	29	15	12	56
	Non-choral Music Participant	6	16	2	24
	Non-participant	36	40	106	182
%	Choral Participant	51.8	26.8	21.4	100
	Non-choral Music Participant	25.0	66.7	8.3	100
	Non-participant	19.8	22.0	58.2	100

Discriminant Function Analysis for Male Participation

The independent analysis for male participation consisted of 242 subjects. A description of male registration is listed in Table 4.19. Discriminant function analysis requires that the smallest group be no less than the number of independent variables. This analysis consisted of 17 independent variables. Only 10 male subjects registered for

choral music participation, which violates the analysis variables-to-group-size rule. The discriminant function analysis can be used to describe current group membership, but can not be used to predict membership. Although a given classification procedure will be used, caution is deemed in interpreting the results.

Table 4.19
Membership by Male Participation

Classification Group For Males	Number of Males	Percent of Classification Group	Percent of Male N	Percent of Total N
Choral Participants	10	15%	4%	2%
Non-Choral Music Participants	37	61%	15%	7%
No Music Participation	195	52%	81%	39%
Total Male Subjects	242		100%	48%

The two discriminant functions for male participation resulted in a combined $\chi^2(32)=76.44$, $p< .01$. After removal of the first function, the second function was significant, $\chi^2(16)=32.28$, $p< .01$. The first function accounted for 58% of the variance and the second function accounted for 42%. The means and standard deviations for the independent variables by male groups are listed in Table 4.20.

Table 4.20
Independent Variable Means and Standard Deviations by Male Group Totals

	Choral Participant		Non-choral Music Participant		Non-participant		Total	
Independent Variable	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Psychoticism	6.10	3.67	3.57	3.05	4.60	3.20	4.50	3.22
Extroversion	19.20	4.47	18.22	5.15	18.41	3.96	18.41	4.17
Neuroticism	12.20	5.16	9.30	5.57	8.76	4.72	8.99	4.91
Lie Scale	7.60	6.02	9.54	4.07	8.25	4.17	8.42	4.25
Reading Skills	56.40	18.79	56.46	25.12	55.29	24.37	55.52	24.21
Language Skills	42.70	22.81	62.00	24.10	54.05	26.19	54.80	25.94
Math Skills	59.30	25.82	64.16	24.25	56.26	24.86	57.59	24.87
Musical Ability	3.70	1.25	3.73	1.10	3.44	.95	3.50	.99
Vocal/Singing Ability	3.40	1.17	3.51	1.02	3.08	.97	3.16	1.00
Family Music Background	2.85	.84	3.32	.89	2.87	.77	2.94	.81
Attitude Towards Music	3.27	1.15	2.64	.94	2.37	.96	2.45	.98
Musical Self-concept	2.83	1.17	2.56	.88	2.13	.87	2.27	.90
Peer Influence	3.03	.98	2.62	.65	2.47	.76	2.52	.76
Perceived Costs of Participation	3.45	1.14	3.38	.93	2.93	.93	3.02	.96
Perception of Junior High Music	3.03	1.17	2.74	.81	2.69	.85	2.71	.86
Sex-role Masculine Score	3.22	.39	3.03	.43	2.95	.40	2.98	.41
Sex-Role Feminine Score	2.60	.46	2.61	.42	2.48	.38	2.50	.39

The first discriminant function maximally separates non-choral music participants from choral and non-music participants (Figure 3 and Table 4.21). The second function discriminates choral participants from non-choral and non-music participants. Male choral participants alone rest in the upper left-hand quadrant for both factors.

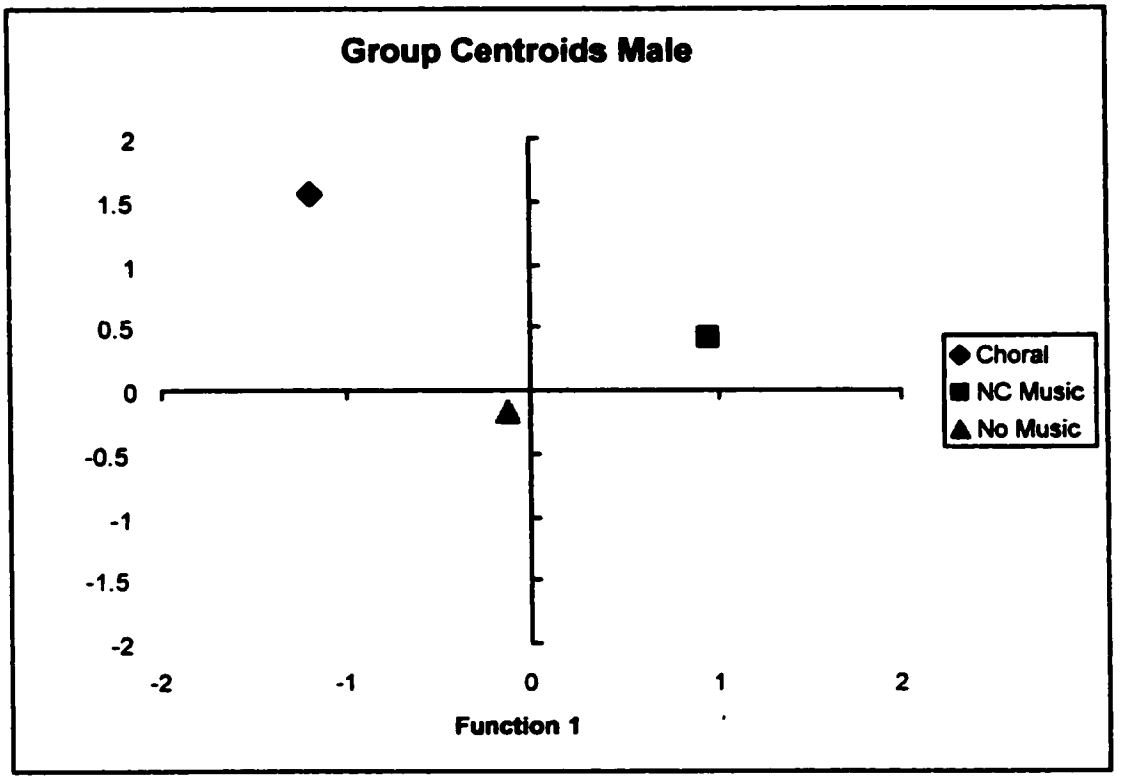

Figure 3
Centroids of Male Group Classification Functions 1 and 2

Table 4.21
Functions at Male Group Centroids

Male	Function	
Enrollment Choice	1	2
Choral Participant	-1.191	1.558
Music Participant –NC	.950	.422
Non-Participant	-.119	-.160

Unstandardized canonical discriminant functions evaluated at group means

The structure matrix of correlations between predictors and discriminant functions (Table 4.22) suggests that the strongest predictors for male non-choral music participation are family musical background and a lower Psychoticism score. The second function suggests that the strongest predictors for male choral participation are a high musical self-concept and attitude towards music, a perception of lower costs of

participation, and a higher-than-average influence of peers, Masculine score, Neuroticism score, and vocal ability.

Table 4.22
Structure Matrix for Discriminant Function Analysis for Male Subjects

Predictor	Function	
	1	2
Family Musical Background	.408*♦	.243
Psychoticism	-.337*♦	.063
Language Level	.320*	-.057
Lie Scale	.249*	.066
Math Level	.193*	.192
Extroversion	-.077*	.062
Musical Self-concept	.149	.554*♦
Attitude Towards Music	-.025	.528*♦
Perceived Costs	.203	.446*♦
Peer Influence	-.039	.405*♦
CSSI Masculine Score	-.015	.369*♦
Neuroticism	-.090	.354*♦
Vocal Ability	.231	.334*♦
CSSI Feminine Score	.168	.290*
Music Ability	.142	.241*
Perceptions of Junior High	-.056	.197*
Reading Level	.023	.041*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
* Largest absolute correlation between each variable and any discriminant function
♦significant at the $r > .33$ level

The means and standard deviations for significant predictors for the first function distinguished non-choral music participants from the other two groups (Table 4.23). The means and standard deviations for the second function, which distinguished male choral participants from the other two groups, are listed in Table 4.24.

Table 4.23
First Function's Significant Predictors for Male Participants

Predictor	Choral		Non-Choral		Non-Participant	
	Mean	SD	Mean	SD	Mean	SD
Family Musical Background	2.85	.84	3.32	.89	2.87	.77
Psychoticism	6.10	3.67	3.57	3.05	4.60	3.20

Table 4.24
Second Function's Significant Predictors for Male Participants

Predictor	Choral		Non-Choral		Non-Participant	
	Mean	SD	Mean	SD	Mean	SD
Musical Self-concept	2.83	1.17	2.56	.88	2.13	.87
Attitude Towards Music	3.27	1.15	2.64	.94	2.37	.96
Perceived Costs of Participation	3.45	1.14	3.38	.93	2.93	.93
Peer Influence	3.03	.98	2.62	.65	2.47	.76
Sex-role Masculine Score	3.22	.39	3.03	.43	2.95	.40
Neuroticism	12.20	5.16	9.30	5.57	8.76	4.72
Vocal/Singing Ability	3.40	1.17	3.51	1.02	3.08	.97

As previously stated, the sample size of male choral participants is too low to significantly predict group membership. The results of the classification are presented here (Table 4.25), but serve only to describe what occurred statistically with this population. These results are limited to the subjects in this study and can not necessarily be generalized to other populations.

The use of the given classification procedure from the discriminant function analysis for the total usable male sample of 242 revealed that 148 (61.2%) of the subjects were correctly classified, compared to the 80 subjects (33%) who would have been classified correctly by chance alone. The predicted group membership for male choral participants increased by 36, with 4 non-choral music participants and 32 non-music participants selected to have commonalties among the predictor variables.

Table 4.25
Classification Results for Predicted Male Group Membership

		Male Predicted Group Membership			
	Enrollment Choice	Choral Participant	Non-choral Music Participant	Non-participant	Total
Actual Choice		10	37	195	242
Determined Fit by Model	Choral Participant	9	0	1	10
	Non-choral Music Participant	4	23	10	37
	Non-participant	32	47	116	195
%	Choral Participant	90.0	.0	10	100
	Non-choral Music Participant	10.8	62.2	27.0	100

School-by-School Analysis

The focus of this part of the analysis is on potential differences in participation behavior due to school and teacher influences. Information on individual school demographics and enrollment, teachers' experiences and education, and teachers' scores on the Eysenck Personality Inventory and BEM Sex-role Inventory were reported descriptively. Descriptive data on individual teachers and junior high schools was collected via the Music Teacher Questionnaire/Interview, Eysenck Personality Inventory, the BEM Sex-role inventory, and researcher observation. These data were used to help interpret the school-by-school discriminant function analyses of participation choice.

The structure of the choral offerings was the same for all junior high schools. Each junior high school offered four choirs for students: beginning girls choir, intermediate girls choir, boys choir, and advanced girls choir. All choirs met one period per day and each choir was considered a year-long course. The beginning choir was for seventh grade girls only and had no audition process. Any incoming seventh grade girls who wanted to participate in choral music were automatically placed in beginning choir.

Intermediate choir was a non-auditioned ensemble for eighth and ninth grade girls. Boys choir was a non-auditioned choir for male singers in all grades, seventh through ninth. Advanced girls choir was an auditioned ensemble for eighth and ninth grade girls, but consisted of mainly ninth grade students.

During registration for seventh grade, students were given the opportunity to enroll in a variety of elective classes. These courses altered slightly by school, however in general there were three main choices: band, choir, or a combination of two half-year courses specializing in art, shop, home economics, or technology. The registration numbers by junior high school are presented in Table 4.26.

Table 4.26
School by School Registration

School	Choral Participants			Non-Choral Music Participants			Non-Music Participants			Total Number of Subjects		
	F	M	Total	F	M	Total	F	M	Total	F	M	Total
Junior High A	17	2	19	12	20	32	56	68	124	85	90	175
Junior High B	13	3	16	7	10	17	72	68	144	92	85	177
Junior High C	26	5	31	5	7	12	54	59	109	85	67	152
Totals	56	10	66	24	37	61	182	195	377	262	242	504

Choral participation by school reveals that school C has the highest number of both female and male participants, followed by school A and school B. Male-to-female participation was not equal by school with male students making up 11%, 18%, and 19%, respectively.

Participation in both choral music and non-choral music varied between the schools (Table 4.27). School A had the largest number of total music participants (51),

with 19 Choral Participants and 32 Non-choral Music Participants. School C was the second largest with 43 music participants, 31 of which were Choral and 12 of which were Non-Choral Music participants. School B had the lowest number of music participants (33), with 16 choir participants and 17 Non-choral Music Participants. When size of school samples were evaluated, Junior High B still contained the smallest percentage of music participants at 18%, but caution must be used when evaluating these numbers. One full elementary school was not included in this study. The missing school's participation information, and the exclusion of subjects with a missing variable, account for 34% of the district's total sixth grade population. The missing school feeds mainly into Junior High C with some students attending Junior High A.

Table 4.27
Participation of Junior High Schools

School	Choral		Non-Choral Music		No Music	
	Participants	% of School Total	Participants	% of School Total	Subjects	% of School Total
Junior High A	19	11%	32	18%	124	71%
Junior High B	16	9%	17	9%	144	81%
Junior High C	31	20%	12	8%	109	72%
Total	66	13%	61	12%	377	75%

Junior High C had the largest school percentage for choral participants at 20%. School A had the largest number of Non-choral Music Participants with 18%. Both Choral and Non-choral Participants made up 9% of the total participation of Junior High B.

Demographic Data of School

All demographic data pertaining to the junior high schools came from the previous year's (2000-2001) end of the year school reports. School demographics will be presented in the order of size of staff, enrollment population, ethnic make-up, core test score on the ITBS, average attendance, and school budget.

Junior High School A

School Demographics

Junior High School A employed 40 certificated and 30 classified staff members. The enrollment of Junior High A for the 2000-2001 school year was 606 students, 211 seventh grade students, 188 eighth grade students, and 207 ninth grade students. The student ethnic population represented 9% of the school population. A break down of ethnicity revealed: 6 African American, 14 Asian, 17 Hispanic, 16 Native American, and 549 White students. The core test score for ninth grade students was 59, compared to the district core score of 62. Attendance of students averaged 89%. The school budget of Junior High A, not including salaries and district money, was $60,981. 78% of the school budget was spent on basic education, including classroom supplies and materials. 22% of the budget was spent on the school library and office materials. The school spent an average of $6,700 per student during the school year.

Descriptive Data on Teacher A

Teacher A was a relatively new teacher in her third year of teaching. She had spent all three years teaching junior high choral music at school A. In addition to her teaching duties at the junior high school, she traveled twice weekly to Elementary School D where she taught K-1 general music classes. She held a bachelor of music degree for a local regional university and a K-12 general and choral music teaching credential. She had not presented at local, regional, or national conferences, but had attended local and regional MENC and ACDA conferences during the past few years.

Scores on the Bems Sex-role Inventory and the Eyenck Personality Inventory revealed that Teacher A is highly feminine and extroverted. Teacher A scored in the high femininity rage (13.35) on the Bem Sex-role inventory, with a score of 86 in the Masculine category and a score of 117 in the Feminine category. Her scores on the Eysenck Personality Inventory revealed a high level of extroversion. Her scores were a 0 in Psychoticism, 20 in Extroversion, 9 in Neuroticism, and an 8 on the Lie Scale.

Teacher A believed it was most important that her students develop self-esteem and confidence as a choir and individually, and that this would be accomplished though the singing of appropriate literature. She wanted her students to be able to sight-read, and she spent a fair amount of class time working on music theory. Additionally, she saw the choir as being the school's ambassadors to the community and believed that it was very important for her students to experience a bigger world than just their local community. The concerns she held for her program included insuring that students meet

the demands they would encounter at the high school level. She often felt that she did not have enough time to focus on the complete musical growth of her students amid the busy concert and festival schedule.

Teacher A communicated with her feeder elementary schools via telephone, in writing, or via e-mail an average of four to six times per year. Her students participated in a district-wide choral festival and yearly recruiting tours of the feeder elementary schools. Although she did not correspond directly with the parents of incoming seventh graders, she did send out a letter through the elementary music teachers regarding the choirs available to incoming seventh grade students.

On average, her students participated in four field trips a year. They also performed in three evening choir events. Most of their concerts were held on school grounds, with the exception of a spring concert, which was held in the local performing arts center. On average, the choirs performed in four school assemblies per year. Two of the four choirs, Advanced Girls Choir and Boys Choir, participated in the local choral festival. On average, the advanced girls' ensemble received a rating of I to I- and the boys received a rating of II+ to II.

Observations of Teacher A revealed a youthful excitement for teaching, evident in the way she approached all aspects of her classroom, including her sense of humor and the way she related to her students. Many students came to class early and left late in order to spend quality one-on-one time with her. Her knowledge of vocal pedagogy was advanced and well balanced to suit the needs of middle level choir students. Teacher A showed strong musical skills on the piano and often accompanied her choir while

directing rehearsal. Discipline in her classroom was not an issue. Students showed a genuine interest in being there. At times the boys choir would need a bit of prompting to sing out, but there was an underlying feeling of respect between the students and the teacher. Rehearsals were well planned, with a balance of performance preparation and more intensive musical skills instruction. Students were well aquainted with the management procedures used in this classroom.

Discriminant Function Analysis of School A

An independent direct discriminant function analysis was performed on the subjects who registered for Junior High A. The two discriminant functions for Junior High A resulted in a combined $\chi^2(34) = 68.84$, $p < .01$. After removal of the first function, the second function was determined not to be significant, $\chi^2(16) = 22.56$, p $(.126) > .01$. The first predictor maximally separated non-choral music participants from choral and non-participants (Figure 4 and Table 4.28). The second function, which was not significant, separated choral participants from the other two groups.

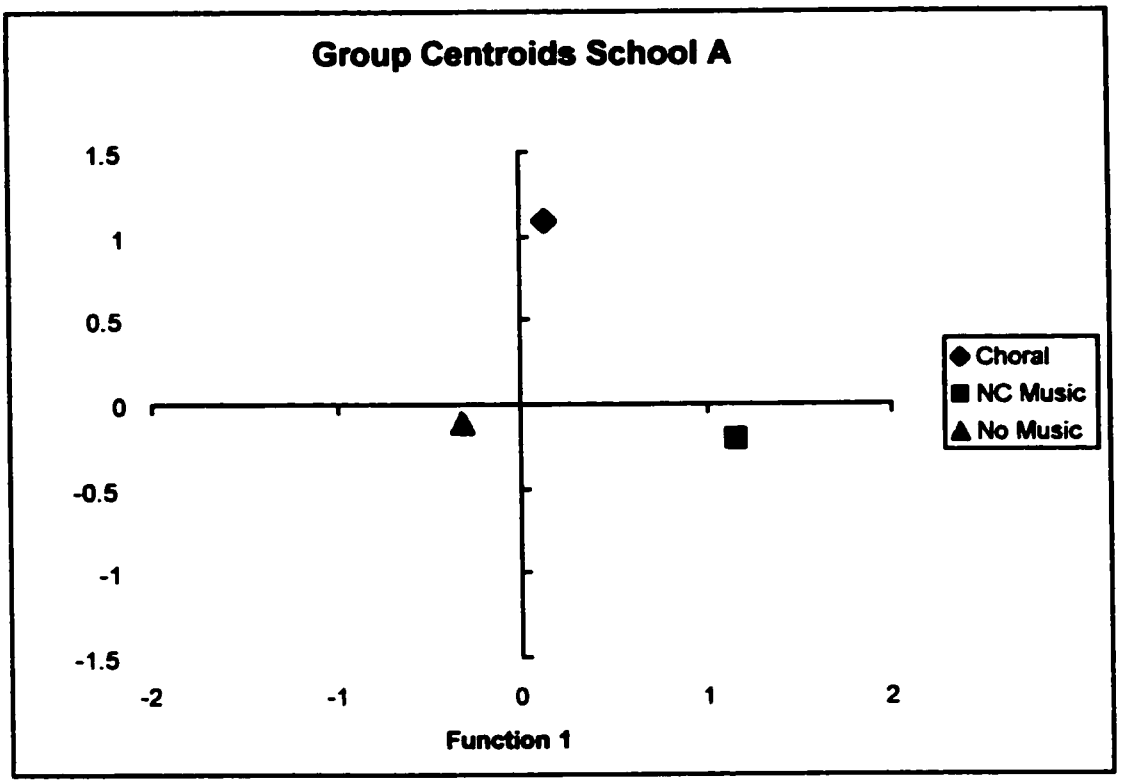

Figure 4
Centroids of School B Classification on Functions 1 and 2

Table 4.28
Functions at School A Group Centroids

Male Enrollment Choice	Function 1	Function 2
Choral Participant	.140	1.087
Music Participant –NC	1.159	-.201
Non-Participant	-.325	-.115

Unstandardized canonical discriminant functions evaluated at group means

Function 1 reveals that non-choral music particjpants at School A scored significantly higher in vocal and music ability, and had higher math and language scores. (Table 4.29).

Table 4.29
Structure Matrix for Discriminant Function Analysis of School A

Predictor	Function	
	1	2**
Vocal Ability	.555*♦	.256
Music Ability	.423*♦	.009
Math Level	.368*♦	.194
Language Level	.336*	.169
Perceived Costs	.300*	.094
CSSI Masculine Score	.230*	.009
Family Musical Background	.200*	.078
Extroversion	-.106*	.045
Attitude Towards Music	.083	.629*
Musical Self-concept	.182	.467*
Reading Level	.089	.397*
CSSI Feminine Score	.166	.313*
Peer Influence	-.005	.241*
Psychoticism	-.037	-.173
Perceptions of Junior High	-.117	.127*
Neuroticism	.075	.100*
Lie Scale	.024	.097*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
* Largest absolute correlation between each variable and any discriminant function
♦significant at the $p > .33$ level
** Function 2 was not significant

Junior High B

School Demographics

Junior High School B employed 39 certificated and 25 classified staff members. The enrollment of Junior High A for the 2000-2001 school year was 609 students, 219 seventh grade students, 194 eighth grade students, and 196 ninth grade students. The student ethnic population represented 11% of the school population. A break down of ethnicity revealed: 6 African American, 15 Asian, 27 Hispanic, 22 Native American, and 537 White students. The core test score for ninth grade students was 62, which matched the district core score of 62. Attendance of students averaged 94%. The school budget

of Junior High B, not including salaries and district money, was $61,718. 83% of the school budget was spent on basic education, including classroom supplies and materials. 17% of the budget was spent on the school library and office materials. The school spent an average of $6,750 per student during the school year.

Descriptive Data on Teacher

The choir director of Junior High B was a very experienced teacher in her thirty-third year of teaching. She was in her fifth year at Junior High B after having taught for thirteen years at Junior High A. Her decision to move to Junior High B was based on the creative options of starting a new program in a new school. Her previous thirteen years of teaching were completed on the eastern side of the state. Teacher B holds a Bachelor of Music degree and a Master of Music in Vocal Performance; both degrees from universities outside of the state of Washington.

Teacher B had presented and held office in MENC and ACDA at both the local and regional level. Additionally, she had given lectures on teaching choral music and assessment in the choral classroom in university and public school settings. She was a member of the leadership team for her school, and had played a large role in the planning and construction of her building.

Scores on the Bems Sex-role Inventory and the Eysenck Personality Inventory revealed that Teacher B was moderately masculine and extroverted. Teacher B scored in the moderate masculine rage (13.35) on the Bem Sex-role inventory, with a score of 113 in the Masculine category and a score of 102 in the Feminine category. Her scores on the

Eysenck Personality Inventory revealed a moderate level of extroversion. Her scores were a 0 in Psychoticism, 13 in Extroversion, 5 in Neuroticism, and a 3 on the Lie Scale.

Teacher B believed the strengths of her program laid in her students' ability to be good readers and listeners. She attempted to give her students the opportunity to work with a variety of musical singing traditions, including songs from diverse cultures, songs in foreign languages, and songs in a variety of styles. She hoped to instill a sense of self-confidence and self-esteem in her students through group work and persistence. Although these may not be musical ideas, she believed that music ensembles provide the ideal situation to nourish these characteristics. Furthermore, she believed these characteristics could then be transferred to a life-long value of the arts, and of music participation. Teacher B believed the continuing success of her program was due in part to the support of her building administration and fellow teachers.

Teacher B expressed feelings of concern regarding the amount of musical concepts she was able to teach during the year. She believed there was never enough time to teach the students all she had hoped, while balancing the demands of performance. She was also concerned about keeping students motivated. At times she felt as though she were on "auto-pilot" in terms of her energy level, after having spent so many years in the classroom.

Teacher B's students participated in the district choir festival, and yearly her students toured the elementary schools to recruit. Prior to seventh grade registration, she requested a list of "target students" from her feeder elementary schools, and then made contact with those students via a written letter distributed by the elementary schools'

music teachers. The letters were addressed to students and their parents by name. On average, Teacher B made contact twice a month with the elementary music teachers whose students fed into her junior high.

Junior High B participated in an average of four field trips per year and had three evening performances. All of her performances were held off school grounds at the local performing arts center. Transportation on the day of the concert was provided to the students for rehearsal, but students had to find their own transportation to the evening concerts. Students in the choir program at Junior High B performed in approximately three school assemblies per year. Teacher B took two ensembles to contest each year. The advanced girls' ensembles typically received a rating of I and the boys choir typically received a rating of II+.

Observations of Teacher B revealed a well-structured classroom environment. Expectations for student behavior and participation were high. Students' respect for the teacher was evident and students were eager to seek her approval. Despite the age difference between teacher and students, Teacher B had a very youthful podium presence. This presence was both respected and appreciated by the students.

Teacher B's experience was evident when observing her work with the boys ensemble. She set high musical expectations for the boys and when needed made changes to the music to fit vocal ranges in order to set the students up for successful experiences. She displayed an excellent knowledge of working with the male changing voice. There appeared to be a strong line between what was acceptable behavior and

what was not acceptable. The boys clearly understood what was expected from them, and they did their best to meet those expectations.

Discriminant Function Analysis for School B

The independent direct discriminant function analysis for school B resulted in a combined $\chi^2(34) = 59.44$, $p < .01$. After removal of the first function, the second function was determined to be not significant, $\chi^2(16) = 26.92$, $p\ (.042) > .01$. The first predictor maximally separated choral participants from the other two groups (Figure 5 and Table 4.30).

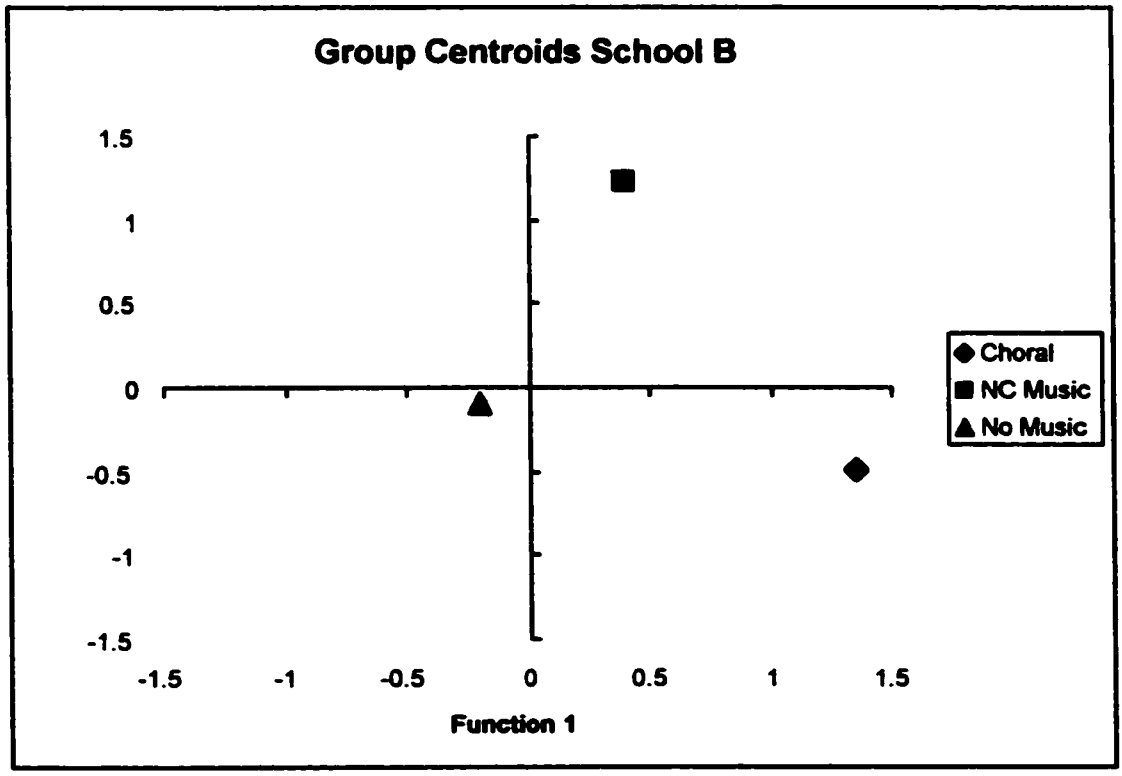

Figure 5
Centroids of School B Group Classification on Functions 1 and 2

Table 4.30
Function at School B Centroids

Male Enrollment Choice	Function 1	Function 2
Choral Participant	1.355	-.497
Music Participant –NC	.396	1.225
Non-Participant	-.197	-8.943E-02

Unstandardized canonical discriminant functions evaluated at group means

The variables which were significant for choral group membership were: musical self-concept, family musical background, attitude towards music, a perceived low cost of participation, high femininity score, a high influence of peers and a favorable perception of the junior high music program (see Table 4.31).

Table 4.31
Structure Matrix for Discriminant Function Analysis for School B

Predictor	Function 1	Function 2**
Musical Self-concept	.729*•	-.038
Family Musical Background	.559*•	-.121
Attitude Towards Music	.523*•	-.132
Perceived Costs	.509*•	-.071
CSSI Feminine Score	.457*•	-.042
Peer Influence	.428*•	-.208
Perceptions of Junior High	.332*•	-.280
CSSI Masculine Score	.277*	.103
Vocal Ability	.251*	.085
Neuroticism	.047*	.038
Language Level	-.079	.680*
Math Level	.247	.518*
Reading Level	.001	.426*
Extroversion	.182	.319*
Psychoticism	-.086	-.196*
Lie Scale	.158	.189*
Music Ability	.146	.183*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
* Largest absolute correlation between each variable and any discriminant function
•significant at the $p > .33$ level
** Function 2 was not significant

Junior High School C

School Demographics

Junior High School C employed 45 certificated and 20 classified staff members. The enrollment of Junior High C for the 2000-2001 school year was 614 students, 221 seventh grade students, 219 eighth grade students, and 174 ninth grade students. The student ethnic population represented 15% of the school population. A break down of ethnicity revealed: 8 African American, 23 Asian, 47 Hispanic, 17 Native American, and 518 White students. The core test score for ninth grade students was 66, compared to the district core score of 62. Attendance of students averaged 93%. The school budget of Junior High A, not including salaries and district money, was $64,741. 57% of the school budget was spent on basic education, including classroom supplies and materials. 43% of the budget was spent on the school library and office materials. The school spent an average of $6,750 per student during the school year.

Descriptive Data on Teacher

The choir director at Junior High C was in her twenty-sixth year of teaching. Twenty-five of those years had been spent teaching choral music at Junior High C. She held a Bachelor of Music degree in music education and a Master of Education degree. Both degrees were from the same regional university. Teacher C has made presentations at local, regional, and national MENC and ADCA conventions and has held office at the local and regional level for both organizations. Many of her presentations focused on literature for junior high voices, assessment and curriculum planning, and advocacy for

choral music participation. Teacher C served as the district music supervisor. This leadership position allowed her to advocate for all music programs in the district and gave her a very public and visible role among other music educators in the district. Teacher C had been recognized by the state of Washington as "Teacher of the Year" among all academic subjects.

Scores on the Bems Sex-role Inventory and the Eysenck Personality Inventory revealed that Teacher C is androgynous in terms of gender perception and is moderately extroverted. Teacher C scored a total of .86 on the Bem Sex-role inventory, with a score of 102 in the Masculine category and a score of 104 in the Feminine category. Her scores on the Eysenck Personality Inventory revealed a moderate level of extroversion. Her scores were a 0 in Psychoticism, 16 in extroversion, 5 in Neuroticism, and a 12 on the Lie Scale.

Teacher C believed one of the biggest strengths of her program was that the boys and girls rehearsed separately. Having the genders rehearse separately allowed for her to work on a more individual basis with students as they experienced the changes of the adolescent voice. She also enjoyed having a variety of levels for her choir students. The advanced class allowed for her more experienced students to continue learning at a higher level. She also accredited the success of her program to the variety of music students were able to experience in her class, and to her years of teaching coupled with a true passion for working with middle level students.

Teacher C's biggest concerns for her program were the ever increasing academic requirements for students and the addition of attractive elective courses from which the

student must choose. With an increase in requirements and a growing number of attractive elective courses, she was finding it difficult to attract and retain students. Teacher C was also concerned with recruiting incoming seventh grade students and felt that it was increasingly difficult to justify the importance of music study with all the attractive alternatives offered. Many incoming seventh grade students believed that they had experienced music in elementary school, and wanted the chance to study shop and home economics, which they had not previously experienced.

Teacher C insured her students participated in the district wide choir festival and yearly tour of the feeder elementary schools. She communicated with her feeder elementary schools twice a month. This communication was twofold: some communication was directed to the needs of her program and some communication was related to her role as music supervisor. Teacher C did make individual contact with the families of incoming seventh grade students, although it was not extensive. Most of her communication with parents was in response to parent- or student-generated questions.

Teacher C took at least one choir to contest yearly. Most years her girls advanced choir would attend, however she did offer the opportunity to her boys choir and on occasion they were able to attend. In years when her boys choir was not interested in attending, she insured their participation at solo and ensemble contest, so those boys who were excited about the opportunity to perform for a rating still had the opportunity to do so. The girls advanced choir usually received a rating of I, while the boys, when they did perform at contest, usually received a rating of II+. On average the choirs performed

four concerts a year at the local performing arts center and three in-school concerts at assemblies.

Observation of Teacher C revealed an experienced teacher with a passion for teaching middle level students. Teacher C had an amazing ability to allow students to be themselves, while continuing to hold high standards for them musically and behaviorally. The students in the beginning choir were actively involved in musical decision making in the classroom. Every student appeared to hold a particular role in the classroom, which led to a sense of unity among the students. The boys choir was a bit less motivated individually, and Teacher C spent a bit more time giving instructions both musically and behaviorally. The boys choir was a mixture of students who appeared very happy to be involved in the program and those who needed a bit more motivation. After speaking with Teacher C it became apparent that this was not a typical year for her boys choir in that there was a higher than normal number of special needs students and students with limited language, reading and speaking ability.

Discriminant Function Analysis for School C

An independent direct discriminant function analysis for school C resulted in a combined $\chi^2(34) = 79.43$, $p < .01$. After removal of the first function, the second function was determined to be not significant, $\chi^2(16) = 13.20$, $p\ (.658) > .01$. The first predictor maximally separated choral participants from the other two groups (Figure 6 and Table 4.32).

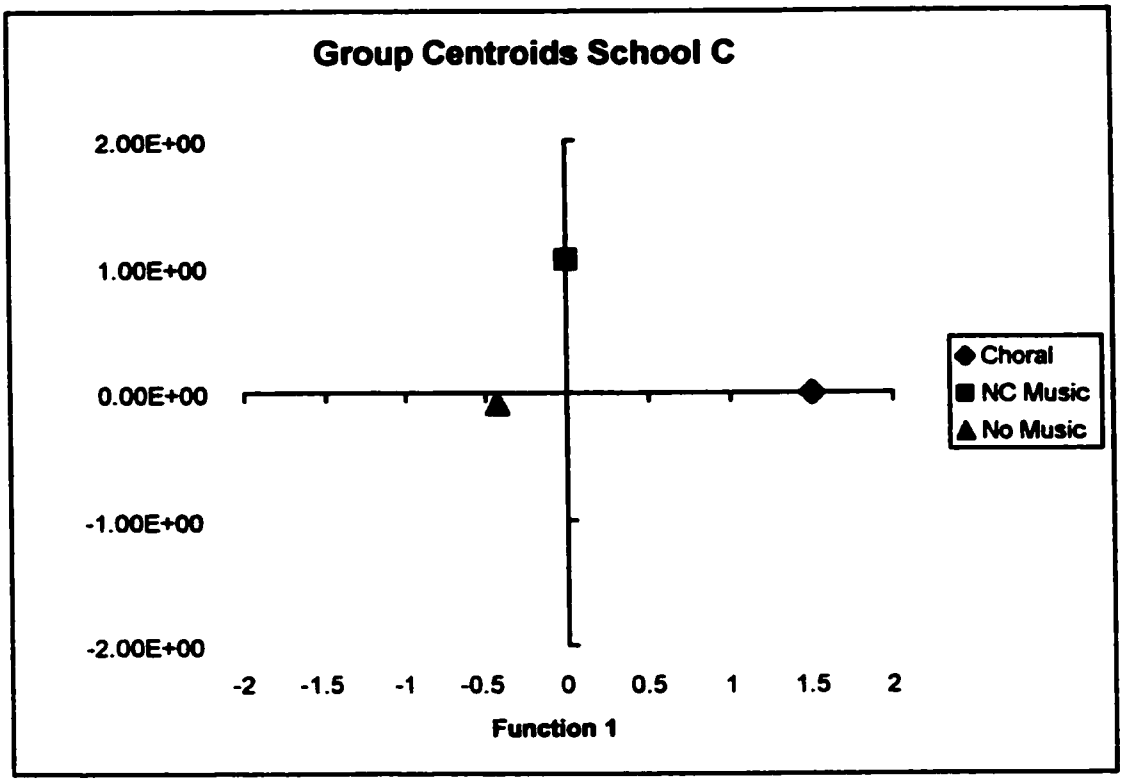

Figure 6
Centroids of School C Group Classification on Functions 1 and 2

Table 4.32
Functions at School C Group Centroids

Male Enrollment Choice	Function 1	Function 2
Choral Participant	1.498	-8.955E-02
Music Participant –NC	-5.500E-03	1.060
Non Participant	-.426	-9.118E-02

Unstandardized canonical discriminant functions evaluated at group means

The variables which were significant for choral group membership were a high influence of peers, musical self-concept, a favorable perception of the junior high music program, positive attitude towards music, a low perceived cost of participation, and vocal and musical ability (see Table 4.33).

Table 4.33
Structure Matrix for Discriminant Function Analysis of Female Subjects

Predictor	Function	
	1	2**
Peer Influence	.764*•	-.146
Musical Self-concept	.723*•	.004
Perceptions of Junior High	.712*•	-.121
Attitude Towards Music	.585*•	.040
Perceived Costs	.576*•	-.194
Vocal Ability	.430*•	.265
Music Ability	.387*•	-.096
CSSI Feminine Score	.314*	.174
Lie Scale	.200*	-.062
Reading Level	.141*	-.041
Psychoticism	-.121*	.029
Language Level	.116*	.008
Math Level	.078*	.016
Family Musical Background	.453	.477*
Neuroticism	.214	.243*
Extroversion	-.047	.200*
CSSI Masculine Score	-.032	.143*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
* Largest absolute correlation between each variable and any discriminant function
•significant at the p > .33 level
** Function 2 was not significant

Comparison of the Teachers and Junior High Schools

The three junior high school teachers and programs used in this study were chosen in part due to their long-standing reputation in the area as being strong and successful. Although these schools did not differ in size or structure from junior high schools in the neighboring communities, the choral programs performed well at contest and the teachers had received high praise from fellow music educators around Western Washington. In order to further investigate why these school were successful and why some students chose to participate in choral music at these school while others did not, a

side by side comparison of teacher-specific and program factors were further analyzed descriptively.

Each of the teachers at the three junior high schools completed the Eysenck Personality Inventory and the Bem Sex-role Inventory (Table 4.34). On the personality inventory, all three teachers scored highest in the category of Extroversion. Two of the three teachers received their second highest score on the Lie Scale, while one received their second highest score in Neuroticism. The three teachers had vastly different scores on the Bem Sex-role inventory, with Teacher A scoring in the high femininity range, Teacher B in the masculine range, and Teacher C in-between the two classifications.

Table 4.34
Junior High Teacher Scores on EPQ and Bem

Junior High	EPQ Psychoticism	EPQ Extroversion	EPQ Neuroticism	EPQ Lie Scale	Bem Male	Bem Female	Total Score
Teacher A	0	20	9	8	86	117	13.35 Feminine
Teacher B	0	13	5	3	113	102	-4.73 Masculine
Teacher C	0	16	5	12	102	104	.86 Androgynous

A comparison of teaching experience is detailed below in Table 4.35. Teacher A had less teaching experience than Teachers B and C. Teacher B had the most years of experience but had been in her building for only five years. Teacher C had taught nearly her whole career in school C.

Table 4.35
Teaching Experience

School	Total Years Teaching	Total Years in Building	Upper Level Degrees
Teacher A	3	3	1
Teacher B	33	5	2
Teacher C	26	25	2

Performance opportunities (Table 4.36) and recruitment activities (Table 4.37) varied by school. The number of evening concerts was higher for School C, while most other performance opportunities were even in number among the three schools. Teacher A communicated less with her feeder elementary music specialists than did Teachers B and C. Teacher B used personalized letters to attract and encourage recommended elementary music students. Teacher C was less formal about her recruiting strategies than were Teachers A and B.

Table 4.36
Performance Opportunities

School	Evening Concerts	Field Trips	In-School Concerts	Ensembles at Festivals	Ratings at Festivals	
Junior High A	3	4	3	2	I/I-	II+
Junior High B	3	4	4	2	I/I-	II+
Junior High C	4-5	4	3	1-2	I/1-	II+

Table 4.37
Recruitment Activities

School	Communication with Feeder Schools	Letters to Incoming Students	Phone Calls to Incoming Students	Elementary Tour
Junior High A	4-6 times yearly	Yes- generic	No	1 yearly
Junior High B	Twice a month	Yes- personalized	No	1 yearly
Junior High C	Twice a month	Sometimes-generic	In response to questions	1 yearly

Chapter Summary

The research questions focused on the investigation of a set of variables that best predicts choral or other music participation in the middle level, and differences in these variables by gender and school.

Discriminant function analysis and descriptive data were used to identify predictor variables and significant relationships. Results indicated that significant predictor variables for music participation existed and were changed by gender and junior high school. In some instances these changes were stronger for one classification group over the others.

Music participants, both Choral and Non-choral, shared common characteristics that separated them from Non-music participants. There were, however, no identifiable predictor variables that separated Choral Participants from the other two groups for the total population. Female Choral and Non-choral Music Participants' predictor variables differed from males, and were similar in structure to the predictor variables of all music participants. Male Non-choral Music Participants had predictor variables that differed from those determined for total music participants. Significant predictor variables for male Choral Participants indicate that their reasons for participating are different from male Non-choral Music Participants. The school-by-school analysis revealed differences in predictors by school that may relate to the described differences in teacher characteristics or school setting.

CHAPTER 5

DISCUSSION

The results of this study indicate there are different sets of predictor variables by total population, gender, and junior high school that relate to music participation choices. The discussion in this chapter follows the order of the research questions. The findings are first discussed in terms of understanding of results followed by implications for music education. The chapter concludes with suggestions for future research.

Research Question 1

Is there a set of variables that best predict choral or music participation in middle level education?

Discriminant function analysis of the total population did not reveal a set of variables that best predict choral participation at the middle level. The strongest functions between the groups for total participation in this study discriminated between music participants and non-participants, and between non-choral music participants and others. As evident in the first function for total participation, choral and non-choral music participants shared many common characteristics that differed somewhat from those of non-participants.

Results did, however, indicate that there are predictor variables that differentiate between students who chose to participate in middle level music and those who did not. Out of a total of 17 variables more than half served as a means for differentiating between

music and non-music participants. Musical self-concept, attitude, peer influence, perceived costs, musical and vocal ability and family music background emerged as predictive variables. Non-choral music participants were differentiated from choral and non-participants by perceptions about the junior high choral program, and higher math and language scores.

Total Participation Function 1

The single most significant predictor for participation was student musical self-concept. This result is similar to the findings of Brookover and Erickson (1975), Simmons (1978), Frakes (1984), Austin (1990), and Klinedinst (1991) who all found that musical self-concept, or musical self-esteem, was a significant predictor for music student participation and an important aspect of students' choice to remain involved in music participation.

This finding supports prior research in participation that has suggested that self-concept is an important part of student decision making. In this study self-concept was more important than students' actual musical and singing ability. Although actual ability was a significant predictor, students' musical self-concept took precedence. If we intend to increase music enrollment at the middle or secondary level we can not under-emphasize the importance of how students feel about their ability. This finding suggests that teachers should continue to encourage all students in their music making to increase self-perception of ability. Building musical self-esteem is imperative for continued music participation.

The second strongest predictor was attitude towards music. Music participants were shown to have a more positive attitude towards school music activities than those who did not chose to participate in music at the middle level. Since these students were in the sixth grade during data collection, it shows that music participants had a favorable response to elementary general musical activities while students who did not choose to continue with school music beyond elementary school had a less favorable response to these activities. Hedden (1982) had similar findings with music self-concept and a positive attitude leading to significant prediction of music achievement. Frakes (1984) found that student attitude toward elementary music education was formed by teacher personality, course content, self-perception, interest in activities, fun, and influence of peers. This study focused on students grouped by junior high, and it is unclear if this result regarding student attitude was spread across all elementary schools equally, or if some elementary general music programs were more attractive to students than others.

Research has shown that elementary aged students' attitudes decline as they move toward the 5th and 6th grade (Hedden, 1982). Teachers at the elementary level must continue to seek out new and different approaches to music education in addition to what they are currently teaching in the hopes of attracting students whose musical interests are not being met in the classroom.

Peer Influence was the third significant factor for the first function. Students who did not choose to participate in school music activities appeared to be less influenced by their peers or those around them in decision making processes. Anthony (1974), Morehouse (1987), and Finnas (1989) found that students' continued participation in an

elective course was due in part to social reasons. Furman and Duke (1988) and Royse (1989) in their evaluation of college aged musicians found if students enjoyed their peers in a course they were more likely to continue study. The results of this study show that students who elected to participate in music were more likely to be influenced by their peers prior to enrollment or initial participation in music classes at the middle level.

Many previous studies have shown that peer influence is a factor for continued participation in ensembles once the student is enrolled. This study, however, indicates that peer influence may play a significant role in students' initial decision to participate. Many students who enrolled for choral music at the junior high level did not elect to participate in choir at the elementary level, particularly the student of junior high C. Students in this study who chose to participate in music showed a significant influence of peers in their decision-making processes. This result suggests that if students feel that others are interested in music they will also become interested, which is contrary to the belief that peer pressure will keep students out of music. In the classroom teachers may wish to encourage group work and activities to allow for students to share musical experiences with others. Positive shared musical experiences may contribute to a greater group desire for continued participation.

The fourth significant predictor variable was perceived costs of participation. Students who chose to participate believed that music participation could be coupled with numerous other activities, while student who did not choose to participate believed that music participation required more time outside of class and could not be coupled with

additional school activities. This finding is similar to those of Hourley (1995) who found that string student attrition was due mainly to the perception of time costs.

There appears to be an assumption among students who did not choose to participate that there are large costs for participation in music at the middle level. These results can be interpreted in two ways. The first interpretation is that students at the sixth-grade level have already identified how much time and effort they are willing to put into musical activities and that the middle level programs genuinely absorb too much time or would take away from their ability to participate in a variety of school activities. The second interpretation is that there is a miscommunication regarding the roles and responsibilities of being an ensemble member at the middle level. If this second interpretation is true, teachers need to articulate more clearly to incoming students what it means to be a member of a musical ensemble and what the expectations are for involvement to lower the perceived costs. Teacher also need to show incoming students that they would be able to participate in a variety of activities.

Vocal ability and family musical background were the fifth and sixth significant predictors. Students who chose to participate typically had a higher rating of vocal ability from their elementary music teachers than those who did not. Students who chose to participate reported more time spent making music with family and a stronger encouragement of parents to music making than those who chose not to participate. Frakes (1984) found that family influence significantly correlated with students' attitude towards music.

Vocal ability was a significant factor for prediction, however its significance in relation to other predictors was, perhaps, lower than expected based on prior research. This result indicates that although actual ability may be an important predictor, it was not the most significant predictor for participation. Students who chose to enroll in the middle level ensembles were on average stronger vocally than musically. However, being that this predictor was not as significant as other factors and scores were based on averages, teachers should be aware it may not be a matter of student ability as much as it is their perception of their ability.

Predictor seven was a high feminine score on Childrens Sex-role Self Concept Inventory. The results for this section are to been evaluated with caution, as 63% of the students who chose to participate in music were female. This predictor variable is better evaluated by gender in the following sections.

Predictor eight was musical ability. Students who chose to participate had a higher rating by their elementary music teachers in the area of musical ability than those who chose not to participate. Similar to the findings of vocal ability, it is surprising that both ability scores were not more significant among the predictor variables.

Perhaps of equal importance to the results of this study are the variables that did not predict group membership. Personality type did not play a predictive role in participation. Similar to the results found by Cutietta and McAllister (1997) music students, both choral and non-choral, did not differ from the general school population in regards to personality type. Additionally, it could be argued that sex-role and perceptions of gender did not play a role in predictability of group membership. Feminine scores on

the CSSI were a significant predictor music participation, however that result may have been due to an unequal number of boys and girls within the groups of choral and non-choral music participants.

Total Participation Function 2

The secondary function discriminated Non-choral Music Participants from Choral and Non-music Participants on three predictor variables. These variables included perceptions of the junior high choral program, ITBS language scores, and ITBS math scores.

Non-choral music participants showed a less favorable response to or had less knowledge about the junior high choral music program than the choral and non-music participants. This result must be evaluated carefully. It may be likely that non-choral participants responded less favorably because they were more interested in the strengths of the instrumental program they than the strengths of the choral music program.

Non-choral music participants' perception of the junior high choral program revealed two possibilities for interpretation. The first possibility is that by sixth grade, after two years of instrumental instruction, instrumental students have aligned themselves to a particular kind of music making. The have created an identity that labels them as an instrumental student and as a result have stopped investigating information on various kinds of music making in the schools. The second possibility is that non-choral music participants showed a dislike of the choral program at the junior high level. Their association as instrumentalists did not leave them undifferentiated about the quality of

another music program at the junior high level; instead they believed the quality of the choral ensembles and choral teacher were poor or less strong than their perceptions of the instrumental music programs. This is unlikely given the historic strength of these programs.

Both the ITBS scores for language and math for the non-choral music participants were stronger than those of the choral and non-participants. Many previous studies (Shatin, Kotter, & Longmore, 1968; Martin, 1976; and Kemp, 1981a) have found that performance musicians are have high academic achievement. Webber (1974) and Klinedinst (1991) revealed that instrumental students show a higher than average score on composite ITBS scores and higher achievement in math, language, and scholastic ability. It is unclear as to why instrumental students scored higher on language and math than the other two groups and this finding warrants further investigation.

Research in academic achievement and music participation is inconclusive in regards to whether music activity increases academic achievement or if students who achieve in academics are drawn to participate in music activities. This study did reveal that non-choral music participants scored higher in these two academic areas than choral participants and that predictions could not be drawn based on academic achievement between choral participants and non-music participants.

Research Question 2

Do predictor variables for choral or music participants in middle level education vary by gender?

Results indicate that there are differences by gender in students' musical participation decision making. Prediction variables for female music students differed from those of the total analysis for music participants. Male Non-choral Participants and Choral Participants differed from Non-music Participants in the ranking of predictor variables.

Female Participation

The discriminate function analysis for female participation in this study revealed one significant function ($p<.05$) which differentiated music participants, choral and non-choral, from non-music participants. The significant function showed that female music students' participation can be predicted by nine variables which include: Musical self concept, vocal ability, attitude towards music, peer influence, family musical background, musical ability, perceptions of junior high, a lower perceptions of costs, and a high feminine score on the CSSI.

There were few differences between the descriminant function analysis for the total sample and female only. Vocal ability as a predictor variable moved from being the 5th variable of significance to the 2nd variable of significance for the female musicians. This means that female musicians were predicted for group membership by their musical self-concept followed by actual singing ability. Two additional variables that were

different from the original total included a lower significance of the perceived cost of participation and the introduction of perception of the junior high choir program as a significant variable.

Female music participants made up 63% of the total music participants. As a result, their predictor variables are very similar in structure to those of the total population for music participants. Given their dominant numbers for these categories it is surprising that vocal ability was able to gain significance among the predictors when female participants were analyzed alone. Past research (Petzold, 1969; Edmonson, 1972; Joundan-DeCarbo, 1982; Goetze & Horii, 1989; Trollinger, 1994) has shown that females may have a developmental advantage in singing ability in the upper elementary grades. Musical self-concept did continue to reside as the number one predictor variable, which leads to the assumption that not only do female students need to continue to improve in their singing skills but that they need to believe that they are capable singers and musicians.

For female music participants the perception of the junior high program became a significant predictor for membership. This may be due in part to the fact that 54% of the females who were music participants were from the choral music classification. This reveals to music educators the importance of recruitment and knowledge sharing with music students at their feeder elementary schools. The female music participants showed that they were aware of choral music opportunities available to them at the junior high and that they were familiar with the junior high music teacher and felt positively about the junior high programs. Additionally, it needs to be stated that the advanced choir at all

three junior high schools were girls' ensembles, and that three of the four choirs at each school were for girls only. This unbalanced mix of course offerings may have influenced how much girls knew about the junior high choral programs and their teachers.

The perceived cost of participation was lower among female music students than it was for total music participants. These results would indicate that female students do not believe that participation in musical ensembles would detract from other activities they would like to be involved with at the middle level.

Male Participation

Analysis of male participation was determined using discriminant function analysis. The smallest group (male Choral Participants=10) was too small to determine a significant classification of membership. However, because this study represented an entire population the results of the analysis will be discussed, although the results are not generalizable.

The discriminate function analysis for male participation revealed two significant functions ($p<.01$) for prediction. The first function discriminated Non-choral Music participants from Choral and Non-music Participants. The second function discriminated Choral Participants from Non-choral and Non-music Participants.

The first function revealed two predictor variables for male non-choral music participants which were a strong family musical background and a low score in psychoticism. The second function which discriminated choral music participants from non-choral and non-music participants consisted of seven variables: Musical self-concept,

positive attitude towards music, lower perceived costs, strong peer influence, a high masculine score on the CSSI, a higher neuroticism score, and vocal ability.

Male non-choral music participants' first predictor variable was family musical background. This is of particular interest as family musical background was only the sixth predictor variable for the total population analysis, fifth predictor variable for the female music participants, and was not a significant predictor for male choral participants. The results regarding family musical background for male non-choral participants shows that parental influence can motivate students continued participation. Family musical background was not a significant factor for male choral participants and it leads to more questions than answers regarding why family influence effects one group of music participants and not the other. A possible answer to this question is that singing is commonly thought to be a female pursuit (Trollinger, 1994). Parents and families may not encourage male participation in singing as they would encourage instrumental participation. Music educators need to continue to educate not only students but also the community about the importance of both female and male participation in singing.

The second predictor variable for Non-choral music participants was a lower than average score in psychoticism. Psychoticsm is defined as a lacking of concern for other people and a lacking of feelings of empathy. Having a low score in psychoticsm would imply that the male Non-choral Music students have an increased concern and empathy for others. These results are different than those of Cuietta and McAllister (1997) who found no difference in personality type for instrumental students verses the general

school population. This difference may be the result of having analyzed the data by gender or they may be the result of the smaller sample size used in the gender analysis.

Male choral participants' main predictor variables were musical self-concept, attitude, perceived costs, peer influence and vocal ability. These predictor variables differed only slightly in order from the responses of female Music Participants. What was different between female Music Participants and male Choral Participants was that a strong musical ability and perceptions of the junior high music program were not significant predictors for participation.

Males who enrolled for choral music were not the strongest musicians as rated by their elementary teachers, although they believed they were musically capable. Musical self-concept remained the number one significant predictor variable for this group followed by attitude towards music. Similar to past research (Mizener, 1993), there was little relationship between singers musical ability and their attitude towards singing for the male choral participants. These results indicate that it may be more important for music educators to instill musical self-confidence and self-esteem even as boys enter vocal maturation prior to middle level education than to be concerned with the actual musical or vocal ability. This is not to say that continued work in the elementary classroom on male singing and musical ability should not be done, but that the outcome of these lessons should lead to the students feeling successful about singing and music making.

Comparison of Gender Results

Females appear to participate in music due to their high musical self-concept attitude, and actual vocal and musical ability. Singing is the principal musical element in most elementary general music classes. Research has shown that females may have a better opportunity for vocal improvement and growth in the elementary music classroom than males do and that they significantly benefit more from training than their male counterparts (Jordan-DeCarbo, 1982). Females in the upper elementary grade levels may perceive and perform music more accurately with regard to pitch than males (Trollinger, 1994). Research has also shown that students prefer models of the same gender as themselves. Only two of the seven elementary music teachers in this study were male. Trollinger (1994) states that there are so few male models for children, that many boys believe singing is a female pursuit.

Male band students were dramatically different from other males, female music participants, and the total population in the significance level of their family musical background. Zdzinski (1992) found similar results among male instrumentalists; males with low aptitude and high parental support achieved more musically than males with low aptitude and low parental support. Additionally, he found that parental support was not an important variable for females, as females with low aptitude and low parental involvement achieved musically as well as those with low aptitude and high parental involvement.

Similarly to female Choral Participants, male Choral Participants had a high musical self-concept but the variables of vocal or musical ability were not significant

predictors. Although choral males could not be differentiated from other males by their ability, it was their perception of their musical ability that assisted their decision to participate in choral music.

The differences between male Choral Participants and male Non-choral Music Participants was dramatic in this study. The function that separated choral participants from other males showed that males appear to be registering in music instruction for very different reasons. Males interested in continued instrumental instruction make their decision based on their family musical background, while male choir students are choosing to participate based on their musical self-concept.

These findings imply that male Choral Participants are not necessarily from musical families or that their families do not influence their decision to participate. Castelli (1986) identified that male enrollment in choral classes is declining and that this may be due in part to the perception of singing being a female pursuit. In order to combat this genderization of singing, music educators need to emphasis the important role males have in singing ensembles. This might be best done through the additional use of live mixed or male only choirs, the playing and listening to of male singers and choirs, and strong advocating to students' families and the community the importance of male singing. Sloboda and Howe (1991) state that parental and teacher influence in music making and perceptions about singing are long lasting and greatly influence musical development.

Research Question 3

Do predictor variables of choral or music participants in the middle level vary by school?

Teacher and school data were presented descriptively to help interpret a school-by-school discriminant function analysis. The descriptive data on junior high teachers revealed differences in employment history and experience, education, goals and concerns about their programs, and recruitment strategies. These differences may help to describe the differences in number of Choral Participants and predictor variables.

The descriptive data on school participation revealed that participation in both choral and non-choral music classes was unequal among the schools. School A had the largest number of music participants with 29% of the total sample registering for either choir (11%) or a non-choral music class (18%). As evident by the percentages for School A, the instrumental program had a significantly larger number of participants than the choral music classes. School C had the second largest number of music participants with 28% registering for a music class, 31% in choir and 12% in instrumental music. School B had the smallest percentage of music participants with 18% registering for a music course, 9% in both choral and instrumental classes. These results indicate that there are school by school differences in participation.

Choral music classes showed the greatest disparity by gender, with only 15% of male students wanting to participate. By school, the ratio of males to females registered for choral music was also unequal with school A at 11%, school B at 18% and school C

at 19% male membership. Although male choral participation differed by school it is difficult to examine them closely due to the small group size of male choral participants. It can be said, however, that the numbers were all relatively similar, with no one school having close to equal male to female participation.

Overall music participants, both choral and non-choral, made up 25% of this study's population. Although at first this might be viewed as a positive response by students towards music education courses, it also reveals that 75% of the students in this study elected not to participate in school music at the middle level. Further analysis of the junior high teachers' descriptive data and the school by school discriminant function analyses help to identify possible reasons why some students desired to participate while others were not.

Teacher Descriptive Data

There were very few differences between the three junior high teacher's scores on the Eysenck Personality Inventory. All teachers' received a score of zero in the category of psychoticism. The extroversion scores for all teachers were within 8 points of each other and considered to be in the moderate to high extroversion category. Teacher A had a slightly higher score in neuroticism, although all teachers fell in the low to moderate range. Teachers' score were more diverse on the Bem Sex-role Inventory. Teacher A was found to be in the high Feminine range, while Teacher B was in the moderate masculine range, and Teacher C's score was considered to be androgynous, neither masculine nor feminine.

It is unclear if teaching experience, years spent teaching within the same building, and teachers' education had an effect on students' desire to participate in choral music. Teacher C, who had 26 years of teaching experience and 25 years teaching in her building, had the highest percentage of 7th grade choral participants (20%). Teacher A, who had the least teaching experience, had the second highest registration number (11%). Teacher C, the most experienced teacher, had taught for 33 years but had only been in her current building for the past 5 years but had the smallest percentage of students register for choir. Teachers B and C both held upper level degree in either music or education, while Teacher A held only a bachelors degree. These data suggests that time spent teaching at one location may have a greater impact on student participation than years spent teaching or educational degrees. On the contrary, when analyzing the data by gender it is important to point out that Teacher C, who had the most years of teaching experience had the largest number of male participants, Teacher B who had the second most years of teaching had the second largest male enrollment, and Teacher A, who had the fewest years of teaching, had the smallest male enrollment.

Enrollment figures by school reveal that time spent in current location may be the best predictor for student participation. Educational experience or degrees earned did not appear to be a factor in the total number of students who enrolled for each program. There was a difference by gender that may have been an effect of teacher experience. The two schools that had the more experienced teachers had somewhat larger male enrollment figures.

The number of performance opportunities offered to students among the three junior high schools was relatively equal, with all schools performing between 12 and 13 concerts a year. School A choirs most often performed in their own school building, while Schools B and C mainly performed at the local performing arts center. Festival ratings were also similar among the three schools with ensembles receiving between a I/I- rating for their advanced girls' ensemble and a II/II+ rating for their boys' ensemble.

Retention of students already participating in choral activities at the elementary schools into the choral programs at the junior high schools was relatively low. School A, which maintained the highest number of retained students only kept 48% of the incoming elementary choir students involved at the junior high level. This may have been due in part to the junior high teacher's individualized recruitment letter to incoming 7th grade students. The lowest percentage of retained students was in Junior High B, where only 22% of the students who participated in elementary choir chose to remain in choir at the junior high level. Junior High C, with had 38% retention, also had the highest number of new recruited students into the junior high program (29%).

Recruitment strategies were similar between the three schools with the exception of written communication with incoming 6th grade students and the frequency of communication between the junior high teacher and their feeder elementary school general music teachers. Results indicate that the kind of communication delivered to 6th grade students, personalized letters, generic letters, or no letters, was not as important to the recruitment of new participants as the frequency of communication with general music teachers or the reputation of the junior high teacher within the district and

community. The two teachers that reported twice-monthly communication with their feeder schools had higher percentages of participation than the teacher who reported twice-yearly communication. This indicates that the relationship between secondary choral teachers and elementary general music teachers is an important aspect of students continued participation in music.

Teacher A communicated less often with her feeder schools than Teachers B and C. Teacher A sent out personalized letters to the parents of students who had participated in elementary choir, while Teachers B sent out a generic letter to all incoming 7th grade students. Teacher C did not always make an end of the year contact with 6th grade students. These results contradict the outcome of registration numbers. Teacher C who appeared to have less contact with individual students recruited the largest number of participants and teacher B who did make individual contact with students who seemed to be interested had the smallest number of participants. Additionally, although Teacher B and C had more frequent communication with elementary teachers, Teacher A had a higher enrollment than teacher B.

These results indicate that the use of personalized letters to students currently participating in elementary school choir may help junior high teachers retain those students already participating at the elementary level, but will not necessarily help to recruit those students who are new to choir at either level. The most important factor for the recruitment of new students in this study was the reputation of the junior high teacher and junior high program.

The extent to which the teacher was known within the school district and surrounding community had a positive affect on the recruitment of students new to choral music. Teacher C had been recognized by the state as "Teacher of the Year". This award had been highly publicized by the school and community. Additionally, teacher C served as the district music supervisor, which made her well know to other music teachers in the district.

Registration processes were similar for all three junior high schools. Of particular interest to this study is the scheduling of boys choral ensembles. As evident through interviews with school councilors and the junior high choir teachers it may be more difficult for an interested male student to enroll in choral classes due to the singleton aspect of the class and the difference in time scheduling to make the class available to boys in all grades, 7^{th}-9^{th}. This situation is also true for advanced instrumental students who qualify to participate in an ensemble beyond the typical 7^{th} grade level. Research discussed earlier shows that male Non-choral Music Participants' most significant predictor for participation was family musical background. This leads to further questioning about the placement of students. It may be more likely that if a male instrumental student has scheduling difficulties they could receive assistance to alter or correct their schedule from musically supportive parents, where as male Choral Participants may have a more difficult time handling scheduling conflicts.

School by School Discriminant Function Analyses

The discriminant function analysis for school A revealed one significant function. This function separated Non-choral Music Participants from the other two groups. Non-choral Music Participants first two predictors were vocal and musical ability. These predictors differed from the total analysis of Music to Non-music participants. These results indicate that Non-choral Music Participants at School A had stronger vocal and musical ability scores than Choral Participants and Non-music Participants. This leads to questions regarding why instrumental students at school A showed stronger ability in music while vocal and musical ability scores were not important for choral students. Future research in this area is needed.

The discriminant function analysis for school B resulted in one significant function. This function maximally separated Choral Participants from the other two groups. Choral Participants in school B had a higher musical self-concept and a higher than average family musical background. This was of particular interest as school B had the most equal ratio of male and female Choral Participants and that family musical background was not a significant predictor for total male choral participation in the gender analysis. An important aspect of school B was that teacher B had the most years of teaching experience. It is unclear if this had an effect on male participation or family support of males within this school.

The discriminant function analysis of school C maximally separated Choral Participants from the other two groups. The most significant predictor for Choral Participants in school C were peer influence, musical self-concept, and perceptions of the

junior high choir program. Among all the analyses these were the highest rankings of the predictor variables of peer influence and perceptions of the junior high choral program. These results indicate that the decisions and choices of peers may have influenced the students who enrolled in choir at school C. It also indicates that Choral Participants either had better familiarity with school C's choir teacher and program, or had a higher overall opinion as to the quality of that program.

Student Predictor Variables

The main purpose of this study was to investigate sets of predictor variables by total population, gender and school. The discriminant function analysis has shown that some variables are stronger predictors than others. Below is a listing of the variables studied and interpretations of what role these variables played in student decision making.

Personality

In general, student personality was not a significant predictor for student participation in music classes, however there were two exceptions. Personality characteristics did appear as significant predictor variables for male Non-choral music participants and male Choral Participants, although these characteristics were less significant than other variables in the analysis. Male Non-choral Music Participants had a slightly lower than average score in psychoticism than members of the other two groups. Male Choral participants had a slightly higher score in neuroticism than Non-

choral Music and Non-music participants. Caution must be used in interpretation of the male Choral Participants data due to the small group size. The traits of extroversion and lie scale did not appear as significant predictors in any of the analyses, which suggests that these variables do not play a role in students' decision making.

The low occurrence of personality traits as significant predictors suggests that personality characteristics do not matter in regards to music participation. This is good news for music educators, as this result implies that students of all personality types may be potential candidates for music participation.

Academic Ability

Past research has been inconclusive in determining if academic ability plays a role in students' decision making regarding music participation. Academic ability was a significant factor in the total population and school analyses. The second function for the total population analysis reveals that Non-choral Music Participants had higher language and math scores on the ITBS than the other two groups. Academic ability was not a predictor in the analysis by gender. School A Choral Participants had higher reading scores than the other two groups.

Academic ability was not a predictor for analyses by gender. This finding is intriguing as two of the three analyses in which it was a predictor were groups with high male participation. Function 2 of the total population differentiated Non-choral Music Participants from the other two groups. The Non-Choral Music Participants group held the most male music participants. The only majority female group in which academic

ability was a significant predictor was the Choral Participants of school B, and although academic ability did surface as a predictor, it was the reading score, not math or language as were the predictors for the other two groups.

Musical and Vocal Ability

Musical and vocal ability were predictor variables in four of the six analyses including total population, female and male gender, and junior high A. In the total population analysis vocal ability was the 5th most significant predictor and musical ability was the 8th most significant predictor for group membership. By female gender, vocal ability was the 2nd most significant predictor and musical ability was the 6th most significant predictor for music participation, both choral and non-choral. By male gender, vocal ability was a significant factor for the choral participation as the 7th variable. School A Non-choral Music Participants number one predictor was vocal ability, and the second predictor was musical ability.

Vocal and musical ability are part of students' decision making regarding participation in music classes. However, it is surprising given prior research that musical and vocal ability are not playing as big of a role in student decision making as one might think. As discussed earlier in this chapter musical self-concept continuously emerged as a more substantial variable for prediction.

Student Musical Categories

The student musical categories included musical self-concept, family musical background, attitude towards music, peer influence, perceived costs of participation, and perceptions of the junior high choir program. All of these categories were significant predictors for one or more of the analyses.

Musical self-concept was the most predictive variable of music participation in this study. It received the highest level of significance from the groups of total population Music Participants, female Music Participants, male Choir Participants, and Choir Participants in all three junior high schools. For all choir participants, male and female, and all female Music participants the way they perceived their own ability was more important than their actual musical ability. The only group for whom musical-self concept was not a predictor variable was male Non-choral Music Participants. Their most significant predictor was family musical background.

Family musical background was the 6th predictor variable for all music participants in the analysis of total population. It also appeared as the 5th predictor variable for female Music Participants, both choral and non-choral. Its highest rankings as a predictor variable were as the 2nd predictor of school B Choir Participants and the 1st predictor of male Non-choral Music Participation. Family musical background appears to be a more important variable to some groups than others, particularly to male band students.

Attitude towards music was a significant predictor in three of the analyses. It was ranked as the 2nd most predictive variable for music participation for the total population and male Choral Participation. Attitude was the third most predictive variable for female Music Participants, both choral and non-choral. These findings suggest that male Choir Participants and female Music Participants enjoy the content of their elementary music classes, whereas male instrumental students and non-music students, in general, do not enjoy elementary general music to the same level as the other groups.

Results regarding the positive impact of peer influence on music students were unanticipated, as teachers often believe that participation is negatively affected by peer influence. Music students, with the exception of male Non-choral Music Participants, showed a higher than average influence of peers in their decision making processes. This means that most students who enrolled in music classes had a natural higher tendency to participate in the same activities that their friends do. Male Non-choral music participants were equal in level to Non-music participants in regards to peer influence.

Perceived costs of music participation were in general lower among music participants than among Non-music Participants. Music participants for the total population, female Music Participants and male Choral Participants shared the perception that music courses had few or low costs of involvement. This was not the case for male Non-choral Music Participants or Non-Music Participants who view music participation as having higher costs for participation.

Perceptions of the junior high choir program were rarely a predictor for music participation. Non-choral music participants had a negative correlation, meaning that

they had a negative perception or less knowledge of the junior high choral programs and teachers than the other two groups. The highest significance level for perception of junior high choir came from choral participants in school C.

Gender or Sex-role Perception

Students' sex-role perception was one of the weakest predictor variables of group membership. It was included as a significant predictor in three analyses, total Music Participation, female Music Participation, and male Choral Participation. The total music participation and female Music Participation shared higher than average femininity scores, and the male Choral participants had higher than average masculinity scores. In the analyses in which this variable did surface, it was always the last or second to last significant variable. It does raise some interesting questions about male choral participation. The high masculinity score for males may mean that those boys who sign up for choir may be more secure in their masculinity than others, or it may mean that they were overcompensating to represent themselves as being masculine. The appearance of a high femininity score for the total music participants may be a result of fact that more females registered for music than males.

Teacher and School Related Variables

The sample of teachers in this study was not large enough to come to conclusive results regarding teacher variables which impact student participation in choral music. However, there are variables that have been revealed that warrant further investigation.

Teacher personality did not appear effect student decision making, as all three teachers had approximately the same score on the Eysenck Personality Inventory. It is unclear if teacher gender or sex-role perception made an impact, but the findings in regards to male participation show that it may be contributing in some way.

The variables of teacher education and experience were found to be unrelated to participation choice, but time spent within the same building may have had an impact. Recruitment activities were similar among the schools, however the teachers that had more frequent communication with their feeder elementary school had a larger percentage of participation. Additionally, how well a teacher is known in a school district or surrounding community may also have an impact on students' perception of the choral program in that school.

Future Research

This study evaluated participation choice at the middle level, however no age or grade level in education is separate from those that come before or after the chosen level of study. Just as this research thoroughly investigated middle level participation by analysis of middle school specific factors, it is of equal importance to investigate participation or even continued music participation based on the experiences students are having in their elementary general, choral, and instrumental music classrooms.

The results in this study at times appeared contradictory to results within other sections, particularly when data were analyzed by gender and school. An advantage of this study was that the large sample size enabled an in-depth analysis of both the total and

sub-groups of interest, however repetition of this study is needed, particularly with large sample sub-groups to help increase reliability of the sub-group results and make them more generalizable. The male choral participant group in this study was smaller in size than the variables within the study. It would be of interest to continue research of male choral participants to determine if the variables found in this study are valid among a larger group of participants.

Some variables in this study did not predict group membership as well as others, and may need to be removed from future studies on student decision making and participation, such as student personality and gender or sex-role perception. Other variables, such as student musical self-concept, peer influence, and family musical background may be best addressed in future research through the use of sub-categories which will enable researchers to more discretely test the smaller elements that make up these larger categories.

Musical self-concept surfaced as a strong predictor for music participation. Although this term has been well-defined in past literature, it is unclear how students begin to construct their personal self-concept. Further research is needed to begin to understand how students develop a positive musical self-concept, so that teachers can implement additional strategies to encourage powerful musical self-concepts in the classroom.

Researchers need to continue to seek out additional variables that may have an impact on student participation and decision making. Participation is a multi-dimensional process, and although research is getting closer to identifying significant variables that

affect participation choice there is still a need for additional investigation into all possible factors. Investigations of additional factors need to come from all sides of the participation enigma, including student related factors, teacher and school related factors, recruitment strategies, peer and friendship groups, and students' musical environments outside the music classroom.

This study focused on participation choice of elementary students coming into the junior high program. As a result, a large portion of this study examined student perception of the junior high school programs and teachers. The results indicate that students' main predictors for participation are musical self-concept and attitude towards music. Both of these variables are established while the student is in elementary school. It would be of interest in future research to examine in more depth the elementary general music classroom and teacher, to begin to understand how students develop these traits and how these traits, from an elementary perspective, impact their decision making.

The number of students recruited and the number of students retained from their elementary music ensembles differed greatly between choral and instrumental programs. On average instrumental programs at the junior high level were able to retain 76% of the students who participated in the elementary instrumental programs, compared to the choral programs which retained only 34% of those who participated in elementary choir. Many of the discriminant function analyses which differentiated between choral and instrumental students revealed that a main factor for participation of instrumental students was a strong musical family background. Future research needs to investigate how choral teachers can create a greater parental support for choral students as they move

from elementary to junior high school. Additionally, there needs to be further investigation into why instrumental programs at the junior high were able to retain such a large percentage of elementary students. Retention of choral students was better when there was communication between the junior high choir teacher and the individual choir students at the elementary level. It would be of importance to know if this kind of communication was a significant variable for the retention of instrumental students, or if there were other factors which may have influenced instrumental students decision to continue participation at the junior high level.

Conclusion

The study of participation and student decision making is important if music educators are to continue to recruit new students and retain those already enrolled in their programs. For teachers to be able to attract more students to their programs it is imperative to understand who is enrolling and why.

Participation research has always been an important part of music education research and has direct and meaningful application in the music classroom. The present study has offered ways of examining participation that are compatible with its complexity. More studies are needed that take into account the multitude of variables which may impact student decision making in order to better understand this phenomena and to provide proven recruitment and retention strategies for teachers. The long term benefits of continued participation research include a greater number and variety of

student musicians who truly enjoy the music classroom thereby enjoying a lifetime of enhanced musicality.

REFERENCES

Allen, B. E (1981/1982). Student dropout in orchestra programs in three school systems in the state of Arkansas. (Doctoral dissertation, Northeast Louisiana University, 1981). Dissertation Abstracts International, 42, 4305A-3406A.

Anthony, J. (1974). Student perception of factors related to discontinuance from Iowa public high school band programs in districts of 10,000 or more students. (Doctoral Dissertation, University of Iowa). Dissertation Abstracts International, AAT 7513721.

Appadurai, A. (1990). Disjuncture and difference in the global cultural economy, Public Culture, 2 (2), 1-21.

Austin, J. (1988). The effect of music contest format on self-concept, motivation, achievement, and attitude of elementary band students. Journal of Research in Music Education, 36, 95-107.

Austin, J. R. (1988). The music dropout problem: A review of literature. Update, 6 (2), 9-12.

Austin, J. R. (1990). The relationship of music self-esteem to degree of participation in school and out-of-school music activities among upper-elementary students. Contributions to Music Education, 17, 20-31.

Baker, D. S. (1980). The effect of appropriate and inappropriate in-class song performance preference on third- and fourth-grade students. Journal of Research in Music Education, 28, 3-17.

Barker, R. G. & Grump, P. V. (1964). Big school, small school. Palo Alto, CA: Stanford University Press.

Bem, S. L. (1974). The measurement of psychological androgyny. Journal of Consulting and Clinical Psychology, 42, 155-162.

Bentley, A. (1969). Measurement and development of musical abilities. Journal of Research in Music Education, 17, 41-46.

Bergee, M. J. (1992). The relationship between music education majors' personality profiles, other education majors' profiles, and selected indicators of music teaching success. Council for Research in Music Education Bulletin, 112, 34-42.

Boswell, J. (1991). Comparison of attitudinal assessments in middle and junior high school general music. Bulletin of the Council for Research in Music Education, 108, 49-58.

Bowman, B. A. (1988). A cross-section descriptive study of intermediate elementary students' attitudes towards school music activities. (Doctoral Dissertation, University of Kansas). Dissertation Abstracts International, ATT 8903082.

Brookover, W. B. & Erickson, E. L. (1975). Sociology of Education. Illinois: The Dursey Press.

Broquist, O. (1961). A survey of the attitudes of 2594 Wisconsin elementary pupils towards the experience in music. (Doctoral Dissertation, University of Wisconsin). Dissertation Abstracts International, AAT 6105877.

Broquist, O. A. (1964) A survey of attitudes of 2594 Wisconsin elementary school pupils toward their learning experiences in music. Bulletin of the Council for Research in Music Education, 2, 36-40.

Brown, B. A., Frankel. B. G., & Fennell, M. P. (1989). Hugs or shrugs: Parental

and peer influence on continuity of involvement in sports by female adolescents. Sex Roles, 20, p. 397-409.

Castelli, P. A. (1988). Attitudes of vocal music educators and public secondary school students on selected factors which influence a decline in male enrollment occurring between elementary and secondary school vocal music programs (Critique). Bulletin of the Council for Research in Music Education, 96, 84-86.

Cattell, R. B. & Cattell, M. D. (1969). Handbook for the Jr.-Sr. High School Personality Questionnaire (HSPQ). Champaign, Illinois: Institute for Personality and Ability Testing.

Cattell, R. B., Eber, H. W. & Tatsuoka, M. M. (1970). Handbook for the Sixteeen Personality Factor Questionnaire. Champaign, Illinois: Institute for Personality and Ability Testing.

Clements, A. C. (2000). Motivation for High School Guitar Students. Paper presented at Tonga, ISME Pacific Conference, Auckland, New Zealand.

Clements, A. C. & Demorest, S. M. (1998). The impact of block scheduling of the high school music program. Voice of Washington Music Educators, XLIII (3), R6-R8.

Colley, B. D. (1991). Artists, musicians, and school principals: A study of expectations. (Doctoral Dissertation, Harvard University), Dissertation Abstracts International, ATT 9009836.

Cooksey. (1978). A Facet-Factorial Approach to Rating High School Choral Music Performance. Journal of Research in Music Education, 25, 342-453.

Cox, J. (1989). Rehearsal organizational structures used by successful high school choral directors. Journal of Research in Music Education, 37, 201-218.

Crowther, R. D. & Durkin, K. (1982). Sex- and age –related differences in the musical behavior, interest, and attitudes towards music of 232 secondary school students. Educational Studies, 8, 31-139.

Cutietta, R. A. & McAllister, P. A. (1997). Student personality and instrumental participation, continuation, and choice. Journal of Research in Music Education, 45, 282-294.

Davies, A. & Roberts, E. (1975). Poor pitch singing: A survey of its incidence in school children. Psychology of Music, 3 (2), 24-36.

Delano, A., & Royse, D. (1987). Factors Influencing the Decision of College Freshmen to Participate or Not to Participate in Kent State University Music Ensembles. Contributions to Music Education, 14, 9-18.

Delzell, J. K. and Doerksen, P. F. (1998). Reconsidering the grade level for beginning instrumental music. Update, 16/2, 17-22.

Demorest, S. M. & Morrison, S. J. (2000). Does music make you smarter? Music Educators Journal, *86* (6), 33-39, 58.

Deober, G. E. (1987). Predicting continued Participation in college chemistry for men and women. Journal of Research in Science Teaching, 24 (6), 527-538.

Drews, C. L. B. & Williams, M. S. (1989). Student musicians' personality styles, stresses, coping patterns. Psychology of Music, 17 (1), 37-47.

Dusek, J. & Joseph, G. (1983). The bases of teacher experience: A meta-analysis.

Journal of Educational Psychology, 75, 327.

Dyce, J. & O'Connor, B. (1994). The Personalities of Popular Musicians. Psychology of Music, 22 (2) 168-173.

Eagly, A. H. (1987). Sex differences in social behavior: A social-role interpretation. Hillside, NJ: Lawrence Erlbaum Associates.

Edmondson, F. A. III (1972). Effect of interval direction on pitch acuity in solo performance. Journal of Research in Music Education, 20, 246-254.

Eysenck, H. J. (1975). Eysneck Personality Questionnaire (Junior and Adult). San Diego, CA: Educational and Industrial Testing Service.

Eysenck, H. J. & Eysneck, S. B. G. (1975). Eysneck Personality Questionnaire (Junior and Adult) Manual. San Diego, CA: Educational and Industrial Testing Service.

Finnäs. (1989). How can musical preferences be modified? A research review. Council for Research in Music Education Bulletin, 102, 32-48.

Forsythe, J. L. (1977). Elementary students attending behavior as a function of classroom activities. Journal of Research in Music Education, 25, 228-239.

Frakes, L. (1984). Differences in music achievement, academic achievement, and attitude among participants, dropouts, and nonparticipants in secondary school music. (Doctorial Dissertation, University of Iowa). Dissertation Abstracts International, AAT 8507938.

Furman, C. E. and Duke, R. (1988). An effect of majority consensus on preferences for recorded orchestral and popular music. Journal of Research in Music Education, 36, 220-231.

Garbarino, J. (1989). An ecological perspective on the role play of child development. In M. N. Bloch & A.D. Pellegrini (Eds.) The Ecological Context of Children's' play. Norwood: New Jersey: Ablex.

Gates, J. T. (1989). A historical comparison of public singing by American men and women. Journal of Research in Music Education, 37, 32-47.

Gates, J. T. (1991). Music participation: Theory, research, and policy. Bulletin of the Council of Research in Music Education, 109, 1-35.

Gay, G. (1974). Differential dyadic interactions of black and white teachers with black and white pupils in recently desegregated classrooms: A function of teacher and pupil ethnicity. Washington, DC: National Institute of Education

Gerber, T. (1989). Reaching all students: the ultimate challenge. Music Educators Journal, 75(7), 36.

Goetze, M. & Horii, Y. (1989). A comparison of the pitch accuracy of group and individual singing in young children. Bulletin of the Council for Research in Music Education, 99, 57-73.

Goldsmith, M. L. (1967). Prediction of college majors by personality test. Journal of Counseling Psychology, 14, 302-308.

Good, T. & Brophy, J. (1984). Looking in classrooms. (3rd ed.) New York: Harper & Row.

Green, G. A. (1990). Effect of vocal modeling on pitch-matching accuracy of elementary school children. Journal of Research in Music Education, 38 (3), 225-232.

Hagner, E. (1985). I'm gonna quit band! Music Educators Journal, 71(9), 33.

Haladyna, T. & Thomas, G. (1979). The attitudes of elementary school children toward school and subject matters. Journal of Experimental Education, 48 (I), 18-23.

Hallam, S. (1998). The predictors of achievement and dropout in instrumental tuition. Psychology of Music, 26 (2), 116-132.

Hartley, L. A. (1996). Influence of starting grade and school organization on enrollment and retention in beginning instrumental music. Journal of Research in Music Education, 44, 304-318.

Hedden, S. K. (1982). Prediction of music achievement in the elementary school. Journal of Research in Music Education, 30, 61-68.

Hoffer, C. R. (1980). Enrollment trends in secondary school music courses. Council for Research in Music Education Bulletin, 63, 32-48.

Hoffer, C. R. (1983). Teenagers and music. In Teaching music in the secondary schools. Belmont, CA: Wadsworth Publishing Company, 347 – 365.

Holland, A. & Andre, T. (1987). Participation in extracurricular activities in secondary school: What is known, what needs to be known? Review of Educational Research, 57, 437-466.

Hurley, C. G. (1995). Student motivations for beginning and continuing/discontinuing string music instruction. Quarterly Journal of Music Teaching and Learning, 6 (1), 44-55.

Jones, M. (1979). Using a vertical keyboard instrument with uncertain singers. Journal of Research in Music Education, 27, 173-184.

Jordan-DeCarbo, J. (1982). Same/different discrimination techniques, readiness

training, pattern treatment, ad sex on aural discrimination and singing of tonal patterns by kindergartners. Journal of Research in Music Education, 30, 237-246.

Kehrberg, (1989). An investigation of the relationships between musical aptitude, general music achievement, attitude toward music, school music participation, school music achievement, and students' outside-of-school environment in a rural ethnic community. Council for Research in Music Education Bulletin, 100.

Kemp, A. E. (1981a). Personality structure of the musician, I: Identifying a profile of traits for the performer. Psychology of Music, 9 (1), 3-14.

Kemp, A. E. (1981b). Personality structure of the musician, II: Identifying a profile of traits for the composer. Psychology of Music, 9 (2), 69-75.

Kemp, A. E. (1982a). Personality Structure of the Musician, III: The Significance of Sex Differences. Psychology of Music, 10 (1), 48-58.

Kemp, A. E. (1982b). Personality structure of the musician, IV: Incorporating group profiles into a comprehensive model. Psychology of Music, 10 (2), 3-6.

Kemp, A. E. (1985). Psychological androgyny in musicians. Council for Research in Music Education Bulletin, 85.

Killian, J. N. (1990). Effect of model characteristics on musical preference of junior high students. Journal of Research in Music Education, 38, 115-123.

Kirkpatrick, W. C. (1962). Relationship between singing ability of pre-kindergarten children and their home musical environment. Dissertation Abstracts International, 23, 886. (University Microfilms No. 62-3736).

Klemish, J. J. (1974). Treating the uncertain singer through the use of the tape

recorder. Bulletin of the Council for Research in Music Education, 37, 36-45.

Klinedinst, R. E. (1991). Prediction performance achievement and retention of fifth grade instrumental students. Journal of Research in Music Education, 38, 115-123.

Koza, J. E. (1993). The missing males and other gender issues in music education: Evidence from the music supervisors' journal, 1914-1924. Journal of Research in Music Education, 41, 212-232.

Krueger, R. J. (1974). An investigation of personality and music teaching success: Final report. Washington D. C. Office of Education, Regional Research Program (ERIC Document NO. ED 096 230).

Krueger, R. J. (1976). An investigation of personality and music teaching success. Council for Research in Music Education Bulletin, 47.

LeBlanc, A. & Cote, R. (1983). Effects of tempo and performance medium on children's music preferences. Journal of Research in Music Education, 31, 57-66.

LeBlanc, A. & Sherrill, C. (1986). Effect of vocal vibrato and performer's sex on children's' musical preference. Journal of Research in Music Education, 34, 222-237.

Lindsay, P. (1982). The effect of high school size on student participation, satisfaction, and attendance. Educational Evaluation and Policy Analysis, 4 (1), 57-65.

MacGregor, B. (1968). Music activity preferences of a selected group of fourth-grade children. Journal of Research in Music Education, 16, 302-07.

Manturzewska, M. (1990). A biographical study of the life-span development of professional musicians. Psychology of Music, 18 (2), 112-139.

Martin, P. J. (1976). Appreciation of music in relation to peromatity factors.

Ph.D. Thesis, University of Glasgow.

Mawbey, W .E. (1973). Wastage from instrumental classes in schools. Psychology of Music, 1 (1), 33-43.

Miller, A. M. (1992). The effect of middle school student/choral teacher interaction and other factors on enrollment choice of prospective singers. (Doctoral Dissertation, University of Kansas). Dissrtation Abstracts International, AAT 9405767.

Miller, J. L. (1988). The student. In Vocal music education: Teaching in the secondary school. Englewood Cliffs, NJ: Prentice-Hall Inc.

Mizener, C. P. (1993). Attitudes of children toward singing and choir participation and assessed singing skill. Journal of Research in Music Education, 41, 233-245.

Money, J. (1987). Propaedutics of ducious G-1/R: Theoretical foundations for understanding dimorphic gender-identity / role. in J. M. Reinich, L. A. Rosenblum, and S. A. Sanders (Eds.) Masculinity/femininity: Basic perspectives (pp. 13-34). New York: Oxford.

Moore, R. S. (1976). Effect of differential teaching on achievement, attitude and teaching skills. Journal of Research in Music Education, 24, 129-141.

Moore, R. S. (1987-88). The use of rehearsal time by an experienced choral conductor with a children's choir. Missouri Journal of Research in Music Education, 5 (5), 39-56.

Moore, R. S. (1991). Comparison of children's and adults vocal ranges and preferred tessituras in singing familiar songs. Journal of Research in Music Education,

107, 13-19.

Morehouse, T. L. (1987). The relationship of selected attitudinal factors to dropout and retention in beginning string students. (Doctoral Dissertation, University of Houston). Dissertation Abstracts International, AAT 8811016.

Nolin, W. H. (1973). Attitudinal growth patterns toward elementary school music experiences. Journal of Research in Music Education, 21, 123-34.

Parker, O. G. (1978). The relationship of musical ability, intelligence, and socioeconomic status to aesthetic sensitivity. Psychology of Music, 6 (1), 30-35.

Parsons, J. E. (1983). Expectancies, values, and academic behaviors. In J. T. Specne (Ed.), Achievement and achievement motives: Psychological and sociological approaches. San Francisco: W. F. Freeman.

Pemberton, C. A. (1992). Sense and nonsense: Exploring the implications of gender roles as reflected in the work of Lowell Mason. Quarterly Journal of Music Teaching and Learning, 3 (3), 5-12.

Petzold, R. G. (1969). Auditory perception by children. Journal of Research in Music Education, 17, 82-87.

Pogonowski, L. M. (1985). Attitude assessment of upper elementary students in a process-oriented music curriculum. Journal of Research in Music Education, 33, 247-257.

Porter, S. (1977). The effect of multiple discrimination training on pitch matching behaviors of uncertain singers. Journal of Research in Music Education, 25, 68-82.

Rebok. G. W. (1987). Life-span cognitive development. New York: Holt, Rinehart and Winston.

Roberts, B. A. (1999). Being a singer: A sociological analysis of the role identity of university voice majors. Canadian Music Educator, 40 (3), 39-42.

Royse. (1989). "Characteristics of high school chorus, band and orchestra members as described by the strong vocational interest blank". Council for Research in Music Education Bulletin, 74.

Schaie, K. W. (1987). Aging and Human Performance. In M. W. Reily, J. D. Matarazzo, and A. Baum (Eds.) Perspectives in Behavioral Medicine: The aging dimension (pp.29-37). Hillside, New Jersey: L. Erlbaum Associates.

Schmidt, C. P. (1989). Applied music teaching behavior as a function of selected personality variables. Journal of Research in Music Education, 37, p. 258-271.

Shamir, B. & Ruskin, H. (1982). Sport participation vs. sport spectatorship: Two mode of leisure behavior. Paper presented at the 10th World Congress of Spciology. Jerusalem: The Hebrew University.

Shatin, L. Kotter, W. & Longmore, G. (1968). Personality traits of music therapsits. Psychology Rep., 23, 573-574.

Shaw, C. N. & Tomcala, M. (1976). A music attitude scale for use with upper elementary children. Journal of Research in Music Education, 24, 73-80.

Siemens, M. T. (1969). Comparison of Orff and traditional instructional methods in music. Journal of Research in Music Education, 17, 272-85.

Simmons, O. D. (1971). Reach the bedrock of student interest. Music Educators

Journal, 58(3), 38-41.

Sloboda, J. & Howe, M. J. A. (1991). Biographical precursors of musical excellence: An interview study. Psychology of Music, 19, 3-21.

Stericker, A. B. & Kurdek, L. A. (1982). Dimensions and correlates of third through eight graders' sex-role self-concepts. Sex Roles, 8, 915-929.

Taebel, D. K., & Coker, J. G. (1980). Teacher effectiveness in elementary classroom music: Relationships among competency measures, pupil product measures, and certain attitude variables. Journal of Research in Music Education, 28, 250-264.

Tinsley, H. E. A. (1997). A psychological perspective on leisure. Leisure Sciences, 19, 29 -294.

Trapell, P. D. & Wiggins, J. S. (1990). Extension of the interpersonal adjectives scales to include the big five dimensions of personality. Journay of Personality and Social Psychology, 59, 781-790.

Trollinger, L. M. (1994). Sex/gender research in music education: A review. Quarterly Journal of Music Teaching and Learning , 5 (1) 22-39.

Van Camp, L. (1988). Current status of U.S. secondary and college/university groups and male participation: Part 1, the survey. Choral Journal, 29 (4), 5-10.

Vander Ark, S. D.; Nolin, W. H.; & Newman, I. (1980). Relationships between musical attitudes, self-esteem, social status and grade level of elementary children. Bulletin of the Council for Research in Music Education, 62, 31-41.

Veaco, L. & Brandon, C. (1986). The preferred teacher: A content analysis of young adolescents' writings. Journal of Early Adolescence, 6, 221-229.

Walker, E. (1988). Providing positive role models for young black males. Phi Delta Kappan, 69, 773-774.

Walker, L. M. and Hamann, D. L. (1995). Minority recruitment: The relationship between high school students' perceptions about music participation and recruitment strategies. Bulletin of the Council for Research in Music Education, 124, 24-38.

Wassum, S.(1979). Elementary school children's vocal range. Journal of Research in Music Education, 27, 214-26.

Webber, G. H. (1974). Effectiveness of Musical and Nonmusical Measures as Predictors of Success in Beginning Instrumental Music Classes. Bulletin of the Council for Research in Music Education, 49, 36-39.

Welch, G. F. (1979). Vocal range and poor pitch singing. Psychology of Music. 7 (2), 13-31

Wolfle, E. E. (1969). Relationships between selected factors and participation in instrumental music in the Cincinnati Public Schools. (Doctoral dissertation, Indiana University, 1969). Dissertation Abstracts International, 30, 2565A-2566A.

Yarbrough, C., Bowers, J., & Benson, W. (1992). The effect of vibrato on the pitch-matching accuracy of certain and uncertain singers. Journal of Research in Music Education, 40, 30-38.

Zdzinski, S. F. (1992). Relationships among parental involvement, music aptitude, and musical achievement of instrumental music students. Journal of Research in Music Education, 40, 114-125.

Zigler, E. & Seitz, V. (1978). Changing trends in socialization theory and

research. American Behavioral Scientist, 21 (5), 731-756.

Appendix A

District Letter

November 5, 2001

Dear Elementary Parents / Guardians,

The (omitted) school district has been selected to take part in a University of Washington research study. This study will focus on music education and children's' choices regarding participation during the transition from elementary to junior high school. The main purpose of this investigation is to seek out any possible commonalties and differences regarding students who choose to participate in music at the junior high level and those who do not. The focus of this research will be on sixth grade students prior to and after seventh grade registration. It is believed that this study will add important and useful information regarding music participation in the schools to parents, music educators, and the community.

Your child's participation in this study is completely voluntary. Accompanying this letter is a permission slip from the researcher. Please read it carefully to determine if you would like your child to participate. If you have any further questions regarding this study please contact the researcher directly.

Sincerely,

Executive Director,
Curriculum, Instruction, and Assessment

Appendix B

Open Assent Form

UNIVERSITY OF WASHINGTON

CONSENT FORM

Music Participation Study

Researcher: Ann Clements, Music Education, University of Washington

My name is Ann Clements, and I am a doctoral candidate at the University of Washington. In a few weeks, I will begin a research study at your child's school. The information in this form will help you decide whether to allow your child to participate. Please read the form carefully. It is my hope that it will answer any questions you might have about the purpose of the research, what will be asked of your child, the possible risks and benefits, and your child's rights as a volunteer. If you still have questions after reading the form, I will be happy to answer them. This process is called "informed assent." Please feel free to retain a copy of this form for your records.

PURPOSE AND BENEFITS

My interest is in music education and children's choices regarding participation during the transition from elementary school to junior high school. Music at the elementary level in the Sumner School district is compulsory, meaning all students participate as part of the standard school curriculum. Junior high school in the Sumner school district offers students their first opportunity to choose whether to participate in musical activities. The main purpose of this investigation is to seek out any possible commonalities and differences regarding students who choose to participate in music at the junior high school level and those who do not. The focus of the research will be on the sixth grade students prior to and after seventh grade registration. It is my hope that this study will add important and useful information regarding music participation in the schools to parents, music educators, and the community.

PROCEDURES

The procedures for this study have been clearly defined to insure a minimal amount of disruption to your child's daily schedule. Permission to construct this study has been given at both the Sumner school District level and at your child's individual elementary school. All elementary schools in the Sumner school district have consented to participate in this study. All tools and measurements will be administered during your child's normally scheduled elementary music classes with the assistance of their regular music teacher. Measurement tools consist of a gender perception task, a personality inventory, and a researcher-devised questionnaire that asks for student perceptions regarding school music and basic family musical history, such as parent and sibling participation in musical activities.

OTHER INFORMATION

All information collected in this study, including student name, school location, and other personal information will be kept confidential. Student names will be used during the collection of data to maintain consistency and organization among the three measurements, however, once the data has been collected names will be substituted for numerical identification. At the conclusion of this study all student personal information including names will be destroyed. Should the results of this study be used for publication, student and school confidentiality will be fully maintained. All University of Washington guidelines regarding the use of children in research studies will be followed. Although there are no foreseen risks regarding the collection of data in this research study, please know that students may choose to withdraw from the process at any time without penalty or loss. Children who choose not to participate will be given alternate musical activities while data is being collected.

Thank you very much for your consideration of your child's participation in this study. If you have any further questions regarding the purpose of this study, the tools and measurements to be used, or the procedures to be used please feel free to contact me at either of the phone numbers or e-mail addresses listed above. **Due to the Sumner School District's support of this study you DO NOT need to return the below requested signatures if you consent for your child's participation. <u>All students who DO NOT return this form will be considered volunteer subjects.</u>**

_____ _____

Printed name of researcher Signature of researcher

<u>Subject's statement</u>

This study has been explained to me. I <u>DO NOT</u> volunteer my child to take part in this research.

_____ _____

Printed name of child Elementary school attended

_____ _____

Printed name of Parent/ Guardian Signature of Parent/ Guardian

If you choose to **NOT have your child participate** please return this form to the researcher OR to your child's elementary music teacher.

Appendix C

Closed Assent Form

UNIVERSITY OF WASHINGTON

CONSENT FORM

Music Participation Study

Researcher: Ann Clements, Music Education, University of Washington

My name is Ann Clements, and I am a doctoral candidate at the University of Washington. In a few weeks, I will begin a research study at your child's school. The information in this form will help you decide whether to allow your child to participate. Please read the form carefully. It is my hope that it will answer any questions you might have about the purpose of the research, what will be asked of your child, the possible risks and benefits, and your child's rights as a volunteer. If you still have questions after reading the form, I will be happy to answer them. This process is called "informed assent." Please feel free to retain a copy of this form for your records.

PURPOSE AND BENEFITS

My interest is in music education and children's choices regarding participation during the transition from elementary school to junior high school. Music at the elementary level in the Sumner school district is compulsory, meaning all students participate as part of the standard school curriculum. Junior high school in the Sumner school district offers students their first opportunity to choose whether to participate in musical activities. The main purpose of this investigation is to seek out any possible commonalities and differences regarding students who choose to participate in music at the junior high school level and those who do not. The focus of the research will be on the sixth grade student prior to and after seventh grade registration. It is my hope that this study will add important and useful information regarding music participation in the schools to parents, music educators, and the community.

PROCEDURES

The procedures for this study have been clearly defined to insure a minimal amount of disruption to your child's daily schedule. Permission to construct this study has been given at both the Sumner School District level and at your child's individual elementary school. All elementary schools in the Sumner school district have consented to participate in this study. All tools and measurements will be administered during your child's normally scheduled elementary music classes with the assistance of their regular music teacher. Measurement tools consist of a gender perception task, a personality inventory, and a researcher-devised questionnaire that asks for student perceptions regarding school music and basic family musical history, such as parent and sibling participation in musical activities.

OTHER INFORMATION

All information collected in this study, including student name, school location, and other personal information will be kept confidential. Student names will be used during the collection of data to maintain consistency and organization among the three measurements, however, once the data has been collected names will be substituted for numerical identification. At the conclusion of this study all student personal information including names will be destroyed. Should the results of this study be used for publication, student and school confidentiality will be fully maintained. All University of Washington guidelines regarding the use of children in research studies will be followed. Although there are no foreseen risks regarding the collection of data in this research study, please know that students may choose to withdraw from the process at any time without penalty or loss. Children who choose not to participate will be given alternate musical activities while data is being collected.

Thank you very much for your consideration of your child's participation in this study. If you have any further questions regarding the purpose of this study, the tools and measurements to be used, or the procedures to be used please feel free to contact me at either of the phone numbers or e-mail addresses listed above.

If you chose to have your child participate please return this assent form to the researcher or your child's elementary music teacher.

_____ _____

Printed name of researcher Signature of researcher

Subject's statement

This study has been explained to me. I volunteer my child to take part in this research. I have had an opportunity to ask questions. If I have questions later about the research, I can ask the researcher listed above.

_____ _____

Printed name of subject Elementary school

_____ _____

Printed name of Parent/ Guardian Signature of Parent/ Guardian

Appendix D

Student Music Questionnaire – Pilot

Student Music Questionnaire

Name: _____ **Please circle: Girl or Boy**

School: _____ **Date:** _____ **Teacher's Name:** _____

SD = Strongly Disagree D = Disagree ??? = Don't Know A = Agree SA = Strongly Agree

Sample Statement:

A) Playing instruments in music class is fun.

SD D ??? A SA

Statements:

1) I like to sing whenever I can.

SD D ??? A SA

2) I believe the junior high choir sings well.

SD D ??? A SA

3) I would like to join choir in junior high if my friends do.

SD D ??? A SA

4) I want to be a professional singer someday.

SD D ??? A SA

5) I believe my parents would be proud of me if I join choir.

SD D ??? A SA

6) I think it would be easy to get a good grade in choir at junior high level.

SD D ??? A SA

7) I can sing in choir and participate in other school activities.

SD D ??? A SA

8) Singing is fun.

SD D ??? A SA

9) I would join choir in junior high to meet people from other schools.

SD D ??? A SA

10) I believe the junior high choir teacher is exciting.

SD D ??? A SA

11) My elementary school music teacher believes I am a good singer.
SD D ??? A SA

12) I want to see if the junior high choir is different than the elementary school choir.
SD D ??? A SA

13) I believe a person can have the time to do their schoolwork and be in choir.
SD D ??? A SA

14) A member of my family likes to sing.
SD D ??? A SA

15) I think the junior high choir teacher will be friendly.
SD D ??? A SA

16) Singing makes me feel good inside.
SD D ??? A SA

17) People like to hear me sing.
SD D ??? A SA

18) Being in choir would give someone a place to belong.
SD D ??? A SA

19) A person can play sports and have the time to do music.
SD D ??? A SA

20) I will like many of the junior high elective classes.
SD D ??? A SA

21) I come from a musical family.
SD D ??? A SA

22) I should be selected to sing a solo or sing in a small group at a school concert.
SD D ??? A SA

23) I believe being in choir in junior high would involve a student their school.
SD D ??? A SA

24) The junior high choir teacher is friendly.
SD D ??? A SA

25) Music helps me take my mind off troubles.
SD D ??? A SA

26) I like to sing with my family.
SD D ??? A SA

27) I would join choir to get out of classes for field trips.
SD D ??? A SA

28) A student can sing in choir and do many other things.
SD D ??? A SA

29) My parents are proud of me when I sing or play an instrument.
SD D ??? A SA

30) It is easy to get a good grade in junior high choir.
SD D ??? A SA

31) I would do well in a choir class.
SD D ??? A SA

32) Choir does not take up too much time outside of class.
SD D ??? A SA

33) I believe singing in junior high choir would be fun.
SD D ??? A SA

34) I do whatever my friends like to do.
SD D ??? A SA

35) I like to share music with others.
SD D ??? A SA

36) Being in choir would help a person make new friends.
SD D ??? A SA

37) A person can be in choir and have time for all the things they like to do.
SD D ??? A SA

38) I feel I would be in a good choir if I sang in junior high.
SD D ??? A SA

39) Music classes are easy in junior high.
SD D ??? A SA

40) My family listens to a lot of music at home.
SD D ??? A SA

41) I like to perform for other people.
SD D ??? A SA

42) I am talented in music.
SD D ??? A SA

Appendix E

Student Music Questionnaire – Final

Student Music Questionnaire

Name: _____ **Please circle: Girl or Boy**

School: _____ **Date:** _____ **Teacher's Name:** _____

SD = Strongly Disagree D = Disagree ??? = Don't Know A = Agree SA = Strongly Agree

Sample Statement:

A) Playing instruments in music class is fun.

SD D ??? A SA

Statements:

1) I like to sing whenever I can.

SD D ??? A SA

2) I believe the junior high choir sings well.

SD D ??? A SA

3) I would like to join choir in junior high if my friends do.

SD D ??? A SA

4) I want to be a professional singer someday.

SD D ??? A SA

5) I believe my parents would be proud of me if I join choir.

SD D ??? A SA

6) I think it would be easy to get a good grade in choir at junior high level.

SD D ??? A SA

7) I can sing in choir and participate in other school activities.

SD D ??? A SA

8) Singing is fun.

SD D ??? A SA

9) I would join choir in junior high to meet people from other schools.

SD D ??? A SA

10) I believe the junior high choir teacher is exciting.

SD D ??? A SA

11) My elementary school music teacher believes I am a good singer.
SD D ??? A SA

12) I want to see if the junior high choir is different than the elementary school choir.
SD D ??? A SA

13) I believe a person can have the time to do their schoolwork and be in choir.
SD D ??? A SA

14) A member of my family likes to sing.
SD D ??? A SA

15) I think the junior high choir teacher will be friendly.
SD D ??? A SA

16) Singing makes me feel good inside.
SD D ??? A SA

17) People like to hear me sing.
SD D ??? A SA

18) Being in choir would give someone a place to belong.
SD D ??? A SA

19) A person can play sports and have the time to do music.
SD D ??? A SA

20) I will like many of the junior high elective classes.
SD D ??? A SA

21) I come from a musical family.
SD D ??? A SA

22) I should be selected to sing a solo or sing in a small group at a school concert.
SD D ??? A SA

23) I believe being in choir in junior high would involve a student their school.
SD D ??? A SA

24) The junior high choir teacher is kind.
SD D ??? A SA

25) Music helps me take my mind off troubles.
SD D ??? A SA

26) I like to sing with my family.
SD D ??? A SA

27) I would join choir to get out of classes for field trips.
SD D ??? A SA

28) A student can sing in choir and do many other things.
SD D ??? A SA

29) My parents are proud of me when I sing or play an instrument.
SD D ??? A SA

30) It is easy to get a good grade in junior high choir.
SD D ??? A SA

31) I would do well in a choir class.
SD D ??? A SA

32) Choir does not take up too much time outside of class.
SD D ??? A SA

33) I believe singing in junior high choir would be fun.
SD D ??? A SA

34) I do whatever my friends like to do.
SD D ??? A SA

35) I like to share music with others.
SD D ??? A SA

36) Being in choir would help a person make new friends.
SD D ??? A SA

37) A person can be in choir and have time for all the things they like to do.
SD D ??? A SA

38) I feel I would be in a good choir if I sang in junior high.
SD D ??? A SA

39) Music classes are easy in junior high.
SD D ??? A SA

40) My family listens to a lot of music at home.
SD D ??? A SA

41) I like to perform for other people.
SD D ??? A SA

42) I am talented in music.
SD D ??? A SA

Vita

Ann Callistro Clements was born and raised in Stockton, California. She received a Bachelor of Music Degree in Music Education, specializing in K-12 Choral and General Music, from the University of Puget Sound in Tacoma, Washington. While teaching in Western Washington within the Federal Way and North Thurston School Districts she received a Master of Arts in Music Education from the University of Washington. In fall of 1999 she returned to the University of Washington and completed a Doctor of Philosophy in Music Education degree in July of 2002.