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THE RELATIONSHIP BETWEEN PERSONALITY TRAITS OF SELECTED
MICHIGAN HIGH SCHOOL BAND MEMBERS AND THEIR SELECTION OF AN
INSTRUMENT

The University of North Carolina at Greensboro

Ed.D. 1983

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THE RELATIONSHIP BETWEEN PERSONALITY TRAITS OF SELECTED
MICHIGAN HIGH SCHOOL BAND MEMBERS AND THEIR
SELECTION OF AN INSTRUMENT

by

Robert C. Sherman

A Dissertation submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

Greensboro
1983

Approved by


Dissertation Adviser

APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of the Graduate School at the University of North Carolina at Greensboro.

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8/26/83
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7/26/83
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ROBERT C. SHERMAN

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The purpose of this study was to investigate the relationship between personality traits of high school band members and their selection of an instrument. It was hypothesized that there would be no significant differences in personality traits according to either family or section of band membership.

The subjects were 1,411 band students in grades 9 through 12. These students were members of the 26 high school bands from across Michigan which were randomly selected to participate in this investigation.

Personality traits were assessed by having the subjects complete Burger's shortened version of Gough's California Psychological Inventory (CPI). Scores were tabulated for each instrumental section and family and were statistically compared through the use of the SPSS program for analysis of covariance. For the instrumental families the covariate was age and for the instrumental sections both age and gender were covariates. Significance was set at the .05 level of confidence.

The null hypothesis, that there would be no significant difference in personality traits according to family and section of band membership, was rejected for both the instrumental families and sections. The subjects differed

on 5 of the 18 personality scales as measured by the CPI according to family of band membership and on 6 of the 18 personality scales according to section of band membership. Significant differences according to family of band membership were discovered for the personality traits of Self-Acceptance, Sense of Well-Being, Socialization, Self-Control, and Communality. Significant differences according to section of band membership were discovered for the personality traits of Self-Control, Responsibility, Socialization, Communality, Psychological-Mindedness, and Femininity.

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The writer wishes to express his gratitude to the subjects who participated in this study, their parents, band directors, and school administrators. Without the cooperation of these individuals, this project would never have come to fruition.

Appreciation is extended to Dr. Walter Wehner, adviser and chairman of the dissertation committee, for his patient guidance in this project and throughout the writer's graduate studies at the University of North Carolina at Greensboro. Thanks are offered to Dr. Eddie Bass, Mr. Raymond Gariglio, Dr. Donald Russell, and Dr. James Sherbon--the scholars on the writer's dissertation committee who were most generous with their time and constructive suggestions. The writer also offers his thanks to Dr. William Veitch, of Oakland Schools, Pontiac, Michigan, for his assistance both in the development of the research design and subsequent analysis of the data for this project.

One does not continue into graduate school without being influenced and motivated by some key teachers in that individual's field of endeavor. In addition to the gentlemen named in the previous paragraph, the writer wishes to acknowledge his gratitude to the following outstanding music educators for the support, encouragement, and motivation

which they have afforded to this writer as he progressed in his musical education: Dr. Harold Abeles, Mr. Earl T. Caton, Jr., Mr. John Isele, Mr. Willet G. McCord, and Dr. James M. Thurmond.

Thanks to the writer's parents, Mr. and Mrs. M. Sherman. Without their encouragement and financial support, it is dubious if the writer could have pursued a career in music education. Special thanks to Patricia Brunner Sherman, the writer's wife, for her loving support and clerical assistance in this particular project and throughout the writer's educational endeavors.

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CHAPTER I
INTRODUCTION AND STATEMENT OF PROBLEM

Factors Influencing Instrument Selection

One of the many responsibilities of the instrumental music instructor is to advise potential students and their parents regarding a choice of instrument. Methods of assigning instruments can range from the "laissez faire" approach, in which the instrument is selected with no input from the instructor, to a dictatorial method, in which instruments are assigned according to the future instrumentation needs of the school district's performing ensembles. Usually the procedure employed is a compromise between these two extremes.

When an instructor recommends an instrument to the student, typical considerations should include student interest, aptitude, and physical characteristics. Traditionally, facial and dental configuration is carefully considered when recommending the study of a wind instrument.¹ Aptitude, when measurable, should also be considered when recommending the study of a given instrument. It would not

¹Robert W. House, Instrumental Music For Today's School (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1965), pp. 66-67.

seem prudent to recommend the study of the string family to a student who had demonstrated a severe deficiency in pitch discrimination.² Similarly, the prospective drummer with poor rhythmic sense would probably encounter numerous difficulties with that particular instrument. Is it possible that there may exist areas other than physical configuration and aptitude that are factors in achieving success on a given instrument?

The Role of Personality as a Factor
in Instrument Selection

One area which has received limited objective treatment is the personality of the performing musician compared to the instrument which he plays.³ At the professional level of performance, certain subjective observations have been made regarding personality traits of the musicians in relation to the instruments they played. These observations were made by fellow musicians and were indirectly confirmed by the observed subjects. For example, where a brass player may characterize the members of the string section as "over-sensitive and touchy," the string players see themselves as conscientious and sensitive."⁴ The characterization of the string

²Robert W. Lundin, An Objective Psychology of Music (New York: The Ronald Press Company, 1963), p. 22.

³John Booth Davies, The Psychology of Music (Stanford, California: Stanford University Press, 1978), p. 201.

⁴Ibid., p. 203.

section by the brass players, although expressed negatively, is essentially identical to the perceptions which the string players had of themselves. These informal observations yielded several stereotypical personalities according to the instrument played. Follow-up studies using a standard personality inventory revealed that certain of the informally assessed stereotypes had their basis in actual personality traits.⁵ A second author, writing humorously regarding his tenure with a major American orchestra, noted similar stereotyping of personality according to instrument played.⁶

Purpose of the Present Study

This research attempted to determine whether there exists a differentiation of personality traits according to the instrument played at the high school level of performance. No attempt was made in this present research to compare the personality traits of the students to the traits of the professionals. The personality profiles for the professional musicians were obtained largely through informal observation and later substantiated through a limited sampling of these subjects with a personality inventory. The propagator of that investigation warned that because of sample size, the unrepresentativeness of the sample, and large individual

⁵Ibid., p. 208.

⁶Harry Ellis Dickson, Gentlemen, More Dolce Please! (Boston: Beacon Press, 1969), pp. 1-11.

variation, it would be inadvisable "to attach any undue significance to the results" which he reported.⁷

This present study obtained personality profiles from a large population of high school band students in the state of Michigan through the use of a shortened version of the California Psychological Inventory. A personality profile was developed for each individual instrument played, and these profiles were then compared statistically to determine whether there are significant differences of personality according to the instrument which the student plays.

The researcher elected to use high school students as subjects in this study because of his belief that the instrument a high school student plays is more representative of a freely chosen instrument than that which a younger student plays. There are many factors other than personal choice which may influence a young student's selection of an instrument. The availability of the instrument because of its use by an older sibling or even a parent may be one factor.⁸ Research even suggests that parents may influence

⁷Davies, p. 208.

⁸Robert C. Sherman, "An Investigation of the Relationship Between Personality Traits of Selected Rochester, Michigan High School Band Members and Their Selection of an Instrument" (unpublished pilot study, Rochester, Mi., 1982).

their child's selection of an instrument based on their own preconcieved sexual stereotyping of musical instruments.⁹ It is the author's belief that the music program at the junior high school level may afford the student the opportunity for a less restrictive instrument choice than he may have experienced when he began his initial study of an instrument. Because of the need to fill out and balance instrumentation at the junior high school level, the student is sometimes presented with the possibility of learning to play a second instrument. Consequently, the clarinet player who may only be playing clarinet because his parents had one in the attic or the flute player who "selected" flute because her parents thought it was a "cute" instrument for a girl may have the opportunity to personally select an instrument from the stock of instruments available through the school. Obviously some students avail themselves of the opportunity to learn a second instrument, and others do not. The important aspect is that by the time the band members reach high school, they have at least had this opportunity. Because of the reasons enumerated above, the researcher believes that the instrument which a high school student plays is more representative of a free choice than the instrument which the student plays upon entering junior high school.

⁹Harold Abeles and Susan Yank Porter, "The Sex Stereotyping of Musical Instruments," Journal of Research in Music Education 26 (Summer 1978):65-75.

Possible Outcomes of this Research

If this research does demonstrate a difference in personality traits according to section of band membership, this finding would suggest several questions for future research. Does the length of time that the instrument has been studied have an effect on personality traits? Does the musician, in the act of adapting himself to the idiosyncrasies of his instrument, develop a certain set of personality traits as a result of this adaptation? Do professional and/or college musicians exhibit the same personality traits according to instrument played as do the high school band students examined in this study? Are the personality profiles of high school students who began study of a particular instrument in the elementary school but then dropped out of the instrumental music program similar to those of their colleagues who continued to play the instrument? All these questions relate to determining whether the differences which exist in personality traits according to section membership are caused by students' adjusting to the instrument or whether these traits were always present in the students' personalities and were consequently a factor in their original selection or switch to a given instrument.

The only one of these related questions examined in this particular project was the variable of length of time

the instrument was studied. Because of the limited differences of length of time studied within each section for this particular population as revealed by a pilot study,¹⁰ the author was dubious about the discovery of a significant difference in personality traits according to this variable. Such a finding would not invalidate a further examination of the variable of experience as a determining factor in relation to the development of personality traits, but it would suggest the need to examine this variable utilizing a more diversified population of subjects.

A pilot project indicated the possibility of greater differences existing within large sections than between large sections.¹¹ A band has three large sections or families--brass, woodwind, and percussion. Each of these sections compasses several instruments; for example, the flute, clarinet, saxophone, and double reeds are within the woodwind section. Although there may be limited differences between the personality profiles of female brass and female woodwind players, these differences do not indicate that it would be futile to compare the personality profiles of female flute players to female clarinet players

¹⁰Sherman, p. 4.

¹¹Ibid.

or even female trumpet players. Consequently, the personality profiles of each individual section of the band were compared with one another even though a comparison of personality profiles according to large section membership indicated few significant differences among these large sections.

The Relevance of the Study to Music Education and Possible Implications for Future Research

If this research indicates that there are significant personality differences according to the instrument played, as has been suggested by informal studies at the professional level of performance and the pilot study for this project utilizing a limited number of high school musicians, these differences would be important in two areas in music education. First, they would suggest the need for further research to determine the exact nature of the relationship between personality and instrument selection. Specifically, such research should attempt to determine whether the reported differences in personality traits are a cause or an effect. Does the student select a specific instrument because he is predisposed to do so by his personality, or does the instrument which he selects contribute to the formation of his personality? Secondly, this research may suggest that personality type is, in addition to aptitude and physical configuration, an important consideration when

an instrument is recommended to the beginning student or when possible options for the more advanced student who is contemplating switching instruments are considered.

The Research and Null Hypotheses

The researcher attempted to demonstrate a difference in personality traits according to section of band membership. Comparisons were made among large sections or families of instruments within the band (brass, woodwind, and percussion) and also among the smaller subdivisions within each of these families. Common usage of personality inventories in general and the California Psychological Inventory (CPI) in particular suggested the advisability of comparing the sections on the basis of similar gender. Female flute players should only be compared to females within other sections, and this same procedure should then be followed throughout all the sections of the band for both males and females. Depending on the gender composition of the section, comparison of the personality profiles of the entire flute section with the profiles of the percussion section might only be a comparison of female band member profiles with male band member profiles. Therefore, comparisons were made among the groups mentioned above in all eighteen personality factors as measured by the California Psychological Inventory.

The first comparisons were made among the three major divisions of the band - the brass section, the woodwinds, and the percussion section. The null hypothesis was that for each gender there would be no significant difference in personality traits according to family of instrument played.

Symbolically: $H_0: M^b = M^{ww} = M^p$. The research hypothesis stated that the personality traits for each gender, as measured by the CPI, would differ at a statistically significant (.05) level of confidence according to the family of the band to which the subjects belong. Symbolically: $H_1: M^b \neq M^{ww} \neq M^p$.

Rejection of the null and acceptance of the research hypothesis would signify that the personality traits of the subjects did differ according to family of band membership. Regardless of the results of the testing of this initial hypothesis, the next step was to examine and compare each of the individual sections within the three general families according to gender. The personality profiles of the females in the flute section were compared to the profiles of the female clarinet players, then to the female saxophone players, and on through the instrumentation of the band until the female flute profiles had been compared to the female personality profiles of all the sections of the band. This same process was then repeated for the male flute players. The null hypothesis: $H_0: M^{fm, fl}: M^{fl} = M^{ob}; M^{fl} = M^{cl}; M^{fl} = M^{sax}; M^{fl} = M^{bsn}; M^{fl} = M^{tpt}; M^{fl} = M^{fhn}; M^{fl} = M^{tbn}; M^{fl} = M^{bar}; M^{fl} = M^{tba}; M^{fl} = M^{perc}$.

The research hypothesis: $H_1^{fm, fl} : M^{fl} \neq M^{ob}; M^{fl} \neq M^{cl}; M^{fl} \neq M^{sax};$
 $M^{fl} \neq M^{bsn}; M^{fl} \neq M^{tpt}; M^{fl} \neq M^{fhn}; M^{fl} \neq M^{tbn}; M^{fl} \neq M^{bar}; M^{fl} \neq M^{tba};$
 $M^{fl} \neq M^{perc}$. This same procedure of comparison of personality
 profiles¹² was then repeated for each section of the band in
 which there was an adequate number (N=30) of subjects.

Other variables, such as number of years of performance
 experience, age, grade, other instruments played, and
 private instruction, were also examined.

¹²For the purposes of this study, personality was
 defined as the scores obtained by the subjects on the
 eighteen scales of the California Psychological Inventory.

CHAPTER II

REVIEW OF THE LITERATURE

Although there is little literature dealing specifically with instrument selection as correlated with personality type, there is research available which correlates personality with some other variable related to music. Much of this literature examines the personality traits of the music educator. Literature directly related to the correlation of personality type with instrument selection will be discussed in some detail while research related only indirectly will receive a more limited treatment. Because the present research will be using an adaptation of the CPI, it will also be necessary to discuss this particular adaptation.

Burger's Adaptation of the CPI

The California Psychological Inventory has been used extensively for research which correlates personality traits with some other human variable. Citations of the CPI in Buros' Mental Measurement Yearbook number in the hundreds, and this listing is not considered comprehensive. A major drawback to the CPI is its length of 480 items. Time for the administration of the CPI ranges from forty-five to eighty minutes. Harrison Gough, the developer of the CPI, has abridged the inventory into a shorter version

entitled the Personal Values Abstract.¹ However this adaptation does not retain the original eighteen scales of the CPI.²

Through the use of factor analysis, Burger reduced the standard form of the CPI from 480 items to 240 items while retaining the original eighteen scales. His research indicated a high degree of correlation (.78 to .93, with a median value of .88) between the scales of the shortened form and the scales of the standard form. Test-retest reliability coefficients for the short form also compared quite favorably with the figures reported for the standard form of the test. Burger stated that

given the correlations between the short form and the standard scales, the factor structure of the short form, and the reliability of the short form, the item subset delineated in this study seems a reasonable alternative to the complete inventory when circumstances require less testing time.³

Because length of class time could be an important factor in the present research, the author has elected to use Burger's short form of the CPI rather than the standard form.

¹Harrison G. Gough, Personal Values Abstract (Palo Alto, California: Consulting Psychologists Press, 1972).

²Gary K. Burger, "A Short Form of The California Psychological Inventory," Psychological Reports 37 (August 1975):179.

³Ibid., p. 181.

The Personality of the Music Educator as
Correlated with a Second Variable

Several authors have examined personality traits of music educators and compared their findings to either personality traits of the general population or to some other variable such as success in teaching.

Kreuger (1974) attempted to examine the relationship between personality and success in music teaching in general. The subjects for this study were 209 music teachers from sixteen states and Puerto Rico. The Sixteen Personality Factor Questionnaire⁴ (16PF) was used to generate personality traits and success was measured by two criteria. The first criterion was the gains (G) in knowledge exhibited by the students of a given teacher on the Music Achievement Test authored by Richard Colwell. The second criterion was the ratings (R) assigned to the teacher through the use of the Illinois Teacher Evaluation Questionnaire.⁵

Personality traits of the successful teacher varied according to which indicator of success, G or R, was employed. Successful directors according to the R criterion were basically described as conservative. Conversely, teachers

⁴Raymond B. Cattell, Herbert W. Eber, and Maurice M. Tatsuoka, Sixteen Personality Factor Questionnaire (Champaign, Illinois: Institute for Personality and Ability Testing, 1949-73).

⁵Richard E. Spencer and J. Maurice Mahan, Illinois Teacher Evaluation Questionnaire (Urbana, Illinois: Measurement and Research Division, University of Illinois, 1968-70).

evaluated as successful according to the G criterion were more flamboyant. Such teachers were not afraid to "do their own thing."⁶

Fosse (1965) demonstrated a correlation between the scores of band directors taking the Minnesota Multiphasic Personality Inventory⁷ (MMPI) and their ratings at an Illinois State Band Festival. Directors earning a Superior (I) rating demonstrated traits of optimism, aloofness, and being other-directed. Those directors who received an Excellent (II) rating were described as being more inner-directed, idealistic, and intellectual. Directors receiving a Good (III) rating were described as sensitive, religiously oriented, inclined toward authority conflicts, and depressed.⁸

A more recent study involved band directors in North Carolina. Beaver (1973) compared personality traits and values of successful band directors to those of less successful band directors and to the general population.

⁶Reynold Jack Krueger, "An Investigation Of Personality and Music Teaching Success" (Unpublished Ed.D. dissertation, University of Illinois at Urbana-Champaign, 1974).

⁷Starke R. Hathaway and J. Charnley McKinley, Minnesota Multiphasic Personality Inventory (New York: The Psychological Corporation, 1942-67).

⁸John B. Fosse, "The Prediction of Teaching Effectiveness: An Investigation of the Relationship Among High School Band Contest Ratings, Teacher Characteristics, and School Environment Factors" (Unpublished Ed.D. dissertation, Northwestern University, 1965).

Instruments used to assess personality and values respectively were the Guilford-Zimmerman Temperament Survey⁹ and the Study of Values.¹⁰ Success was defined as being selected by a panel of "experts." One apparent problem encountered by Beaver was a small sample size (Successful N=14, Control N=25). Since there were only two women band directors and they were part of the control group, the findings from this study can only be generalized to the male population of band directors. The present researcher found this shortcoming illuminating because it demonstrated the need to consider gender when determining what constitutes an adequate sample size.

Several generalizations regarding successful band directors were made as a result of this study. When compared to the average adult male, the successful band director is more active, less masculine, and more sensitive to aesthetic values. A comparison of the successful directors to the control group indicated that the successful directors teach in larger schools, have larger programs, experience greater

⁹J.P. Guilford and Wayne S. Zimmerman, Guilford-Zimmerman Temperament Survey (Los Angeles: Sheridan Psychological Services, Inc., 1955).

¹⁰Gordon W. Allport, Philip E. Vernon, and Gardner Lindzey, Study of Values (Boston: Houghton-Mifflin Co., 1970).

administrative support, and hold the master's degree.¹¹

Bullock examined the relationship of personality traits to job satisfaction using the 16PF and the Minnesota Satisfaction Questionnaire.¹² His subjects included twenty-six outstanding junior high school instrumental music teachers selected by a panel of "experts" and twenty-five average teachers as a control group. The findings indicated that superior teachers are shy, sober, reserved people who are not particularly concerned about prestige. They are conscientious, conservative, persistent teachers who enjoy doing things for other people.¹³

Mann is a recent investigator of the personality characteristics of the successful high school band director. The subjects of this investigation were 132 band directors who entered their bands in the 1978 Mississippi High School Band Festival. Success was defined by ratings received by the bands, and personality was assessed through the use of

¹¹Maxie E. Beaver, "An Investigation of Personality and Value Characteristics of Successful High School Band Directors in North Carolina" (Unpublished Ed.D. dissertation, The University of North Carolina at Greensboro, 1973).

¹²David J. Weiss, Rene V. Davies, George W. England, and Lloyd H. Loftquist, Minnesota Satisfaction Questionnaire (Minneapolis: Vocational Psychology Research, The University of Minnesota, 1967).

¹³Jack Arlen Bullock, "An Investigation of the Personality Traits, Job Satisfaction Attitudes, Training and Experience Histories of Superior Teachers of Junior High School Instrumental Music in New York State" (Unpublished Ph.D. dissertation, University of Miami, 1974).

the Eyseneck Personality Inventory.¹⁴ Mann reported several factors which might be used as predictors of success. These factors ranged from school size to band budget but did not include personality type of the director.¹⁵

The present researcher would speculate that a causative factor for Mann's failure to correlate personality of the director with apparent success in teaching was the selection of the Eyseneck Personality Inventory (EPI) as the instrument for assessing personality. The EPI measures only two dimensions of personality (extroversion vs. introversion and neuroticism vs. stability). This measurement may be insufficient to adequately distinguish between personality types. The limited dimension of the EPI was one of the reasons the present researcher rejected it for his proposed study even though this was the instrument used by Davies in the informal studies cited in Chapter I and discussed further in this chapter.

Slack investigated the personalities and values of choral directors in the state of Arizona, using the MMPI

¹⁴H.J. Eyseneck and Sybil B.G. Eyseneck, Eyseneck Personality Inventory (London: University of London Press, Ltd., 1969).

¹⁵Paul Louis Mann, Jr., "Personality and Success Characteristics of High School Band Directors in Mississippi" (Unpublished Ph.D. dissertation, University of Southern Mississippi, 1979).

and the Rokeach Value Survey.¹⁶ Unlike the studies cited previously in this chapter, Slack made no attempt to examine the variable of success. The difficulty of objectively defining success and the assumption that the very merit of being employed in music education during a period of financial hardship and the current glut on the teacher market implied some degree of success were two of the reasons cited for not examining this variable.

The results indicated that the values of choral teachers tended toward interpersonal values at the expense of social values. Choral teachers were also higher than the average person in creative and aesthetic values. On the MMPI, choral teachers scored above the mean in Ego-strength, Responsibility, and Maladjustment. Scores below the mean were recorded for choral teachers in Dependency, Control, and Social Desirability.¹⁷

The literature reviewed above, although not directly related to the present study, does support it. All these studies demonstrate that it is possible to assess a musician's personality and then compare that personality

¹⁶Milton Rokeach, Rokeach Value Survey (Sunnyvale, California: Halgren Tests, 1973).

¹⁷Joyce Burgoyne Slack, "Values and Personalities of Certain High School Choral Music Educators in Arizona" (Unpublished Ed.D. dissertation, Arizona State University, 1976).

profile to some other variable. In some cases, that variable was success; in other cases, the personality profiles of the musicians were compared to personality profiles of the population in general. It would be difficult to compile an overall personality profile for the "typical" music educator from the studies cited above basically because of the diversity among the studies with regard to procedure, including the diversity of the instruments selected for assessing personality. The value of these studies to the present study is not dependent upon any commonality with each other, but rather on the fact that they demonstrate, both individually and collectively, the feasibility of measuring the personality of a group of individuals in music (music educators) and correlating the resultant personality traits with a second variable.

The Personality of the Performer as Correlated with a Second Variable

The next group of studies to be discussed examines the personality of the performer as it relates to a second variable.

Polakowski, reporting on research conducted by Manturzevska, stated that a correlation exists between personality and success in piano performance. Personality traits which emerged as characteristic of the successful pianist were "the ability to concentrate on current tasks, persistence in the pursuit of chosen goals, motivation for

achievement success, and resistance to stress of social exposure."¹⁸

Clinard demonstrated that personality factors are related to vocal tone production. The 16PF was used to define personality factors, and the singing tone of fifty-five female subjects was analysed by a panel of ten expert judges, utilizing a fourteen-item scale constructed by Clinard for this project. Résultats indicated that two of the personality factors (Shy vs. Venturesome and Group-dependent vs. Self-dependent) were related to a large number of the fourteen characteristics of vocal production. Eleven of the other personality traits were related to at least one vocal characteristic.¹⁹

These two studies seem to indicate that personality has an influence, although not necessarily a conscious one, on the quality of musical performance. It is possible that this subliminal influence of personality may have some effect not only on quality of performance but also on the medium of performance which an individual selects.

¹⁸Krzysztof Z. Polakowski, "Polish Research in the Psychology of Music," Journal of Research in Music Education 20 (Summer 1972):283-85.

¹⁹Jack Alspaugh Clinard, "The Relationship of Background and Personality Factors to Characteristics of Singing Tone" (Unpublished Ph.D. dissertation, West Virginia University, 1972).

The Relationship of Gender to Personality
and Instrument Selection

The next two studies to be discussed relate to the gender of the musician. Keston (1956) suggests that the personality of the musician may vary according to gender. The instrument used to assess personality was the MMPI. A comparison of personality profiles of musical females with the profiles of nonmusical females revealed no significant differences. The scores of male musicians, when compared to the male control group, showed an elevation in four categories. These were Schizophrenia, Hypomania, Femininity, and Validity.²⁰ It is quite possible, according to certain authorities, that this validity score may render the other scores for this particular population suspect.²¹

Abeles and Porter (1978) demonstrated that instrument selection is influenced by gender. Instruments stereotyped by the general population as masculine include drum, trumpet, and trombone; while the flute, violin, and clarinet were characterized as feminine. The cello and saxophone were not assigned to either category. A follow-up study indicated

²⁰Morton J. Keston, "An Experimental Investigation of the Relationship between the Factors of the Minnesota Multiphasic Personality Inventory and Musical Sophistication," The American Psychologist 2 (1956):434.

²¹Louis J. Karmel and Marilyn O. Karmel, Measurement and Evaluation in the Schools, 2nd Ed. (New York: Macmillan, 1978), p. 303.

that musical training and experience had no significant effect on the bias of a person when labeling a given musical instrument as masculine or feminine. A third portion of this study examined the age at which gender stereotyping happens. The results indicated that the boys' selection of a preferable instrument was on the masculine continuum of instruments and remained relatively stable from kindergarten until they were old enough to select an instrument. Girls tended to move toward the feminine end of the continuum from kindergarten on through the third or fourth grade, at which point the differences between the sexes seem to maximize. It would appear that stereotyping of instruments by sex is ingrained in the students well before it is time for them to select an instrument for their own study. Consequently, one can assume that gender will play some role in instrument selection.²²

The aforementioned research supports the present topic in two ways. First, it indicates that the researcher is correct in proposing that personality profiles be examined and compared separately according to gender. Keston demonstrated a difference in personality of the musician according to gender, and Abeles demonstrated that gender will probably have an effect on instrument selection. Failure to divide the sections according to gender before examining personality

²²Abeles and Porter, pp. 65-75.

traits could result in gender confounding any differences which may have been discovered. Secondly, the Abeles study objectively demonstrated the existence of a phenomenon which many directors previously just accepted as fact on the basis of simple observation.²³ Although the interrelationships between personality type and instrument played is not as visually examinable as is the stereotyping of instruments according to gender, there are still those directors who feel "there is something about personality related to instrument selection."²⁴ As stated in Chapter I, Davies (1978) and Dickson (1969) have even described some of these personality traits according to instrument played for professional musicians. As Abeles objectively demonstrated the existence of sex stereotyping of instruments, this writer hopes to objectively demonstrate differences in personality type according to section of band membership and then to describe those differences.

²³Observation of the composition of various sections according to gender at a typical state band festival would certainly support, if not scientifically, Abeles' hypothesis that there is a stereotyping of instruments according to gender.

²⁴Stephen Wolf, Band Director, Mt. Pleasant High School, Mt. Pleasant, Michigan.

The Effect of Personality on Listening Preferences

Hyden (1979) examined the relationship of personality traits to preference for a certain musical instrument and preference for a particular musical style. Preference does not indicate that the person necessarily played that particular instrument, but rather that this choice was a listening preference. The subjects in this study were 291 undergraduate volunteers from three southern universities. The instrument used to assess personality was the 16PF.

Results indicated several correlations between personality and preference for both an instrument and a musical style. Only the relationships between personality and instrument preference will be discussed in this study. The instruments which the subjects could select were predetermined in a pilot study. People who preferred the banjo were characterized as shy, tough-minded, practical, conservative, and controlled. Those who liked the cymbals were conservative, placid, practical and not very intelligent. People preferring drums were described as tense, conservative, apprehensive, practical and shy. People preferring harmonica were described as relaxed, conservative and practical. Organ aficionados were enthusiastic, venturesome, and tender-minded. Those preferring piano were not only enthusiastic and tender-minded but also imaginative and group-sufficient. The subjects who preferred saxophone were docile and

experimenting. People preferring guitar were retiring; violin, experimenting; and trumpet, practical. People preferring the synthesizer were conscientious, self-sufficient, experimenting individuals. People preferring the string bass were characterized as practical but not particularly intelligent.²⁵

This research strongly supports the present project because it indicates that instrument preference is correlated with personality type. If instrument preference is related to personality type, this finding strongly suggests the possibility that instrument selection may also be related to personality type.

The Relationship of Personality to Instrument Played

The researcher considers the literature to be discussed in this final section of Chapter II to be more closely related to the proposed research than any previously discussed. All these studies concern some aspect of personality as it correlates with the musical instrument played.

Davies' contributions regarding the relationship of personality of the professional musician to the instrument

²⁵James Monty Hyden, Jr., "Musical Style and Instrument Preferences as Correlates of Personality Variables" (Unpublished Ph.D. dissertation, Texas A&M University, 1979).

which he plays were discussed in some detail in Chapter I of this paper. He reported that a definite relationship does exist. These traits were assessed through informal interviews with the individual musicians from each section of the orchestra in order to gain a self-descriptive profile of each section. After gaining a self-profile of each section of the orchestra, the writer then asked the musicians to profile other sections of the orchestra. There was a high degree of correlation between the self-profiles and the profiles generated from outside the section. Davies then tested these informally assessed profiles through the use of the EPI. This procedure indicated that several of the informally observed traits had their basis in actual personality types. It was reported that the brass players had the lowest scores in Neuroticism and the highest in Extraversion. The string section scored highest in both Neuroticism and Anxiety. The woodwind players were the low scorers in Extraversion and Anxiety. Davies warns that these results indicate an interesting trend, but because of sample size, large variations within the samples, and the manner of sample selection, it would be "most unwise to attach any undue significance to these results."²⁶

²⁶Davies, p. 208.

Kaplan (1961) investigated the relationship of personality traits to success in instrumental music. Subjects for this study were 300 randomly selected instrumental music students from six New York City high schools. A rather elaborate system of selection was devised to insure a diverse representation of both race and socioeconomic backgrounds and also to insure that the instruments in the sample were represented in the same proportion that they were found in the population from which the sample was drawn. Personality traits were assessed by the use of the Manifold Interest Schedule,²⁷ and success or achievement in instrumental music was measured by the Watkins-Farnum Performance Scale.²⁸

Results indicated differences in selected personality traits according to family of instrument played, sex, and achievement level. All woodwind players were high in the trait of Self-Control. All boys playing brass instruments and low-achieving female woodwind players were high in the trait of Turbulence. High-achieving male woodwind players and low-achieving male brass players were high in Assertiveness. In comparing music students to the general population,

²⁷L. Heil, Manifold Interest Schedule (Brooklyn, New York: Brooklyn College, 1959).

²⁸John G. Watkins and Stephen E. Farnum, Watkins-Farnum Performance Scale: A Standardized Achievement Test For All Band Instruments (Winona, Minnesota: Hal Leonard Music, Inc., 1949).

Kaplan reported some differences. Males participating in the instrumental music program were higher in traits of Self-Control and Assertiveness than nonparticipating males; the female participants were both more Self-Controlled and Fearful than nonparticipating females.²⁹

Although Kaplan placed great emphasis on insuring the presence of an adequate representation of each instrument in this study, he did not examine the data pertaining to individual sections within the larger families, and, at no place in his dissertation did he explain this apparent oversight.

A more recent investigation of the relationship between personality characteristics and success in instrumental music was undertaken by Sample and Hotchkiss (1971). Subjects were 268 seventh-grade students from six junior high schools in the Youngstown, Ohio, area. Divided into four groups, the subjects were band boys, nonband boys, band girls, and nonband girls. The band members were further divided according to instrumental families. The instrument used to assess personality was the IPAT Junior-Senior High School Personality Questionnaire.³⁰

²⁹Lionel Kaplan, "The Relationship Between Certain Personality Characteristics and Achievement in Instrumental Music" (Unpublished Ph.D. dissertation, New York University, 1961).

³⁰Raymond B. Cattell and Mary D.L. Cattell, IPAT Junior-Senior High School Personality Questionnaire (Champaign, Illinois: Institute for Personality and Ability Testing, 1953).

Results indicated that band girls differed from band boys on six of the fourteen traits measured by the inventory. This finding adds credence to the present researcher's decision to examine and compare the personality profiles of the various sections according to gender. Band boys scored higher than nonband boys on traits of Intelligence and Tender-Mindedness, while band girls were higher than nonband girls in traits of Enthusiasm and Tender-Mindedness. Nonband boys scored higher than band boys on the trait of Emotional Stability, while nonband girls were not higher than band girls in any trait.

A small sample size and corresponding "balance" difficulties within the individual sections hampered the investigation of correlations of personality traits with section of band membership. Because of the limited population of female brass and percussion players, the researchers limited further investigations to the male band members. Results indicated that male woodwind players were higher than either brass or percussion players in Assertiveness and were also higher than the percussion players in Excitability. The male brass players received significantly higher scores in Intelligence and Self-Discipline than did the woodwind players, but did not differ from the percussion section in any of the fourteen traits which were measured.

The male percussion players outscored the woodwind players on the trait of Tender-Mindedness.³¹

The proposed research has several similarities to and differences from the two studies discussed above. Similarities include the attempt to assess personality traits and then correlate them with section of band membership. In both the Sample and Kaplan studies, the administration of the testing instrument was carried out by a teacher with whom the subjects were familiar rather than by the researcher. This procedure of test administration supports the present researcher's proposal to allow the band directors to administer the CPI themselves, if they so desire, instead of having the researcher do it.

Kaplan and Sample both compared personality only to family of band membership but not to individual section of band membership. The present study will not only measure and compare personality traits for the families of instruments, as did the studies cited above, but also will examine the personality profiles of the individual sections within each of these families. The writer's own pilot project for this proposal suggests that the differences of personality

³¹Duane Sample and Sally M. Hotchkiss, "An Investigation of the Relationships Between Personality Characteristics and Success in Instrumental Study," Journal of Research in Music Education 19 (Fall 1971):307-313.

traits not apparent for the family as a whole may exist among sections within a family of instruments.³²

A second difference between the present proposal and the work of Kaplan and Sample is that while they compared the personalities of their subjects to personality profiles of the general (nonmusical) population, this research will not attempt this type of comparison. Kaplan also correlated the personality profiles of his subjects with the variable of "success." The present research will not examine the variable of success but assumes that success could be reasonably defined by the fact that the student, having participated in band through elementary and junior high school, is continuing to participate at the high school level of performance. Such an assumption bears a similarity to Slack's contention that employment itself is some mark of success for the music educator.³³

Sherman (1982) conducted a pilot project in three Michigan secondary schools in an attempt to determine whether the proposed research was feasible. Subjects were forty-one students in grades nine through twelve. The instrument used to assess personality was the CPI. Results

³²Sherman, p. 5.

³³Slack, p. 64.

indicated that male percussion players scored significantly higher than either male brass or woodwind players in the trait of Capacity for Status. Female brass players scored lower than female woodwind players in the trait of Achievement via Independence.

These results suggested to the researcher that differences do exist in personality traits according to family of band membership. However, the researcher had expected to find more differences than the ones reported above and hypothesized that a possible reason for not discovering more differences among families, other than the extremely small sample size, might be large variations within the families caused by differences among sections. This hypothesis was tested within the woodwind section by comparing female flute and female clarinet personality profiles. The results indicated that female flute players are significantly higher than female clarinet players in traits of Socialization and Self-Control. Similar comparisons could have been made within other families such as male trumpet players with male trombone players; however, because of limited sample size, the author elected to limit statistical treatment at this point.³⁴

This pilot study supports the proposal that the measurement and comparison of personality traits according

³⁴Sherman, p. 7.

to family and section of band membership is a viable research project. The pilot study demonstrates that differences in personality traits do exist according to both family and section of band membership and that these differences are measurable by the instrument selected for this purpose, the CPI. The pilot study also indicated that the SPSS was an appropriate selection of a program for analysis of the data.

CHAPTER III

PROCEDURES

Selection of the Subjects

Subjects of this study were senior high school band students in grades nine through twelve. The subjects were obtained on a voluntary basis through a preliminary mailing to 145 randomly selected directors of Michigan School Band and Orchestra Association member high schools. The mailing contained a brief description of the project, a self-addressed, stamped envelope, and a form to be returned to the researcher if the band director was willing to have his students participate in the study. Upon receiving a positive response from a band director, the researcher then sent a mailing² to that band director's administrator requesting approval for the students of the district to participate in the project.

As of August 11, 1982, (the date of the original submission of the revised proposal) the researcher had received twenty-seven positive responses and fifteen negative

¹See Appendix A for an example of the initial band director contact letter and questionnaire.

²See Appendix B for an example of the initial administrative contact letter and approval form.

responses from band directors who were contacted. Of the twenty-seven positive band director responses, the researcher had received seven positive and three negative administrative responses by August 11, 1982. The remaining seventeen administrators were classified as "uncertain." These uncertain responses were classified into two broad categories. First were the administrators who had not responded at all. Second were the administrators who responded promptly but requested an extension of time before making a final decision. The rationale offered was either that the request had to be studied and ruled upon by an expert in the field of psychological testing from within their own school district or that because of a change of administration, the outgoing administrator was reluctant to commit his successor to such a project without prior consultation. All administrators in this "uncertain" classification were recontacted by the researcher prior to the opening of school for a definite response.³

As of the date of the original submission of the proposal (August 11, 1982), the researcher had a commitment from both band directors and their respective administrations of approximately four hundred students. Since the literature

³See Appendix E for an administrative follow-up notification.

review indicated that similar research had been successfully conducted with even fewer subjects,⁴ the researcher believed that four hundred subjects would be an adequate sample population. Although four hundred subjects were considered to be an adequate sample size, the author preferred to increase this sample population in order to maximize the possibility of having an adequate representation of each gender in every section. A prominent example of a section which might be under-represented according to gender, if a large subject population were not recruited, was the male flute section. As was discussed in Chapter II, Beaver, when investigating personality characteristics of successful band directors, was forced to limit generalizations from his findings to the population of male band directors only because of a lack of female subjects in his study.⁵ Increasing his initial sample size may have eliminated this problem. Although the possibility of not being able to compile a personality profile for every section of the band according to gender would not invalidate the present study any more than the lack of female subjects invalidated the study by Beaver, it was the opinion of the author that the study would be of greater usefulness if such a profile could

⁴Sample and Hotchkiss, p. 309.

⁵Beaver, p. 40.

be generated. Therefore, the author elected to increase the sample size through the use of a second subject request mailing⁶ to an additional one hundred and seventy-five randomly selected band directors. As with the initial mailing, positive responses were followed up by appropriate administrative contact.

As of the date of the final revision of the proposal (January, 1933), the researcher had received forty-six positive responses from band directors requesting to have their students participate in the project. Of these forty-six schools, administrative approval was received from twenty-six of the involved districts. Dependent upon several factors, including parental attitude toward the present research, these twenty-six schools should have provided between one thousand and fifteen hundred subjects for the proposed research.

Selection of the Tool for Assessing Personality

A time-consuming aspect of this project has been the selection of an inventory to generate personality profiles of the subjects. According to the eighth edition of Buros' Mental Measurement Yearbook there are over two hundred tests designed to generate information regarding personality traits. The selection of a test battery was influenced not

⁶See Appendix F for the second subject request letter to the band directors.

only by such factors as validity and reliability but also by factors unique to the particular situation being investigated. For example, the target population of the inventory must include the appropriate age level for grades nine through twelve. This criterion eliminated several possible test choices including the highly respected Minnesota Multiphasic Personality Inventory. A second criterion considered was test length. Since the band directors who volunteered their students as subjects for this study were giving up rehearsal time in order to participate in the project, it was the researcher's opinion that the test selected should take as little of that time as possible without sacrificing validity or reliability. The test selected, taking the aforementioned factors into consideration, was Burger's revision of the California Psychological Inventory into a shortened form.⁷ According to citations in Buros' Eighth Mental Measurement Yearbook, the CPI has been used extensively in the type of research which correlates personality with some other human variable. The shortened form of the test has been demonstrated to correlate with the standard form at a rating of $p=.88$.⁸ It appeared to the researcher, after

⁷Burger, p. 180.

⁸Oscar Kriser Buros, ed., The Eighth Mental Measurement Yearbook (Highland Park, New Jersey: Gryphon Press, 1978).

examination of the available tests, that the shortened version of the CPI would best fulfill the requirements of this project. Negotiations with the publisher of the CPI during July and August, 1982, secured permission to reproduce and utilize Burger's shortened version of the CPI for this project.⁹

Variables

The two variables in this study were the organismic variable of personality and the dependent variable. Since there was no experimental manipulation of any of the variables, there was no independent variable in this project. The dependent variable was operationally defined as the scores obtained by the subjects on the CPI. The organismic variable was the personality profile obtained for each of the sections of the band. It was the organismic variable which was being investigated and compared according to the musical instrument being studied.

Collection of the Data

Ideally, one person should have administered this inventory to all the subjects. This procedure was not possible for several reasons. A primary consideration in research of this nature must be the wishes of the cooperating school districts.

⁹Appendix I contains correspondence with Consulting Psychologists Press, the publisher of the CPI.

Certain band directors and administrators had indicated a strong preference that someone from within their own district administer the inventory. Band directors who selected this option did so because it allowed for greater flexibility in scheduling the administration of the inventory. Administrators insisting on this format expressed concern regarding the psychological nature of the test. Since the existence of this research was dependent upon the good will of the cooperating band directors and administrators, their preferences regarding the test administrator were honored. Where no preference was expressed, the researcher administered the test. It should be noted that according to the test author "the CPI is largely self-administering" and rigorous conditions need not "be established in order to achieve valid and useful test results."¹⁰ Regardless of who administered the inventory, the researcher provided that person with concise instructions regarding procedures to be followed when administering the test.¹¹ The test administrator also received a set of instructions to be read to the subjects which explained how to complete the answer sheet and

¹⁰Harrison G. Gough, Manual For The California Psychological Inventory (Palo Alto, California: Consulting Psychologists Press, 1975), p. 6.

¹¹Appendix G contains the instructions for the test administrator.

contained a brief description of the research and how the results would be used.¹² Informing the students of the nature of the research enhances the possibility of biased responses. Even if the students are not informed directly of the exact nature of the research, it would seem probable that, because of the unusual circumstances of filling out a personality inventory for band class, they would realize that something unusual was transpiring. It was the opinion of the researcher that the anxiety created by the uncertainty of not knowing how the results of the inventory might be used could cause more biased responses than would be encountered if the subjects were aware of how the results of the inventory were to be applied. One point mentioned in the CPI test manual and stressed in the other test manuals which were reviewed for this project was the necessity of a positive attitude toward taking a personality inventory on the part of the subjects.¹³ In consideration of the necessity of subject cooperation in research of this nature, it was the opinion of the researcher that the benefits of informing the subjects of their role in the project outweighed the possible disadvantages of this course of action. It was also hoped that communicating to the subjects the possible benefits of the

¹²Appendix H contains student directions and explanation.

¹³Gough, CPI, p.6.

research to the music program might have provided an incentive for completing the inventory accurately.

The following procedures were utilized for the collection of data. Approximately two weeks before the requested testing date, the band director received the requested number of parental letters and consent forms.¹⁴ State law in Michigan requires parental consent before a minor child can be given any form of psychological/personality inventory. One problem experienced by the researcher in conducting the pilot project for this study was not parental refusal but rather failure of the students to return the consent forms to their band director by the arranged testing date.¹⁵ The researcher believed that two weeks allowed the band directors sufficient time to distribute and collect the required parental consent forms.

All the band directors participating in this project were contacted by telephone in the beginning of September, 1982 to arrange for a testing appointment for their bands. If the director elected to have the researcher administer the test, a definite testing date was arranged during the month requested by the director on the initial band director questionnaire. The band directors who elected to administer

¹⁴See Appendix C for a parental letter and consent form.

¹⁵Sherman, p. 4.

the test themselves received the requested number of CPI test booklets, answer sheets, student directions¹⁶ and test administrator's instructions¹⁷ at least a week prior to the date they selected to administer the test. The test was administered during the regular band class, and the test administrator remained in the room with the students. At the conclusion of the testing, the band director returned all the testing material to the researcher in the postage-paid envelope provided.

The researcher set an arbitrary time limit of three months and three weeks for the collection of data. Data collection began in September 1982 and continued through the third week in December 1982. A sufficient number of test booklets was secured in order to enable the researcher to administer the test simultaneously to as many subjects as were available in any given month. This plan eliminated problems which might have been encountered by obtaining only a limited number of test booklets and then attempting to rotate them among the participating schools. December 20, 1982, was selected as the cut-off date for data collection. Scores received after December 20, 1982 were not tabulated except under extenuating circumstances. All directors who

¹⁶See Appendix H for student directions.

¹⁷See Appendix G for test administrator directions.

volunteered their students for this project and requested a summary of the results would receive such a summary even if their school administrations did not authorize approval for their particular school district to participate in this research project.

Materials and Equipment

In addition to an adequate number of CPI test booklets for the subjects, other materials which were utilized in this project included machine-scorable answer sheets, student directions and explanation, test administrator's instructions, and permission forms from the cooperating band directors, administrators, and the subjects' parents.¹⁸

Precautions against Contamination

It is the belief of the researcher that the random selection of subjects was the most adequate precaution which could have been taken against contamination. As was mentioned earlier, a possible source of contamination might have been a multiplicity of test administrators. Since this problem could not be circumvented while retaining an adequate number of subjects, the researcher believes it was controlled by providing the test administrators with clear instructions outlining in detail the testing procedure to be followed. Another factor which seems to indicate that a multiplicity

¹⁸These items have been reproduced in Appendices A, B, C, G, and H for inspection by the reader.

of administrators should not be a serious concern is the position of the author of the CPI that a uniform testing environment is not necessary in order to achieve useful test results.¹⁹

A second source of contamination might have been a conscious effort on the part of the subjects to "fake" the test. While faking is not a common phenomenon on tests of this nature,²⁰ the publishers of the CPI have built some safeguards into their test to discourage the practice and to help detect it when it does occur. Many of the questions are not easy to fake because they are not obvious to inspection.²¹ Another precaution against faking is that extremely high or low scores on the Good Impression and Sense of Well Being scales, respectively, would indicate that test-takers might have attempted to fake their results.²² The researcher believes that the policy of informing the subjects of the nature of the research and assuring them of anonymity, in addition to the safeguards built into the test, did effectively control the possibility of faking as a source of contamination.

¹⁹Gough, CPI, p. 6.

²⁰Ibid., p. 16.

²¹Ibid.

²²Ibid.

Methods of Analysis of the Data
and Reporting the Results

The eighteen scores obtained by the subjects on the CPI were compared according to section of band membership. The statistical treatment was analysis of covariance. Computations were made on an IBM 370 computer, utilizing the Statistical Package for the Social Sciences program (SPSS).²³ Differences between personality traits according to section of band membership were considered significant at or beyond the .05 level of confidence.

Results were presented by utilizing tables. The mean score for each section and family was reported for each of the eighteen personality traits and compared with the scores obtained for all the other families and sections. F ratios were reported and examined for significant differences. Appendix J is a reporting and comparison of the scores obtained by the female brass and female woodwind players in a pilot project which was conducted in June 1982.²⁴

²³Norman H. Nie, SPSS: Statistical Package For The Social Sciences (New York: McGraw-Hill Book Company, 1975).

²⁴Sherman, p. 11.

CHAPTER IV
EVALUATION OF THE DATA

Determination of the Number of Responses
Constituting a Usable Inventory

Personality inventories were completed by 1411 subjects and returned to the researcher. A computer scan of the answer sheets indicated that not every student had answered all the questions. Therefore, the first procedure undertaken was to determine how many responses would constitute a usable inventory.

Rather than setting an arbitrary cut-off point according to the total responses on the inventories, it was decided to examine individually the number of responses for each of the eighteen individual subscales on the test. After careful examination of the frequency distributions of responses per subscale versus number of respondents, it was decided to establish the lower limit of number of responses on a subscale at 75% of the possible number of responses for that particular subscale. If a student did not respond to at least 75% of the items on a subscale, that student's score was not tabulated on that particular subscale but would be tabulated on the other subscales of the test if that score met the criterion established for that particular subscale. The 75% minimum-item response was the lowest cut-off point

for any of the subscales and was applied to only two of the subscales. The other subscales all had a minimum cut-off score established at 80% to 95% of the possible item response. For an exact breakdown of the minimum cut-off points for each of the subscales, see Table 1.

The cut-off point of item response for each of the subscales was determined by comparing the number of items responded to with the number of respondents. Since these frequencies were inversely proportional, it was necessary to be flexible in reference to item response in order to retain an adequate number of subjects in each instrumental section. This particular consideration, although not particularly critical when examining the large groups (woodwind vs. brass vs. percussion) could well become critical in relation to low incidence populations such as male flute players or female tuba players. The two subscales with the cut-off point of 75% item response retained approximately 70% of the respondents, a number which the researcher considered adequate. To have increased the item-response requirement to 80% or greater for these two subscales would have diminished the percentage of respondents to an unacceptable level. For all the subscales, the researcher attempted to use as high a percentage of item response as possible while at the same time retaining a maximum number of respondents.

When the reader examines the tables presented in conjunction with this chapter, which compare the personality traits of the respondents according to family and section of band membership, it will be noted that the number of respondents differs for each of the subscales--a result of the procedure outlined and explained above.

Differences in Personality Traits According to Instrumental Family Membership

The initial hypothesis stated there would be a difference in personality type according to family of band membership. Since the ages of the subjects of this study could range from 13 to 18, the researcher elected to use the statistical tool of analysis of covariance, with age as the covariate, in order to control for the effects of age on the variable being studied. The null hypothesis was rejected for five out of the eighteen subscales which indicated that a significant difference did exist for these five dimensions of personality according to family of band membership. Where significant differences were found, the researcher then employed Scheffé tests to determine which of the instrumental means within that subscale accounted for the differences reported.

For the personality trait of Self-Acceptance, the overall analysis of covariance indicated a difference among the three family means. The two extreme means, those of the

woodwind and percussion families, differed at the .01 level. The Scheffé test also indicated that the woodwind and brass families differed at the .01 level. In both cases, the woodwind players had the higher scores. The difference between the brass and percussion families was not statistically significant. Differences according to gender were also found to be nonsignificant on this subscale (See Tables 6-A, 6-B, and 6-C).

The personality characteristic of Sense of Well-Being also revealed a significant difference between the woodwind and percussion families at the .02 level. The woodwind and brass families also differed in this subscale at the .01 level. In both instances, the woodwind subjects had the higher scores. There was no significant difference between the brass and percussion sections, and no difference was revealed according to gender (See Tables 7-A, 7-B, and 7-C).

The only significant difference ($p < .02$) in the category of Socialization was between the woodwind and percussion families, with the woodwinds attaining the higher scores on this trait. The differences between the woodwinds and brass and brass and percussion were not significant. There was a significant difference according to gender; however, there was no interaction between gender and instrumental family (See Tables 9-A, 9-B, and 9-C).

In the trait of Self-Control, the subjects from the woodwind family scored significantly higher than the

percussion players ($p < .01$), and the brass players ($p < .01$). There was no significant difference between the brass and percussion players on this trait and no difference was recorded according to gender (See Tables 10-A, 10-B, and 10-C).

On the trait of Communality, the woodwind players scored significantly higher than either the members of the percussion family ($p < .01$) or the brass family ($p < .01$). On this trait, the brass players also scored higher than the percussion players at a statistically significant level of confidence. A significant difference was discovered in this trait according to gender; however, no interaction between gender and instrument family was revealed (See Tables 13-A, 13-B, and 13-C).

For the remaining traits, Dominance, Capacity for Status, Sociability, Social Presence, Tolerance, Good-Impression, Achievement via Conformance, Achievement via Independence, Intellectual Efficiency, Psychological-Mindedness, Flexibility, and Femininity, no statistically significant differences were found among the scores of the three instrumental families. The traits of Sociability, Social Presence, Good-Impression, Achievement via Conformance, Achievement via Independence, Intellectual Efficiency, Psychological-Mindedness, and Femininity revealed a statistically significant difference ($p < .05$) according to gender; and, for the trait of Responsibility, an interaction between gender and

instrument played was discovered (See Tables 2, 3, 4, 5, 8, 11, 12, 14, 15, 16, 17, 18, 19; A and B).

Controlling for the Effects of Gender

Since the comparisons of personality traits among the instrumental families referred to above revealed limited differences according to gender, the researcher elected to treat the variable of gender differently when comparing individual instrument profiles to each other than it had been treated when comparing the instrumental family profiles. Rather than to examine gender as a separate variable, it was decided that its effects could be controlled by treating it as a covariate, as had been done with age, when examining the differences of personality traits according to instrumental family membership. Therefore, when examining the analysis of covariance tables for the individual instruments, the reader will note the presence of two covariates, age and sex, and only one main effect, instrument played. This is in contrast to the analysis of covariance tables for the instrumental families which indicated both instrument played and sex as main effects, as well as a sex by instrument interaction, and age as the only covariate.

This procedure was advantageous because it eliminated some of the statistical problems inherent when comparing groups whose numbers are vastly divergent. The greatest divergency between group numbers when retaining instrument

played as the main effect and treating gender as a covariate was approximately 7:1. This ratio occurred between the clarinet and tuba sections, whereas if gender had been retained as a main effect, the ratios would have been as high as 44:1 for the comparisons between the female clarinet and the female tuba sections or 21:1 for the male trumpet and the male flute sections. The reader may refer to Table 38 for a cross-tabulation of instrument played by sex.

Differences in Personality Traits According
to Individual Instrumental
Section Membership

The eleven individual instrument categories selected for this project are as follows: flute, clarinet, harmony clarinet (includes alto, bass, and contra bass clarinets), saxophone (includes alto, tenor, and baritone saxophones), double reeds (oboe and bassoon), trumpet (cornet), French horn, trombone, baritone horn, tuba, and percussion. The selection of these categories was largely based on the standard instrumentation of most bands. The compression of several instruments into a single category, such as the inclusion of all saxophones into the single category of saxophone was necessitated by extremely small numbers for some of the individual instruments and the resultant statistical considerations which have already been referred to. The reader is referred to Table 38 for the exact numbers under consideration.

For six of the eighteen personality traits examined, the analysis of covariance indicated the existence of significant differences according to instrument played. These six categories were Self-Control, Responsibility, Socialization, Communality, Psychological-Mindedness, and Femininity. When the overall analysis of covariance revealed a difference of personality trait according to instrument played, the researcher then employed pair-wise Scheffé comparisons among the eleven individual instruments to determine exactly where the differences did exist (See Tables 26, 27, 28, 31, 35, and 37; A through D).

In the personality trait of Self-Control, flute, clarinet, and saxophone players scored significantly higher than those people who played the harmony clarinet ($p < .01$), trumpet ($p < .01$), baritone horn ($p < .01$), percussion ($p < .01$), and trombone ($p < .05$). Harmony clarinet players scored lower than flute, clarinet, and saxophone players at the .01 level in this category. No significant differences were discovered among double reed, French horn, or tuba players and the subjects from any of the other sections. The trumpet players scored significantly lower than the flute, clarinet, and saxophone players at the .01 level but higher than the percussion section members at the .01 level. Both the trombone section ($p < .05$) and the baritone horn section ($p < .01$) scored lower than the flute, clarinet, and saxophone players. For this trait, percussion players scored lower

at the .01 level than flute, clarinet, saxophone, or trumpet players (See Tables 28-A, 28-B, 28-C, and 28-D).

Several significant differences were discovered for the personality trait of Responsibility according to section of band membership. Flute players scored higher than clarinet ($p < .01$), harmony clarinet ($p < .01$), saxophone ($p < .01$), trumpet ($p < .01$), percussion ($p < .01$), and tuba players ($p < .05$). Clarinet players achieved higher scores at the .01 level than harmony clarinet, trumpet, and percussion players but had lower scores at the .01 level than the flute players. The scores of the harmony clarinet players were lower than the scores obtained by the flute ($p < .01$), clarinet ($p < .01$), French horn ($p < .05$) and trombone ($p < .05$) sections. The scores obtained by the saxophone and baritone horn sections did not differ at a statistically significant level of confidence from the scores reported for any of the other instruments for this personality trait. The scores of the double reed section were higher at the .05 level than the scores of the trumpet section. Trumpet players scored lower on this trait than flute ($p < .01$), clarinet ($p < .01$), trombone ($p < .01$), double reed ($p < .05$), and French horn ($p < .05$) players. The scores of the French horn players were higher at the .05 level than the scores of either the trumpet or harmony clarinet players. The scores obtained by the trombone section on this trait were higher than the scores obtained by the harmony clarinet ($p < .05$), percussion ($p < .05$),

and trumpet sections ($p < .01$). Tuba players scored lower than flute players on this trait at the .05 level. Percussionists scored lower in this personality trait than flute ($p < .01$), clarinet ($p < .01$), and trombone ($p < .05$) players (See Tables 26-A, 26-B, 26-C, and 26-D).

For the personality trait of Socialization, flute players scored lower than clarinet players ($p < .01$) but higher than percussion players ($p < .05$). The clarinet section scored higher than the flute ($p < .01$), saxophone ($p < .01$), trumpet ($p < .01$), percussion ($p < .01$), and trombone ($p < .05$) sections. The scores of the harmony clarinet, double reed, French horn, baritone horn, and tuba sections revealed no significant differences either among themselves or when compared to the remaining instrument sections. The saxophone and trumpet sections both scored lower in this trait at the .01 level than the clarinet section. At the .05 level of confidence, trombone players scored lower than clarinet players but higher than percussionists in this particular personality trait. The percussion section scored lower in this trait of Socialization than the flute ($p < .05$), trombone ($p < .05$), and clarinet ($p < .01$) sections (See Tables 27-A, 27-B, 27-C, and 27-D).

For the trait of Communalinity, significant differences were discovered among most of the instrumental sections. Flute players scored higher than percussion ($p < .01$), tuba ($p < .01$), trumpet ($p < .01$), and trombone ($p < .05$) players.

The flute section scored lower than the saxophone ($p < .05$), harmony clarinet ($p < .05$), and clarinet ($p < .01$) sections. The clarinet and harmony clarinet sections scored higher than the flute, trumpet, trombone, tuba, and percussion sections at the .01 level. The saxophone section also scored higher than the flute ($p < .05$), trumpet ($p < .01$), trombone ($p < .01$), tuba ($p < .01$), and percussion ($p < .01$) sections in this particular trait. Double reed players scored higher than did trumpet, tuba, and percussion players at the .01 level of confidence. The trumpet section scored lower on this trait than any of the other sections at the .01 level except the baritone horn, tuba, and percussion sections. The trumpet score was lower than the baritone horn score at the .05 level and did not differ significantly from the scores of the tuba or percussion sections. French horn players scored higher in this trait than trumpet, trombone, tuba, or percussion players at the .01 level. Trombone players scored lower on this trait at the .01 level than flute, clarinet, harmony clarinet, saxophone, and French horn players, but higher than trumpet ($p < .01$), tuba ($p < .05$), and percussion ($p < .01$) players. The baritone horn section scored higher in this trait than either the trumpet or percussion sections at the .05 level. The tuba section scored lower in this trait than the flute ($p < .01$), clarinet ($p < .01$), harmony clarinet ($p < .01$), saxophone ($p < .01$), double reed ($p < .01$), French horn ($p < .01$), and

trombone ($p < .05$) sections. The percussionists scored significantly lower than every other section except the trumpet and tuba sections on this trait. The percussion score differed from the baritone horn score at the .05 level and from all the other sectional scores beyond the .01 level of confidence (See Tables 31-A, 31-B, 31-C, and 31-D).

For the personality trait of Psychological-Mindedness, flute players scored higher than clarinet ($p < .05$), baritone horn ($p < .01$), and percussion ($p < .01$) players but lower than double reed or French horn players at the .01 level. The clarinet section scored higher than the baritone horn and percussion sections at the .05 level but lower than the flute ($p < .05$), double reed ($p < .01$), trumpet ($p < .01$), French horn ($p < .01$), and tuba ($p < .05$) sections on this trait. The harmony clarinet section scored lower than either the double reed ($p < .01$) or French horn ($p < .05$) sections. Saxophone players scored lower than double reed ($p < .01$) and French horn ($p < .05$) players but higher than the baritone horn ($p < .05$) or percussion ($p < .01$) sections. The double reed score for this trait was significantly higher ($p < .01$) than the scores obtained by any of the other sections except the French horn and tuba sections. Trumpet players scored higher than clarinet, baritone horn, and percussion players at the .01 level but lower than double reed ($p < .01$), and French horn ($p < .05$) players. The French horn section scored higher than the flute ($p < .01$), clarinet ($p < .01$), harmony

clarinet ($p < .05$), saxophone ($p < .01$), trumpet ($p < .05$), trombone ($p < .05$), baritone horn ($p < .01$), and percussion ($p < .01$) sections. The trombone section scored lower than either the double reed ($p < .01$) or the French horn ($p < .05$) sections but obtained a higher score than the baritone horn ($p < .05$) and percussion ($p < .01$) sections. Baritone horn players scored lower than flute ($p < .01$), clarinet ($p < .05$), saxophone ($p < .05$), double reed ($p < .01$), trumpet ($p < .01$), French horn ($p < .01$), trombone ($p < .05$), and tuba ($p < .05$) players on this trait. The tuba section scored higher than the clarinet ($p < .05$), baritone horn ($p < .05$), and percussion ($p < .01$) sections. The percussion section scored significantly lower than any of the other sections except the harmony clarinet and baritone horn sections on this trait of Psychological-Mindedness. The percussion score differed at the .05 level from the clarinet score and beyond the .01 level of confidence from all the other instrumental section scores (See Tables 35-A, 35-B, 35-C and 35-D).

Examination and statistical comparison of the Femininity scores obtained by the subjects revealed several significant differences according to section of band membership for this personality trait. Flute players scored higher than saxophone, trombone, or tuba players but lower than clarinet players, all at the .01 level. Clarinet players obtained a higher score in this category at the .01 level than any of

the other sections except harmony clarinet, double reed, and baritone horn sections. The harmony clarinet players scored higher in this trait than either trombone or tuba players at the .05 level of confidence. Saxophone players scored lower on this trait at the .01 level than flute, clarinet, double reed, trumpet, and baritone horn players. Double reed players scored higher than saxophone ($p < .01$), trombone ($p < .01$), tuba ($p < .01$) or percussion ($p < .05$) players. Trumpet players were lower in this trait than clarinet players ($p < .01$), but scored higher than saxophone ($p < .01$), trombone ($p < .01$), tuba ($p < .01$), or percussion ($p < .05$) players. French horn players scored higher than trombone players ($p < .05$) but lower than clarinet players ($p < .01$) on this trait. The trombone section scored lower than any of the other sections, except for the saxophone and tuba sections, in this trait of Femininity. The trombone score differed from the French horn score at the .05 level and from the other instrumental sections beyond the .01 level of confidence. Baritone horn players were higher in this trait than saxophone ($p < .01$), trombone ($p < .01$), tuba ($p < .01$), or percussion ($p < .05$) players. The tuba section score for this trait was lower than the scores of the flute ($p < .01$), clarinet ($p < .01$), harmony clarinet ($p < .05$), double reed ($p < .01$), trumpet ($p < .01$), baritone horn ($p < .01$) or percussion ($p < .05$) sections. The percussion section score for Femininity was higher than the scores of either the

trombone ($p < .01$) or tuba ($p < .05$) sections but lower than the scores of the clarinet ($p < .01$), double reed ($p < .05$), trumpet ($p < .05$), and baritone horn ($p < .05$) sections (See Tables 37-A, 37-B, 37-C, and 37-D).

In view of the evidence presented in this chapter, the researcher rejected the null and accepted the research hypothesis. The research would seem to support the hypothesis that there are certain personality differences according to family and section of band membership.

CHAPTER V
SUMMARY AND CONCLUSIONS

The first part of this chapter will include the relationship of the present research to selected works from Chapter II; the second part, the relationship of the family and sectional personality profiles to one another; and the final part, possible uses for the findings, limitations of the project and implications of the findings for future research.

The Relationship of the Present Research
to Selected Works from Chapter II

Although this paper did not deal primarily with instrument selection according to gender, the nature of data collection made such information available. The present research findings, as reported in Table 38, would seem to support the research of Abeles and Porter (1978) who reported that the general population stereotyped the flute, clarinet, and violin as feminine and the trumpet, trombone, and drum as masculine. Cello and saxophone were considered to be neutral. The percentage of subjects from each of the instrumental sections responding to the present research would strongly support the findings of Abeles and Porter for the flute (97.3% female), clarinet (89.6% female), and trombone (86.5% male). The 60% to 40% male to female ratio obtained

by combining all the saxophones into a single classification would also tend to support the gender neutrality finding for this instrument. It would also appear that the findings of Abeles and Porter are supported for the trumpet (70.8% male) and percussion (65.8% male) sections, although less strongly than the aforementioned sections. Since the present research did not include the string family, no generalizations are available to either support or refute the findings of Abeles and Porter regarding the violin and cello. It would appear that students do tend to select instruments along the gender stereotyped lines, as was suggested by the work of Abeles and Porter.

As was stated in Chapter IV, the null hypothesis that "there will be no significant difference in personality type according to family of band membership," was rejected for five out of the eighteen personality subscales of the CPI. Differences were reported for the personality traits of Self-Acceptance (Sa), Sense of Well-Being (Wb), Socialization (So), Self-Control (Sc), and Communality (Cm). For all these traits, the woodwind section obtained the highest score; the brass section, the next highest score; and the percussion section, the lowest score. The woodwind players' scores were significantly higher than the percussion players' scores for all these traits and were higher than the brass players' scores for the traits of Sa, Wb, Sc, and Cm. The only personality trait on which the brass players' score was

significantly higher than the percussionists' score was Cm.

The present project indirectly supports the research of Kaplan (1961) and Hotchkiss and Sample (1971). Both of these investigations demonstrated a relationship between personality type and family of band membership. The present research also suggests the existence of such a relationship. It would be difficult to compare directly the results of this project with those of Hotchkiss and Sample or Kaplan because of the differences among measurement devices. For example, woodwind players are reported as being high in the trait of Sc in the present study and by Kaplan in 1961; however, for this comparison to be meaningful, it would be necessary that some degree of correlation be demonstrated between the trait of Sc as measured by the Manifold Interest Survey (measuring device used by Kaplan) and Sc as measured by the CPI. A second reason that the present research cannot be directly compared to the works cited above is that these works examine variables other than personality versus instrument played. Kaplan introduces the variable of achievement level and the Sample/Hotchkiss study is primarily concerned with comparing personality traits of band members with personality traits of non-band members. Sample and Hotchkiss considered a limited treatment of personality versus instrumental family membership, but, as in the case of the Kaplan study, a diversity of assessment tools for the measurement of personality precludes the possibility of direct comparisons between the present

research and the Sample/Hotchkiss study.

In light of the evidence presented in Chapter IV, the present research would seem to indicate that a difference in certain personality traits does exist according to family of band membership. This finding generally supports the research previously cited, but because of diversity of testing instruments, it would be unwise to attempt to support specific findings from that research with the results of the present study.

The pilot study for this project conducted by Sherman (1982) did not reveal the same differences in personality as have been demonstrated by the present research. The instrumental families differed in the personality traits of Capacity for Status (Cs) and Achievement via Independence (Ai) in the pilot study, but no differences were reported for either of these traits according to the family of band membership in the present research. The pilot study also revealed a difference between the flute and clarinet sections for the traits of Sc and So with the flute players achieving the higher scores for both of these traits. The present research indicated no differences between the flute and clarinet players for the trait of Sc; and, for the trait of So, the clarinet players achieved the higher score during the actual research project. The researcher would attribute this apparent contradiction to the small group numbers in the pilot project and the failure to select the pilot subjects randomly.

Discussion of Personality Differences According
to Instrumental Family Membership

When considering the differences in personality traits reported among the instrumental families in the present research and possible implications, the reader should be aware that these differences, although statistically significant, are usually not very large. An examination of Tables 2-B through 19-B will reveal that the differences between the extreme family means, even for those traits in which significant differences were reported, were usually no greater than two points. Therefore, to report that the woodwind family obtained a higher score than the brass or percussion families on the trait of Sc indicates that the woodwind players are better able to regulate their behavior and are less likely to act compulsively than are brass or percussion players. This score does not place the woodwind family and the brass/percussion families at the opposite ends of the continuum of Sc, an indication that woodwind players are always calm, patient and practical and brass or percussion players are always impulsive, shrewd and irritable. This finding does mean that woodwind players are farther up the continuum of Sc than are brass or percussion players but does not necessarily place the brass and percussion players at the bottom of that continuum. This generalization is true for all of the differences reported throughout this paper for both the instrumental family differences and the differences between the individual instrumental section means.

Examination of Tables 20-B through 37-B will reveal that the differences for the individual instruments are of a similar magnitude to the differences among the family means reported in Tables 2-B through 19-B.

Woodwind players attained higher scores than either brass or percussion players in the trait of Sa. This result; according to Gough,¹ would characterize the woodwind players as being more

intelligent, outspoken, sharp-witted, demanding, aggressive, . . . self-centered; . . . persuasive, . . . verbally fluent; and [in possession of] self-confidence and self assurance

than brass or percussion players. Compared to the woodwind players, the brass and percussion players would tend to be

methodical, conservative, dependable, conventional, easy-going, and quiet; . . . self-abasing and given to feelings of guilt and self-blame; . . . passive in action and narrow in interests.

On the trait of Wb, the woodwind section achieved significantly higher scores than either the brass or percussion sections. Therefore, according to Gough,² when compared to brass and percussion players, woodwind players would tend to be

energetic, enterprising, alert, ambitious, and versatile; . . . productive and active; and [seen as] valuing work and effort for its own sake.

¹Gough, CPI, p. 10.

²Ibid.

Brass and percussion players, when compared to the woodwind players, would tend to be

unambitious, leisurely, awkward, cautious, apathetic, and conventional; . . . self-defensive and apologetic; and . . . constricted in thought and action.

The woodwind section scored higher than the brass or percussion sections on the trait of So. According to Gough,³ people who obtain a high score on this trait tend to be

serious, honest, industrious, modest, obliging, sincere, and steady; . . . conscientious and responsible; and . . . self-denying and conforming.

Individuals with low scores on this trait are

defensive, demanding, opinionated, resentful, stubborn, headstrong, rebellious, and undependable; . . . guileful and deceitful in dealing with others; and . . . given to excess exhibition and ostentation in their behavior.

Again, the author would stress that the implication of this research is not that the woodwind players are extremely high in the first series of traits which were discussed and extremely low in the second series; and that conversely the brass and percussion players are extremely low in the first series of traits and high in the second. The research does imply for this scale, and for all the scales where significant differences were discovered, that the family with the higher score is farther along the continuum toward the traits associated with a high score than is the family with

³Ibid.

the lower score. Conversely, the family with a lower score is farther along the continuum toward the traits associated with a low score than the family with the higher score. It should also be noted that the high end of the continuum is not necessarily positive characteristics, and the lower end is not necessarily negative characteristics. The purpose of this research is not to pass a value judgement on given personality profiles but rather to describe the differences which were discovered to exist according to family and section of band membership.

The final personality trait in which a difference was demonstrated to exist according to family of band membership was the trait of Cm. According to the CPI author⁴ subjects achieving high scores on this scale are

dependable, moderate, tactful, reliable, sincere, patient, and realistic; . . . honest and conscientious; and . . . [have] common sense and good judgement.

Low scorers on this trait are

impatient, changeable, complicated, imaginative, disorderly, nervous, restless, confused; . . . guileful and deceitful; inattentive and forgetful; and . . . [have] internal conflicts and problems.

According to the results of this project, there are three distinct placements along the continuum of this trait for the three instrumental families as opposed to the dichotomy which existed for the preceding four traits. The highest

⁴Gough, CPI, p. 11.

scores were achieved by the woodwind family; the brass family earned the next highest score; and the percussionists earned the lowest score for this trait of Cm.

In summary, for the five personality traits (Sc, Sa, Wb, So, and Cm) in which a difference was demonstrated to exist according to family of band membership, the woodwind family earned the highest score on each trait. There were no significant differences between the brass and percussion families for any of these traits, except for the Cm scale, on which the brass players obtained the higher score.

Discussion of Personality Differences According
to Individual Instrumental
Section Membership

Examination of the eleven individual section profiles resulted in the null hypothesis being rejected for six out of the eighteen personality traits. The traits in which significant differences were discovered according to section of band membership are as follows: Self-Control (Sc), Responsibility (Re), Socialization (So), Communality (Cm), Psychological-Mindedness (Py), and Femininity (Fe). It should be noted that Sc, So, and Cm were already discovered to differ at the family level. A possible explanation for the fact that the remaining three traits were not found to differ at the family level is that the differences among sections within each family may have been large enough to affect the statistic. Examination of Tables 26-D, 27-D, 28-D, 31-D, 35-D, and 37-D should help the reader to

visualize the comparisons of personality profiles among the instrumental sections to be discussed in the subsequent paragraphs.

Before beginning discussion of the individual sectional profiles, the author believes that it would be appropriate to discuss the implications of comparatively high and low scores in each of the categories to be examined. The implications of high and low scores in the categories of Sc, So, and Cm have already been discussed in relationship to instrumental family differences and, if desired, the reader may refer to these discussions. For the traits of Re, Py, and Fe, Gough⁵ has compiled a listing of characteristics descriptive of high and low scorers for each of these traits. High scorers on the trait of Re tend to be

planful, responsible, thorough, progressive, capable, dignified, and independent; . . . conscientious and dependable; resourceful and efficient; and . . . alert to ethical and moral issues.

Low scorers on this trait are

immature, moody, lazy, awkward, changeable, and disbelieving; . . . influenced by personal bias, spite, and dogmatism, and . . . under-controlled and impulsive in behavior.

Subjects who score high on the Py scale are

observant, quick, spontaneous, perceptive, talkative, resourceful, and changeable; . . . verbally fluent and socially ascendant; and . . . rebellious toward rules, restrictions and constraints.

People who obtain relatively low scores on the Py scale

⁵Gough, CPI, pp. 10-11.

would tend to be

apathetic, peaceable, serious, cautious, and unassuming;
. . . slow and deliberate in tempo; . . . overly
conforming and conventional.

High scorers on the trait of Fe would tend to be

appreciative, patient, helpful, gentle, moderate,
persevering, and sincere; . . . respectful and accepting
of others; and [seen] as behaving in a conscientious and
sympathetic way.

Low scorers on this trait of Fe would tend to be

outgoing, hard-headed, ambitious, masculine, active,
robust and restless; . . . manipulative and opportunistic
in dealing with others; blunt and direct in thinking and
action; and impatient with delay, indecision, and
reflection.

Within each instrumental family several differences were discovered among the traits noted above. It would appear that there exists little similarity between the personalities of the flute and clarinet sections. These two sections differed in five of the six personality traits in which a significant difference was reported. The flute section obtained higher scores in the traits of Py and Re while the clarinet players scored higher on the Fe, Cm, and So scales. The flute section differed from both the saxophone and harmony clarinet sections on three out of the six traits. Flute players scored higher than the saxophone players on the Fe and Re scales but lower on the Cm scale. The flute section scored higher than the harmony clarinet section on the traits of Sc and Re but lower on the trait of Cm. The flute and double reed sections differed only on the trait of

Py, in which the double reed section obtained the higher score. When comparing the flute personality profile with the profiles of the other woodwind sections, it would appear that the flute players could be described as being relatively high in the trait of Re but somewhat low in the trait of Cm.

The flute profile has as many differences with the brass profiles as it had within its own family. Comparisons between flute and brass profiles indicated that where differences were found to exist, the flute section usually obtained the higher score. The only exception to this finding was the French horn section which scored higher than the flute section on the trait of Py and lower in none of the other traits. Flute players scored higher than trumpet players in the traits of Cm, Re, and Sc. The flute section obtained higher scores than the trombone section in traits of Cm, Sc, and Fe. Flute players scored higher than baritone horn players on the Py and Sc scales and higher than tuba players on the Fe, Cm, and Re scales. From the foregoing discussion it could be concluded that the flute section is more dependable, responsible, and self-controlled than the members of the brass family with the exception of the French horn section. It would also appear that the flute section is more feminine than the trombone or tuba sections. It is interesting to note, however, that there is no difference between the Fe profiles of the flute and trumpet sections.

The flute profile differed from the percussion profile in five personality traits. The flute players obtained higher scores on the Py, Cm, Sc, Re, and So scales than the percussion players. However, no difference was reported between the flute and percussion section scores on the Fe scale.

It would appear that the flute profile does not adhere closely to any other section or family profile. It differed as much from the other woodwind profiles as it differed from the brass and percussion profiles. The flute profile would appear to differ least from the double reed or French horn profiles and most from the clarinet and percussion profiles.

The differences between the clarinet and flute profiles have already been discussed. Clarinet players differed from both harmony clarinet and saxophone players in two personality traits. Clarinet players scored higher than harmony clarinet players on the traits of Sc and Re, and higher than the saxophone players on the traits of So and Fe. Clarinet and double reed players differed only on the trait of Py, with the double reed section obtaining the higher score. It would appear from the previous discussion that there is a similarity of single reed profiles. This similarity is not surprising because it is quite probable that the majority of the harmony clarinet players originally played the soprano clarinet, and it is also possible that at least a few of the saxophone players were originally clarinet players. The

researcher believes the fact that differences were demonstrated to exist for two out of the six personality traits between the clarinet and harmony clarinet sections is justification of the decision to treat these two groups individually instead of combining them into a single section. When compared to the rest of the woodwind section, it would seem that clarinet players are more feminine and better socialized than either flute or saxophone players and more self-controlled than harmony clarinet players. The clarinet section would also seem to be less responsible and less psychologically-minded than the flute section.

Unlike the flute profile, the comparison of the clarinet profile to the brass profiles revealed more differences between clarinet and brass profiles than between clarinet and woodwind profiles. Of the six traits which differed according to section of band membership, the clarinet and trumpet sections differed on all six. The clarinet players scored higher than the trumpet players on the traits of Fe, Cm, Sc, Re, and So, while the trumpet section scored higher on the Py scale. The clarinet section scored higher than the French horn section on the trait of Fe but lower than the horn players on the Py scale. Clarinet players scored higher than trombone players on the traits of Fe, Cm, Sc, and So and higher than the baritone horn players on the traits of Py and Sc. The clarinet section also scored higher than the tuba section on the traits of Fe and Cm but scored lower than the

tuba players on the Py scale. When compared to the brass profiles, it would appear that clarinet players are more feminine than any section except the baritone horn, more self-controlled than the trumpet, trombone, or baritone horn sections, more socialized than the trumpet or trombone sections, and higher in the trait of Cm than trumpet, trombone or tuba players.

The clarinet section obtained higher scores than the percussion section on all six of the personality traits in which a significant difference was reported according to section of band membership.

From the preceding discussion, it could be concluded that clarinet players score rather high on the Fe, So, Cm, Sc, and Re scales but lower on this last trait than the flute section. The clarinet section could also be characterized as being rather low in the trait of Py when compared with the flute, double reed and most of the brass sections. It seems there is some similarity of profile between the clarinet and the other reeds. When compared to the brass family, the clarinet profile differs least from the French horn and baritone horn profiles. The clarinet profile seems to differ most from the profiles of the flute, trumpet, trombone, and percussion sections.

The comparisons of the harmony clarinet profile to the profiles of the flute and clarinet sections have already been discussed. The harmony clarinet section seems to score lower

than the saxophone section on the trait of Sc and lower than the double reed section on the Py scale. A comparison of the harmony clarinet profile with the profiles of the other woodwind instruments would seem to yield a profile which is higher than the flute section in Cm, but lower than the flute, clarinet, and saxophone sections in Sc and lower than the flute and clarinet sections in Re.

The harmony clarinet section scored higher than the trumpet section in the trait of Cm but lower than the French horn section on the traits of Py and Re. The harmony clarinet profile was higher than the trombone and tuba profiles in the traits of Cm and Fe but lower than the trombone profile on the trait of Re. There were no differences for any of the six traits between the harmony clarinet and baritone horn profiles. An overall comparison of the harmony clarinet section scores with the scores of the brass family would indicate that the harmony clarinet players score higher than the trumpet, trombone, or tuba players on the Cm scale and higher than the tuba and trombone players on the Fe scale. It would also appear that the harmony clarinet section's score on the trait of Re is lower than the scores of either the French horn or trombone sections.

The only difference between the harmony clarinet and percussion section profiles would seem to be that the harmony clarinet players scored higher than the percussion players on the Cm scale.

This research would seem to indicate that harmony clarinet players are rather high in the trait of Cm but rather low in the traits of Sc and Re. This high Cm score is consistent with the Cm scores obtained by the other reed and to a lesser extent by all the woodwind players. The low Re and Sc scores more closely resemble a percussion or brass (excluding the French horn) profile than they resemble a woodwind profile. It would appear that the harmony clarinet profile does not closely follow instrumental family lines. It differs no less from the other members of the woodwind family than it does with the members of the brass and percussion families. The harmony clarinet profile would seem to differ least from the baritone horn profile.

The comparison of the saxophone profile with the personality profiles of the flute, clarinet, and harmony clarinet sections has already been discussed. The saxophone profile differed from the double reed profile on two traits. Double reed players achieved higher scores on both the Fe and Py scales than were achieved by the saxophone players. When compared to the profiles of the other members of the woodwind family, the saxophone profile was higher than the flute on the Cm scale and higher than the clarinet profile on the Sc scale. Saxophone players scored lower than flute, clarinet or double reed players on the trait of Fe. Saxophone players also scored lower than the flute section on the Re scale, lower than the clarinet section on the So scale, and lower

than the double reed section on the trait of Py. Within the woodwind family, it would appear that the saxophone profile differed most from the flute profile and least from the harmony clarinet profile.

Comparison of the saxophone profile with the brass family profiles should yield similar results as were obtained when comparing the other reed instrument profiles with the brass family. When compared to the trumpet family, the saxophone section was found to achieve higher scores on the traits of Cm and Sc but a lower score on the trait of Fe. This finding is interesting when it is considered that Abeles and Porter reported that the saxophone is generally stereotyped as neutral while the trumpet is stereotyped as a masculine instrument. The saxophone profile differed from the French horn profile only on the trait of Py in which the saxophone players obtained the lower score. When compared to the trombone profile, the saxophone profile was higher on the Cm and Sc scales. The saxophone section scored higher than the baritone horn section on the Sc and Py scales but lower on the Fe scale. Saxophone players obtained a higher score than tuba players on the trait of Cm. In general, it would appear that the saxophone profile is higher on the Cm and Sc scales than most of the brass profiles and lower on the Fe scale than either the trumpet or baritone horn profiles.

When compared to the percussion profile, the saxophone profile is higher on the Cm, Sc, and Py scales.

The current research would seem to indicate that the saxophone profile is rather high in the traits of Cm and Sc but low on the Fe scale. The high scores on the Cm and Sc scales are consistent with the profiles of the other reed instruments, but the low Fe score more closely resembles a trombone or tuba profile. There seems to exist a greater similarity between the saxophone and woodwind profiles than between the saxophone and brass profiles, but for the trait of Fe, the saxophone profile seems to cross family lines.

The double reed personality profile is rather unique. Double reed players did not score significantly lower than any other section on any of the traits measured but scored higher than every other section, with the exception of the French horn and tuba sections, on the trait of Py. The relationship of the double reed profile to the other woodwind instruments has already been discussed but will be summarized here. The only trait in which the double reed section differed from the rest of the woodwind section was the trait of Py. The double reed players scored higher than any of the other woodwind players on this trait, and they also scored higher than the saxophone section on the Fe scale. This similarity of the double reed profile to the profiles of the rest of the woodwind section might be explained by the fact that the majority of double reed players do not begin performing on a double reed but are recruited while studying another woodwind instrument. It will be noted later in this

paper when the individual brass profiles are discussed, that a high Py score is more characteristic of the brass section than it is of the woodwind section.

Double reed players scored higher than trumpet players on the Py, Cm, and Re scales. A comparison of double reed and French horn profiles revealed no significant differences for any of the traits measured. Double reed players attained higher scores than trombone players on the Fe and Py scales and scored higher than the baritone horn section on the trait of Py. The double reed section scored higher than the tuba section on the Cm and Fe scales. It would appear that the double reed profile is higher than the tuba or trumpet profiles on the Cm scale, higher than the tuba and trombone profiles on the Fe scale, and higher than the trumpet, trombone, or baritone horn on the Py scale.

Comparison of the double reed and percussion profiles indicated that the double reed players scored higher than the percussionists on the Fe, Py, and Cm scales.

According to the present research, the double reed section scored quite high on the Py scale and relatively high on the Cm and Fe scales. The high scores on the Cm and Fe scales are consistent with the profiles of the woodwind family in general, but the high Py score is more typical of the brass family. The double reed profile is somewhat similar to the flute, clarinet, and harmony clarinet profiles, differing only on the trait of Py, on which the

double reed players obtained the higher score. The greatest differences between the double reed profile and the profiles of the other instruments seem to have occurred between the double reed profile and the profiles of the trumpet and percussion sections. No differences were reported between the double reed and French horn profiles, and both of these sections were unique because they each obtained such high Py scores that they were higher in this trait than any other section except the tuba section.

Differences between the trumpet and woodwind profiles have already been discussed. These differences will be summarized here. Trumpet players scored higher than clarinet players on the Py scale and higher than saxophone players on the trait of Fe. Trumpet players were less responsible than flute, clarinet or double reed players and less self-controlled than flute, clarinet or saxophone players. The trumpet section was lower on the Cm scale than any of the woodwind sections. Trumpet players also scored lower on the So and Fe scales than clarinet players and scored lower on the trait of Py than the double reed section.

Trumpet players scored lower than French horn players on the Py, Cm, and Re scales. When compared to the trombone section profile, the trumpet section profile was higher on the Fe scale but lower on the Cm and Re scales. The trumpet players also scored lower on the Cm scale than the baritone horn players. Tuba and trumpet profiles differed only on

the trait of Fe. The trumpet players scored higher on this trait. When compared to the other profiles within the brass section, trumpet players achieved a lower score on the Cm scale than the French horn, trombone, or baritone horn sections and were also classified as less responsible than the French horn and trombone players. Trumpet players did score higher on the Fe scale than either the trombone or tuba sections.

Comparison of the trumpet and percussion section profiles indicated that the trumpet players scored higher than the percussionists on the Fe, Py, Sc, and So scales.

The present research would suggest that trumpet players tend to achieve relatively high scores on the Fe trait, especially when compared to other brass players or the percussion section. Trumpet players would appear to score quite low on the Cm scale. The trumpet Cm score was significantly lower than the Cm score of any other instrumental section with the exception of the tuba and percussion sections. Since the trumpet Re score was lower than five of the other instrumental sections, it could be concluded that trumpet players are not very responsible when compared to the woodwind family or the French horn and trombone sections. When compared to the woodwind family, the trumpet section seems to be rather low in the trait of Sc; however, since the trombone and baritone horn sections also exhibit low scores on the trait of Sc in relationship to the woodwind

family, this characteristic of a low Sc score may be considered as a family trait rather than an individual one. In consideration of the relatively low Cm scores of the tuba and trombone sections in comparison to the woodwind Cm scores, the low Cm score of the trumpet might also have been considered as a family characteristic, if it were not for the fact that the trumpet score was also significantly lower than the scores of three other brass sections. It would seem that the trumpet profile differs most from the clarinet and percussion profiles and least from the harmony clarinet, baritone horn, and tuba profiles.

Differences between the French horn and woodwind profiles have already been discussed and will be summarized in this paragraph. Except for the double reeds, the French horn players scored higher than any of the woodwind sections on the trait of Py. French horn players also obtained higher scores than the harmony clarinet section on the Re scale but scored lower than the flute section on the Fe scale. No differences were reported between the French horn and double reed scores on any of the traits which were measured.

The French horn profile seems to differ to a greater degree from the brass family profile than it does from the woodwind family profile. French horn players achieved significantly higher scores than the trumpet players on the Py, Cm, and Re scales and also scored higher than trombone players on the Py, Cm, and Fe scales. The French horn

section profile revealed a high Py score in comparison to the baritone horn section and a high Cm score in comparison to the tuba section Cm score. The French horn section appears to be higher than the trumpet, trombone, or baritone horn sections on the Py scale and is also higher than the trumpet, trombone, or tuba sections on the trait of Cm.

Comparison of the French horn and percussion section profiles indicated that they differed on only two traits. The French horn players attained higher scores than the percussion players on the Py and Cm scales.

The current research would seem to characterize the French horn section as being quite high on the trait of Py. The French horn section attained a higher score on the Py scale than eight out of ten of the other instrumental sections. When compared to the other brass sections and the percussion family, the French horn section profile was rather high on the Cm scale. It seems that the French horn profile is quite similar to the double reed profile, differing in none of the traits measured. It would also appear that, with the exception of the baritone horn and tuba profiles, the French horn profile bears a greater similarity to the overall woodwind family profile than it does to the overall brass family profile.

The relationship of the trombone section profile to the profiles of the various members of the woodwind family has already been discussed but will be summarized here. Trombone

players scored higher than harmony clarinet players on the trait of Re. Except for the double reed section, the trombone section scored lower than any of the woodwind sections on the Cm scale and lower than any of the woodwind family, except the saxophone section, on the trait of Fe. The trombone players also scored lower than the flute, clarinet, and saxophone players on the trait of Sc. As was mentioned when discussing the trumpet profile, the low Cm score is probably a family characteristic rather than an individual sectional characteristic. Within the brass family, and when compared to the percussion family, the trombone section scored rather high on the Cm scale.

Trombone players scored higher than trumpet or tuba players on the Cm scale. The trombone section also scored higher than the trumpet section on the trait of Re and higher than the baritone horn section on the Py scale. The trombone section scored lower than the trumpet, French horn, or baritone horn section on the Fe scale, and also scored lower than the French horn section on the Py and Cm scales.

When compared to the percussion section, the trombone section scored higher than the percussion section on the Py, Cm, and Re scales but lower on the Fe scale.

These findings would indicate that trombone players are quite low in the trait of Fe when compared to the other instrumental sections. The trombone section scored lower than eight out of ten of the other instrumental sections on

this trait of Fe. Trombone profiles seem low in the traits of Cm and Sc when compared to the woodwind profiles, but this low score appears to be a family trait, as opposed to a sectional one. Trombone players seem to score rather high on the Cm scale when their scores are compared to the other brass sections or to the percussion family scores. Trombone players attained relatively high scores on the Re scale. The trombone profile seems to differ the most from the clarinet and percussion profiles and least from the profile of the tuba section.

The comparison of the baritone horn profile to the individual woodwind section profiles has already been discussed and will be summarized here. The baritone horn section scored higher than the saxophone section on the trait of Fe. Baritone horn players scored lower than any of the woodwind players, except the harmony clarinet section, on the Py scale and also scored lower on the Sc scale than the flute, clarinet or saxophone sections. This low Sc score in relation to the woodwind family seems to be a trait shared by the brass family, with the exception of the French horn and tuba sections.

When compared to the rest of the brass family, the baritone horn players scored higher than the trumpet players on the Cm scale and higher than either the trombone or tuba players on the Fe scale. The baritone horn section scored lower than any brass section, except the trumpet section,

on the Py scale and scored lower than seven out of ten sections overall on this trait. It is interesting to note the differences between the trombone and baritone horn profiles. The Fe scores of these two sections seem to be almost at opposite ends of the continuum for this scale (See Table 37-B), and, as mentioned above, these two instrumental sections also differed on their Py scores. The researcher believes these differences are some vindication of the decision to treat these two sections as separate entities in this research rather than combining them into a single category.

The baritone horn section scored higher than the percussion section on the traits of Fe and Cm.

The present research would indicate that baritone horn players tend to score quite low on the Py scale but rather high on the Fe scale. It would appear, in comparison to the woodwind family, the baritone horn players obtain relatively low scores on the Sc scale, but this low score on this scale appears to be a brass family characteristic as opposed to an individual sectional characteristic. The baritone horn section differs from the majority of the brass family on the trait of Cm. As was mentioned previously in this chapter, a low Cm score seems to be a characteristic of the brass family in general. The baritone horn section scored not only no lower than any of the woodwind sections but also was higher in this trait than the trumpet or

percussion sections. This low Py score, the high Fe score, and the lack of a low Cm score would seem to indicate that the baritone horn profile does not necessarily follow brass family lines but bears some similarity to the clarinet and harmony clarinet profiles. The baritone horn profile seems to have the greatest similarity to the harmony clarinet profile and to have the least similarity to the saxophone section profile.

Comparisons between the tuba section profile and the profiles of the individual woodwind sections have already been discussed and will be summarized in the following paragraph. Tuba players scored higher than clarinet players on the Py scale. The tuba section scored lower than any of the woodwind sections on the Cm scale and lower than any of the woodwinds, except the saxophone section, on the Fe scale. Tuba players also scored lower than flute players on the Re scale.

The tuba section scored lower than either the trumpet or baritone horn sections on the Fe scale and lower than the French horn and trombone sections on the Cm scale. Tuba players did score higher than baritone horn players on the Py scale.

Tuba players scored higher than percussionists on the Py scale but lower on the Fe scale.

The present research would seem to indicate that tuba players attain moderately high Py scores but score quite low

on the Fe and Cm scales. Although a low Cm score appears to be characteristic of the brass family in general, the tuba section scored lower than two other brass sections on this trait, as well as scoring lower than any of the woodwind sections. This finding would seem to indicate that a low Cm score is more typical of the tuba section than of the brass family in general. It should also be noted that although a low Sc score seems to be a characteristic of the brass family, this trait did not appear in the tuba section profile. The greatest similarity of profiles seems to have occurred between the tuba section profile and the profiles of the saxophone, trumpet, French horn, and trombone sections. The greatest differences seem to be between the tuba profile and the profiles of the flute and clarinet sections.

Comparisons between the percussion section profile and the profiles of the individual woodwind and brass sections have already been discussed and will be summarized in this paragraph. The percussionists scored lower than any of the woodwind players and also lower than the French horn, trombone, and baritone horn players on the trait of Cm. On the Py scale, the percussion section profile was lower than any of the other instrument profiles, except the baritone horn and harmony clarinet profiles. Percussion players scored lower than the flute, clarinet, saxophone, and trumpet players on the Sc scale. For the trait of Re, percussionists obtained lower scores than the flute, clarinet, and

trombone sections. Percussionists also scored lower than flute, clarinet, and trumpet players on the So scale. On the Fe scale, percussionists scored lower than clarinet, double reed, trumpet, and baritone horn players but higher than trombone or tuba players.

The present research would seem to indicate that the percussion section scored quite low on the traits of Py and Cm in comparison to the rest of the band. Percussionists also obtained moderately low scores on the Re, Sc, and So scales. On the Fe scale, percussionists scored lower than two brass and two woodwind sections but scored higher than the two lowest scoring sections on this trait. It would appear that the greatest differences exist between the percussion profile and the profiles of the flute (five out of six traits differed) and clarinet (six out of six traits differed) sections. The least difference seems to exist between the percussion and harmony clarinet profiles. These profiles only differed on one trait. A comparison of family profiles would seem to indicate a greater difference exists between the percussion and the woodwind profiles than between the percussion and brass profiles. However, because of the large number of differences between the percussion and brass profiles, this finding should not be interpreted as suggesting a similarity between brass and percussion profiles. It would appear that when significant differences in personality traits were discovered among sections, the percussion

section scored toward the lower end of the continuum for the majority of these traits.

Summary of the Sectional Personality Profiles

The general sectional personality profiles will be summarized in the following paragraph. Flute players are quite high on the Re scale, high on the Sc scale when compared to the majority of the brass sections and the percussion family, high on the Cm scale when compared to the brass family, but low on this same trait when compared to the other woodwind sections. Clarinet players are high on the Fe, Cm, So, and Sc scales but low on the Py scale. Harmony clarinet players score high on the Cm scale, low on the Re scale, and low on the Sc scale when compared to the other woodwind sections. Saxophone players are high on the Cm and Sc scales but low on the Fe scale. Double reed players score extremely high on the Py scale, high on the Cm scale when compared to the trumpet and percussion players, and high on the Fe scale when compared to the saxophone, trombone, tuba, and percussion sections. The double reed section did not score significantly lower than any other section on any of the personality traits measured. Trumpet players scored higher than clarinet players or percussionists on the Py scale and higher than saxophone, trombone, or tuba players on the Fe scale. Trumpet players obtained relatively low scores on the Re and Cm scales; and, when compared to the woodwind family, the trumpet players are low on the Sc scale. French

horn players scored quite high on the Py scale, and, when compared to the percussion family and the other brass sections, achieved a high Cm score. French horn players did score below the clarinet players on the trait of Fe. Trombone players scored rather high on the Re scale when compared to the trumpet, tuba, and percussion sections. Trombone players achieved quite low scores on the Fe scale, and the trombone section Cm score was lower than the Cm scores of either the woodwind family or the French horn section. Trombone players were also lower than flute, clarinet, or saxophone players on the Sc scale. Baritone horn players achieved rather high scores on the Fe scale and also scored higher than trumpet players or percussionists on the Cm scale. Baritone horn players were quite low on the Py scale and, when compared to the flute, clarinet and saxophone sections, were also low on the Sc scale. The tuba section was quite high on the Py scale but low on the Cm and Fe scales. The percussion section seemed to score toward the lower end of the continuum for all the traits in which significant differences existed. The percussionists were quite low on the Py and Cm scales and rather low on the Sc, So, and Re scales. On the Fe scale, the percussion players scored lower than the clarinet, double reed, trumpet, and baritone horn players but higher than the trombone and tuba players.

Limitations of the Present Research and
Implications for Future Research

The reader will note that, up to this point, very few explanations have been offered for the similarities and differences of personality traits according to section of band membership which have been demonstrated to exist. The stated purpose of the present research is to determine whether a difference does exist in personality type according to section and family of band membership and to describe such differences if they do exist. It is beyond the scope of the present research to attempt an explanation of why these differences exist. For example, although this research would suggest that clarinet players are high in the trait of Sc, it would not be appropriate to speculate that this trait is due to the demands placed upon the clarinet players by the music which they play and the consequent adaptation of the players to the idiosyncrasies of their instruments and music. It may be true that adapting to the idiosyncrasies of the clarinet and the demands of the music develops self-control in the people who play this instrument, but it may also be true that this capacity for self-control is the reason a person elects to play the clarinet.

The researcher believes that since the present project seems to have established the existence of a relationship between personality and instrument played, the most logical follow-up research to the present project would be to

determine the nature of this relationship. Do certain personality traits predispose a person to select a given instrument or do these personality traits develop as a result of playing that instrument over a given period of time? This question could be researched by comparing the personality profiles of the students in the present study with personality profiles obtained from students from the same school districts who began study of an instrument but did not continue playing that instrument. If the profiles of the students who began study of an instrument but quit were similar to the profiles of the students who continued playing that instrument, it could be concluded that students select an instrument based, at least partially, on their personality type. If there were a difference in profiles, this difference would suggest the possibility that certain personality traits develop as a result of playing a given musical instrument. The author finds these possibilities intriguing and intends to follow up this investigation. Should any of the readers of this paper wish to conduct a similar investigation, there is a listing of schools which participated in the present project in Appendix L.

Practical Utilization of the Research Findings

Although the researcher believes the primary importance of the present project is associated with its implications for future research as noted above, there are some limited

practical ways in which it could be useful to the music educator. Until the questions raised in the previous paragraph have been answered, the researcher would not recommend that these findings be utilized when recruiting beginning students. The present research may be somewhat useful, if carefully applied as one of many guidelines, for selecting students who may wish to switch to another instrument. A good example of how the present findings could be used in this manner might involve the selection of which clarinet player should be encouraged to try one of the double reed instruments. Although clarinet and double reed players do share a similarity of profile traits, there is one trait on which they seem to approach the opposite ends of the continuum - the trait of Py. Double reed players are quite high in this trait and clarinet players are rather low in this same trait. Therefore, a director might want to encourage a clarinet who appeared to possess comparatively many of the qualities associated with a high Py score to try a double reed instrument if that person were interested in doing so. To ensure the greatest degree of success with this procedure, the director should use the CPI to determine which of the clarinet players were high or low scorers on the Py scale. This procedure may not be practical because of the difficulty associated with a layman's procuring the CPI, and the recommended age limitations of the CPI would not make it appropriate for junior high school students. The director

could informally assess a student's position relative to other students' positions on the Py continuum through observation of the characteristic behaviors associated with high and low scorers on this trait as reported on page 72 of this paper. Similarly, close examination and comparison of personality profiles for any given instruments could prove useful when recruiting and advising band students regarding instrument changes.

Although the findings of the present research may be utilized as suggested above, the researcher would recommend that if a director elects to use these findings in this manner, great care should be taken not to use these data as a sole criterion for recommending or assigning instruments. The present research seems to suggest the existence of a difference in personality traits according to instrument played and the ability to describe these differences; however, the researcher still sees the need to examine the nature of these differences (cause of, or effect from instrument played) before recommending without reservation the criterion of personality type as a basis of instrument selection or assignment.

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APPENDIX A
INITIAL SUBJECT REQUEST TO BAND DIRECTORS

770 Miller
Rochester, Mi. 48063
(313) 651-3471
June 16, 1982

Dear _____:

The purpose of this letter is to request your assistance with a research project which I am planning to conduct during the 82/83 school year. Briefly stated, the project will attempt to examine the relationship between personality traits of high school band members and the instruments which they are playing. The subjects for this study are to be high school band members in grades ten through twelve or nine through twelve dependent upon the organization of the schools selected to participate in the study.

As I am sure you are aware, in order for research of this nature to be meaningful it is necessary that the subjects be randomly selected. Your school was one of the high schools which was randomly selected to participate in this research. I hope you will agree to allow your students to participate. I have attempted to design the data collection portion of this project in a manner which will result in a minimum disruption of your busy schedule. As a band director myself, I understand the value of your rehearsal time and what a sacrifice it is to give up any amount of it. What I need is approximately 45 to 50 minutes of rehearsal time in order to administer the personality inventory which will be used in this project to your students. If I receive your approval for the use of your students in this research, I will send you an appropriate number of parental consent forms (they are necessary in any type of psychological study) and will immediately contact your administration for their permission to conduct this research.

I apologize for contacting you at home right at the beginning of your vacation rather than at school next September, but time is of the essence. My dissertation committee has placed me under a mid summer deadline to demonstrate that this research is feasible. A primary concern of the committee was whether or not I can guarantee that there will be an adequate number of subjects available. The only way that I can convince them of the availability of subjects is if enough of the randomly selected directors who receive this letter will allow me to use their students as subjects for the study. If you agree to allow me to use your students, all that would be asked of you would be to

distribute the parental consent forms prior to the administration of the test and to provide me with one 50 minute block of time in which to administer the test.

Preliminary results of a pilot study which I am conducting in my own school district would seem to indicate that this research should prove both interesting and potentially useful. I appreciate the time you have taken to read through this letter and hope you will allow your students to participate in this project.

Please return the enclosed form to me as soon as possible. Since I also need administrative approval for those districts which will be participating, I need the band director forms to be returned no later than July 12th. Thanks for your cooperation. If you have any questions or concerns, please don't hesitate to contact me.

Sincerely,

Bob Sherman

P.S. There is a short form of the psychological inventory which is being used in this project. This form should become available to me by August. Time for administration of this short form is 20 to 30 minutes as compared to 45 to 50 minutes for the standard form. If I can use this shortened form, this will mean that I will not need to use up an entire rehearsal to administer the test.

PLEASE RETURN THIS FORM IN THE ENCLOSED SELF-
ADDRESSED, STAMPED ENVELOPE

___ I do not want my students to participate in this project. (If you selected this option, I would appreciate it, for my own future reference, if you would briefly indicate on the reverse of this form your rationale; can't afford the rehearsal time, don't see the value of the study, etc.)

___ If you can get administrative approval you may use my students for this project, BUT only if you use the short form of the test.

___ You may use my students as subjects for this project regardless of which form of the test you use. Of course administrative approval is still required.

IF YOU SELECTED EITHER OF THE LAST TWO OPTIONS, PLEASE FILL IN THE INFORMATION BELOW. I WILL CONTACT YOU WITH FINAL DETAILS BY SEPTEMBER.

Approximate number of students in your largest band class ___

Do you want all your band classes to participate?

Yes ___ No ___ Only have one band class ___

Best month for the researcher to administer the test?

Sept. ___ Oct. ___ Nov. ___

Date or dates you absolutely would not want the test administered? (too close to a contest, concert, etc.) _____

The personality test which I am using for this study requires no special skills for administration. It is largely self-administering and I will provide you with any special instructions which may be necessary if you elect one of the two following options rather than having me visit your school personally.

Would you prefer to administer the test yourself? This option would allow greater flexibility in scheduling a testing date. Yes ___ No ___

Dependent upon your distance from the researcher (Rochester), would you be willing to administer the test yourself and return it in a postage paid envelope provided? Yes ___ No ___

PLEASE CONTINUE ON REVERSE SIDE OF THIS FORM

Name and address (office) of the administrator I would need to contact for final permission to conduct this study in your district. (Probably the superintendent)

Band Director _____

School Address _____

Would you like a summary of the findings of this project when it is completed? Yes ___ No ___

APPENDIX B
INITIAL SUBJECT REQUEST TO ADMINISTRATORS

770 Miller
Rochester, Mi. 48063
(313) 651-3471
July 14, 1982

Dear _____:

The purpose of this letter is to request your assistance in a research project in the field of music education. Your school district has been randomly selected to participate in this project. Briefly stated, the project will attempt to examine the relationship between personality traits of high school band members and the instruments which they are playing. If such a relationship does exist, this information, in conjunction with further research, may be useful for the purpose of advising future music students.

Your band director, _____, has already been contacted and has given his/her consent to use his/her band students as subjects in this study, subject of course to your approval. I will provide parental consent forms (copy enclosed for your inspection) to the director prior to the administration of the testing instrument. Of course any student whose parents objected to his/her participation would be excused from taking the test. A pilot project has indicated very limited parental refusal (less than 1%). The instrument which has been selected for this project is the California Psychological Inventory. COMPLETE ANONYMITY OF THE SUBJECTS WILL BE ASSURED AS NO NAMES ARE TO BE PLACED ON THE ANSWER SHEETS OR TEST BOOKLETS.

This project has been piloted in the Rochester Community Schools and preliminary results would seem to indicate that this project should be both interesting and potentially useful. You will be interested to know that before this project was actually piloted in the schools, it was carefully scrutinized by the director of special education for any legal ramifications. His conclusion was that there are no problems with the use of this particular test. It is not a clinical instrument and requires no special skills for administration. There is no problem with interpretation since individual scores are not being interpreted but are rather being compiled into large group scores which are then being compared to each other. The only requirement which Dr. Roy (director of special education) stipulated was the necessity of a parental permission form before the student could participate in the project. The parental letter which I have enclosed

was approved by Dr. Roy and utilized in the pilot study in the Rochester Community Schools.

I hope that I can count on your school district participating in this project. As you know, for this type of research to be meaningful it is necessary to have an adequate number of subjects. If you have any questions or concerns, please do not hesitate to contact me. Administrators within the Rochester Community Schools in addition to Dr. Roy who are acquainted with this project include: Mr. Gary Doyle, Principal, Reuther JHS., 1430 E. Auburn Road, Rochester, Mi. 48063, (313) 852-9221; and Dr. John Schultz, Assistant Superintendent, Rochester Community Schools, 4th & Wilcox Sts., Rochester, Mi. 48063, (313) 651-6210. Another person familiar with this project is Dr. Bill Veitch of Oakland Schools, 2100 Pontiac Lake Road, Pontiac, Mi. (313) 858-2157. Dr. Veitch is assisting me with the statistical treatment of the data.

I appreciate the time you have taken to read through this letter and hope you will allow your students to participate in the project. Would you please return the enclosed form to me by July 26 or as soon thereafter as possible. I must demonstrate to my dissertation committee that this research is feasible by the middle of August and their major concern at this point is the availability of subjects. The response of the band directors who have been contacted is gratifying and I should have an adequate number of subjects, but I can not guarantee this to my committee until I have received the enclosed questionnaire from the respective administrative authority in each district. In addition to demonstrating the feasibility of the project to my committee, I must also order an adequate number of test booklets and answer sheets and then recontact each of the band directors who indicated a desire to participate in order to set up a schedule for the administration of the test to their bands. I am sure you can understand why I would appreciate this form being returned to me as soon as possible.

Thank you again for your time and consideration.

Sincerely,

Robert C. Sherman

PLEASE RETURN THIS FORM IN THE ENCLOSED SELF-
ADDRESSED, STAMPED ENVELOPE
Please Check one

___ The band students of _____
(Name of school or school district)
have administrative approval to participate in the research
project as outlined utilizing the California Psychological
Inventory.

___ The band students of _____
(Name of school or school district)
may not participate in this project. (If you selected this
option, I would appreciate it, for my own future reference,
if you would briefly indicate your rationale on the reverse
of this form; don't see the value of the study, against
district policy, etc.).

Would you like to receive a summary of the findings of this
project when it is completed? Yes ___ No ___

APPENDIX C

PARENTAL LETTER OF EXPLANATION AND PERMISSION FORM

Dear Parent:

I am presently conducting an investigation of personality traits of high school band members in the state of Michigan. These traits will then be compared according to the instrument which the student plays. Although no one can predict what the results of this study will be, it is hoped that these findings, in conjunction with future research which they may suggest, will be useful in the area of instrument selection for future students.

Your school band has been randomly selected to participate in this project. Both your school administration and your band director have given their approval for this project and now I am requesting your cooperation. State law requires parental approval for the administration of any personality or psychological inventory to a minor child. Let me assure you of the TOTAL ANONYMITY of the students. All students will be asked to identify themselves on this test only by the instrument which they play. Some other biographical data which could be relevant to this project (information such as grade, age, number of years of study on present instrument, etc.) may be requested also, but there is no possible way in which a given personality inventory could be traced back to any individual child.

You should also be aware of the basic nature of the personality inventory which is being used in this research. It is in a standardized true-false format. The student simply responds either true or false on his/her answer sheet to each of the statements in the test booklet. This test was designed for use with normal people for the purpose of assessing personality traits. It is NOT a clinical instrument which would be used for the diagnosis of mental illness or personality disorders. I have reproduced a random sampling of several items from the test on the reverse of this permission form for your inspection.

A crucial factor in this type of research is to have a representative sample of the population of subjects. Random selection of the schools which will participate in this study is one way of achieving such a representative sample; however if enough students elect not to participate from a selected school, this could effect the results and consequently the usefulness of this research. I hope you will allow your son/daughter to participate.

If you have any questions or concerns please feel free to contact me.

Sincerely,

Robert C. Sherman

Home: (313) 651-3471; School Office: (313) 852-9221

PLEASE RETURN THIS FORM TO YOUR BAND DIRECTOR
Please check one

 My son/daughter has my permission to participate in
the research project explained above utilizing the
California Psychological Inventory.

 I would prefer my son/daughter not participate in the
research project explained above.

Signature of parent

Sample Questions from the
CALIFORNIA PSYCHOLOGICAL INVENTORY

1. I enjoy social gatherings just to be with people.
TRUE FALSE
2. My daily life is full of things that keep me interested.
TRUE FALSE
3. I gossip a little at times.
TRUE FALSE
4. I think I would like the work of a school teacher.
TRUE FALSE
5. There have been times when I have been very angry.
TRUE FALSE
6. I take a rather serious attitude toward ethical and moral issues.
TRUE FALSE
7. I feel as good now as I ever have.
TRUE FALSE
8. I have a natural talent for influencing people.
TRUE FALSE

APPENDIX D

FOLLOW-UP NOTIFICATION TO BAND DIRECTORS WHO
VOLUNTEERED THEIR STUDENTS AS SUBJECTS

1. Positive Administrative Response117

2. No Administrative Response118

3. Negative Administrative Response119

770 Miller
Rochester, Mi. 48063

(313) 651-3471

Dear _____:

Thank you for agreeing to assist in my investigation of the correlation of personality type with musical instrument studied. _____ has given administrative approval for your students to participate in the project. I will be phoning you within a week to finalize arrangements for test administration.

Thanks again for your cooperation. I hope you have a good year.

Sincerely,

Bob Sherman

770 Miller
Rochester, Mi. 48063

(313) 651-3471

Dear _____ :

Thank you for agreeing to assist in my investigation of the correlation of personality type with musical instrument studied. To date, I have not received either administrative approval or rejection from _____ in reference to having your students participate in this project. I have sent a follow up letter to _____ requesting a final decision as soon as possible. As soon as I hear from him/her, I will be in contact with you.

Since you requested that the test be administered during the month of _____, if I don't hear from your administration by _____, I suppose I will have to consider this as a denial of approval. Hopefully, he/she will respond to the follow up notification and your students will be allowed to participate.

Thanks again for your cooperation. I hope you have a good year.

Sincerely,

Bob Sherman

770 Miller
Rochester, Mi. 48063

(313) 651-3471

Dear _____ :

Thank you for agreeing to assist in my investigation of the correlation of personality type with musical instrument studied. Unfortunately, _____ has denied administrative approval for your band students to participate in this project.

Thank you for your cooperation. I regret that your students will be unable to participate. I hope you have a good year. You will be receiving a summary of the results of this study when it has been completed if you checked this option on your original questionnaire.

Sincerely,

Bob Sherman

APPENDIX E
FOLLOW-UP REQUEST TO LATE-RESPONDING ADMINISTRATORS

770 Miller
Rochester, Mi. 48063
(313) 651-3471

Dear _____:

Several weeks ago I contacted you to request permission for the band students from your school/district to participate in a research project investigating the relationship of personality type to instrument played.

Although I presently have an adequate sample size in order to conduct this research, it will be more meaningful if I can increase this sample size. For example, certain instruments have been traditionally stereotyped according to the sex of the player (flute=girl, drum=boy). It would be most interesting and useful to be able to develop a personality profile of those children who select to transgress this traditionally imposed restriction on instrument selection. Hopefully, such information could be used to eliminate, or at least control such restrictive gender stereotyping of instruments in the future. Without an extremely large sample size, I am afraid that there will not be enough individuals such as male flute players or female tuba players to generate personality profiles for these sections.

As I mentioned in earlier correspondence, your band director, _____, has already been contacted and has given his/her approval to use the band students. Since _____ indicated the desire to have the test administered in the month of _____, I need your authorization by _____ if the students are to participate in the project.

Should you desire further information (two superintendents have requested a copy of the test to review) before making your decision, please feel free to contact me. If you did not receive the original mailing and desire the information contained therein, I would be happy to forward it to you.

If you have already decided against participation in this project, I would appreciate it if you would apprise me of this decision at your earliest convenience so that I can begin contacting other school districts to attempt to increase my sample size.

Thank you for your consideration.

Sincerely,

Robert C. Sherman

APPENDIX F

REQUEST TO INCREASE SAMPLE SIZE

1. Letter to Band Directors124
2. Letter to Administrators127

770 Miller
Rochester, Mi. 48063

(313) 651-3471

Dear _____ :

The purpose of this letter is to request your assistance with a research project which I am planning to conduct during the 82/83 school year. Briefly stated, the project will attempt to examine the relationship between personality traits of high school band members and the instruments which they are playing. The subjects in this study are to be high school band members in grades ten through twelve or nine through twelve dependent upon the organization of the schools selected to participate in the study.

As I am sure you are aware, in order for research of this nature to be meaningful it is necessary that the subjects be randomly selected. Your school was one of the high schools from across the state of Michigan which was randomly selected to participate in this project. I hope you will allow your students to participate. I have attempted to design the data collection portion of this project in a manner which will result in a minimum disruption of your busy schedule. As a band director myself, I understand the value of your rehearsal time and what a sacrifice it is to give up any amount of it. What I need is approximately 45 to 50 minutes of rehearsal time in order to administer the personality inventory which will be used in this project to your students. If I receive your approval for the use of your students in this research, I will immediately contact your administration for their approval to conduct the project in your district. If I receive administrative approval, I will contact you by phone to arrange final details for the test administration. If you agree to allow me to use your students, all that would be asked of you would be to distribute parental consent forms (they are required for any type of psychological study) prior to the administration of the test and to provide me with one 50 minute block of time in which to administer the test.

Actually this letter is a request to expand the number of subjects for this study. More than an adequate number of subjects was recruited through a similar mailing to

another group of randomly selected MSBOA band directors at the beginning of the summer. Unfortunately, I did not get 100% cooperation from the administrators of the band directors who volunteered their students as subjects. I did receive enough administrative cooperation to insure an adequate number of subjects to conduct the research, but for reasons which I will explain, I believe that the research will be more meaningful and potentially useful if I can recruit an extremely large subject population. Although my current population should enable me to examine and compare the personalities of the more traditionally populated sections such as female flute players vs. female clarinet players or male trumpet players vs. male trombone players, I doubt that I will be able to generate personality profiles for the more unusual sections such as male flute players or female tuba players unless I can greatly increase my present number of subjects. The ability to generate personality profiles for students who elect to transgress the traditional gender stereotypes when selecting an instrument may be quite useful. Such profiles may enable us to break down, at least to some extent, future gender stereotyping of instruments by students. For example, a personality profile of a "typical" female high school tuba player could be used to suggest to an overpopulated 7th grade female flute section that playing the tuba is at least an option for the female musician. If the students exhibited any interest, this profile could then be used as one criterion for recommending which of the students might have the greatest possibility of success when switching to a particular instrument. Of course the profiles generated for the other sections of the band could be used in a similar advisory fashion.

Please understand that I am not advocating the use of personality profiles as the sole determiner of which student gets to play what instrument. I am suggesting that information regarding personality type may be useful in conjunction with other criteria we currently employ such as student interest, physical configuration, and needs of the ensemble, for the purpose of guiding students in regard to their choice of an instrument.

Although most of the people contacted to date would seem to agree that there is some relationship between personality and instrument played, this relationship has not yet been objectively proven. The existence of this relationship is still only speculation. It is the purpose of this current research project to: 1) generate a personality profile for each instrument of the band, and 2) examine and compare these profiles in order to demonstrate the existence of a difference in personality traits

according to section of band membership. I conducted a pilot study of this project in my own school district this past June. The results indicated that differences do appear to exist in personality according to section of band membership. Due to a very limited sample size and the fact that the subjects were not randomly selected, it can not be said that this study "proved" the existence of a relationship between personality and instrument played. However, the results of that pilot study do seem to indicate that it would be worth while pursuing this topic with an adequate population size and the proper experimental controls.

I appreciate the time you have taken to read through this letter and hope you will allow your students to participate in the project. Please return the enclosed form to me at your earliest convenience. Since I also need administrative approval for those directors who will be participating, I need the band director forms returned no later than _____ . Thanks for your cooperation. If you have any questions or concerns, please don't hesitate to contact me. Comments or suggestions which you might care to include on the reverse of the enclosed form would also be welcome.

Sincerely,

Bob Sherman

P.S. There is a short form of the personality inventory which is being used in this project. I am presently negotiating with the publishers for permission to use this shortened form. Time for administration of the short form is 20 to 30 minutes as compared to 45 to 50 minutes for the long form. If I can use this shortened form this will mean that I will not need to use up an entire rehearsal to administer the inventory.

770 Miller
Rochester, Mi. 48063

(313) 651-3471

Dear _____:

The purpose of this letter is to request your assistance in a research project in the field of music education. Your school district has been randomly selected to participate in this project. Briefly stated, the project will attempt to examine the relationship between personality traits of high school band members and the instruments which they are playing. If such a relationship does exist, this information, in conjunction with further research, may be useful for the purpose of advising future music students.

Actually, this letter is a request to increase sample size. Although I presently have an adequate sample size in order to conduct this research, it will be more meaningful if I can increase this sample size. For example, certain instruments have been traditionally stereotyped according to the sex of the player (flute=girl, drum=boy). It would be most interesting and potentially useful to be able to develop a personality profile of those children who select to transgress this traditionally imposed restriction on instrument selection. Hopefully, such information could be used to eliminate or at least control such restrictive gender stereotyping of instruments in the future. Without an extremely large sample size, I am afraid there will not be enough individuals such as male flute players or female tuba players to generate personality profiles for these sections.

Your band director, _____, has already been contacted and has given consent to use his/her band students as subjects in this study, subject of course to your approval. I will provide parental consent forms (copy enclosed for your inspection) to the director prior to the administration of the testing instrument. Of course any student whose parents objected to his/her participation would be excused from taking the test. A pilot project has indicated very limited parental refusal (less than 1%). The instrument which has been selected for this project is the California Psychological Inventory. COMPLETE ANONYMITY OF THE SUBJECTS WILL BE ASSURED AS NO NAMES ARE TO BE PLACED ON THE ANSWER SHEETS OR TEST BOOKLETS. You will note on the enclosed parental letter and permission form that I have reproduced several items from the CPI for parental inspection.

This project has been piloted in the Rochester Community Schools and preliminary results would seem to indicate that this project should be both interesting and potentially useful. You will be interested to know that before this project was actually piloted in the schools, it was carefully scrutinized by the director of special education for any legal ramifications. His conclusion was that there are no problems with the use of this particular test. It is not a clinical instrument and requires no special skills for administration. There is no problem with interpretation since individual scores are not being interpreted but are rather being compiled into large group scores which are then being compared to each other. The only requirement which Dr. Roy (director of special education) stipulated was the necessity of a parental permission form before the student could participate in the project. The parental letter which I have enclosed was approved by Dr. Roy and utilized in the pilot study.

I hope I can count on your school district participating in this project. As was mentioned earlier, the greater the number of subjects who participate in this study, the more useful will be the results. If you have any questions or concerns, please do not hesitate to contact me. Administrators within the Rochester Community Schools in addition to Dr. Roy who are acquainted with this project include: Mr. Gary Doyle, Principal, Reuther JHS., 1430 E. Auburn Road, Rochester, Mi. 48063, (313) 852-9221; and Dr. John Schultz, Assistant Superintendent, Rochester Community Schools, 4th & Wilcox Sts., Rochester, Mi. 48063, (313) 651-6210. Another individual familiar with this project is Dr. Bill Veitch of Oakland Schools, 2100 Pontiac Lake Road, Pontiac, Mi. (313) 858-2157. Dr. Veitch is assisting me with the statistical treatment of the data.

I appreciate the time you have taken to read through this letter and hope you will allow your students to participate in the project. Since _____ indicated the desire to have the test administered in the month of _____, I need your authorization by _____ if the students from your district are to participate in this project.

Thank you again for your time and consideration.

Sincerely,

Robert C. Sherman

APPENDIX G
DIRECTIONS FOR THE TEST ADMINISTRATOR

DIRECTIONS FOR THE TEST ADMINISTRATOR

Thank you for allowing your students to participate in this project. In order to ensure the validity of any results in this study it is necessary that all the subjects take the inventory in a similar environment. Following the steps outlined below will help to insure that all subjects receive the same experimental treatment regardless of what school they attend. As mentioned in earlier correspondence, this inventory was designed for use with people in grade nine through adult. If you have students younger than ninth grade who you want to participate in the testing, this is fine, but please keep their answer sheets separate from the high school age students and indicate to me that this has occurred so that these tests can be scored separately.

- 1) Please be sure that parental permission forms have been distributed and collected from those students taking the inventory.
- 2) Please remain in the room during testing.
- 3) Allow no talking among the students during testing.
- 4) You may answer student questions regarding items of vocabulary or meaning. I noticed in reviewing the inventory that some of the terminology may not be meaningful to the contemporary teenager.
- 5) Distribute the test booklets and answer sheets to the subjects. Read STUDENT DIRECTIONS, PART I to the class while they fill out the information requested on the answer sheets. After the students have completed the biographical information requested on the answer sheet, read STUDENT DIRECTIONS, PART II to the class and instruct them to begin work. All these directions are contained on the first two pages of the students' test booklets. It would be helpful while the students are working on the test if you could "wander through" the class room and check to be sure they completed the biographical information requested, especially major instrument and sex.
- 6) Since I was able to obtain permission to use the short form of the inventory, there is no reason why a student should not finish this up in one period and probably less. Taking the inventory itself, after the biographical data has been completed on the answer sheet, should take the students between 20 and 40 minutes. In order to maintain a uniformity of testing conditions, I am asking that the test be administered during the beginning of the band period rather than doing some rehearsing first and then giving the test. Thanks.

7) At the conclusion of the testing session, please return all materials to me in the postage paid envelope. Please take care to protect the answer sheets from "typical" post office handling by placing them between the two stiff pieces of cardboard provided. I am told that the machine which scores these answer sheets is extremely sensitive to mutilated sheets.

8) I will be sending you a summary of the results of this project as soon as it is completed. Thank you again for participating.

P.S. Please note to the students that the space for all the biographical information is located on side 2 of the answer sheet. Also note to the students that although the answer sheet provides space for 5 responses for each item, they should use only the first 2 spaces which are marked with a "T" for TRUE or "F" for FALSE.

APPENDIX H

DIRECTIONS TO THE SUBJECTS

1. Completing the Biographical Information
 Requested 133

2. Taking the Inventory 135

STUDENT DIRECTIONS, PART 1, COMPLETING THE BIOGRAPHICAL
INFORMATION REQUESTED

Please Place The Following Information On Your Answer Sheet.

1) Where the answer sheet asks for your name, DO NOT PUT YOUR NAME ON THE ANSWER SHEET, instead fill in this space with the name of your instrument and then spell it out on the grid. Be specific, if you play saxophone don't just write sax, but alto sax, tenor sax, etc. If you play more than one instrument, select the instrument which you consider to be your major band instrument. Do not list more than one instrument in this column. If you are a percussion player, please use the word "Percussion" rather than your specific instrument such as snare drum, timpani, etc.

2) Darken in the appropriate classification of MALE or FEMALE.

3) Darken in the year and month of your birth. Be careful that you put the year first.

4) Fill in your grade this year in school.

5) In the first two columns marked Identification* Number, list how many years you have played the band instrument which you listed as your major band instrument in question number one. Use two columns. For example if you have played six (6) years, you should write:

0	6								
---	---	--	--	--	--	--	--	--	--

 not

6									
---	--	--	--	--	--	--	--	--	--

 . Be sure to

fill in the appropriate grid underneath the numbers.

6) The next two digits of the Identification Number are to be used to indicate if you take private lessons on your major band instrument. If you do not, enter:

		0	0						
--	--	---	---	--	--	--	--	--	--

 and fill it in on the grid. If you do

study privately, enter how many years you have studied privately on your major band instrument.

		0	5						
--	--	---	---	--	--	--	--	--	--

 would indicate five (5) years of private lessons.

7) The next two digits of the Identification Number are to be used to indicate if you play another instrument in addition to your major band instrument. If you don't,

enter in the correct location on the grid.

If you do, use the code below to indicate what this instrument is.

- | | | |
|----------------------|------------------|-------------------|
| 01) Flute | 13) Organ | 25) Piano & Tpt. |
| 02) Clarinet (any) | 14) Guitar | 26) Piano & Hn. |
| 03) Sax (any) | 15) Violin | 27) Piano & Tbn. |
| 04) Oboe | 16) Viola | 28) Piano & Bar. |
| 05) Bassoon | 17) Cello | 29) Piano & Tuba |
| 06) Trumpet (Cornet) | 18) Bass | 30) Piano & Perc. |
| 07) French Horn | 19) Other | 31) Piano & Organ |
| 08) Trombone | 20) Piano & Fl. | 32) Piano & Gtr. |
| 09) Baritone | 21) Piano & Cl. | 33) Piano & Vln. |
| 10) Tuba | 22) Piano & Sax | 34) Piano & Vla. |
| 11) Percussion | 23) Piano & Ob. | 35) Piano & Cello |
| 12) Piano | 24) Piano & Bsn. | 36) Piano & Bass |

If your secondary instrument is tuba, you will enter:

8) An Example. If you are a person who has played your major band instrument for 6 years, you have taken private lessons on that instrument for 2 years, and you also play the piano and french horn in addition to your major instrument; then the area on your answer sheet marked Identification Number" should look like this:

*The information you are providing in this grid marked "IDENTIFICATION NUMBER" can not be used to identify you. This is the only place on the answer sheet where there is room to collect the information regarding how long you have played, if you take private lessons, and if you play any other instruments.

STUDENT DIRECTIONS, PART II, TAKING THE INVENTORY

Thank you for agreeing to participate in this project. The form you are about to fill out is part of a research project which it is hoped will eventually be of benefit in the area of instrumental music. This is not a test. There are no right or wrong answers. Please try to answer each question as honestly as possible. THERE IS NO WAY YOUR ANSWER SHEET CAN BE TRACED TO YOU PERSONALLY. The researcher is not interested in individual answer sheets except as they are averaged together with other members of your section to generate an "average personality profile for your instrument." These profiles will then be compared to determine if there are differences of personality according to the section of the band which a person belongs to.

"This booklet contains a series of statements. Read each one, decide how you feel about it, and then mark your answer on the special answer sheet. Make no marks on the test booklet. If you agree with a statement or feel that it is true about you, answer TRUE. If you disagree with a statement, or feel that it is not true about you, answer FALSE."

In marking your answers on the answer sheet, make sure that the number of the statement is the same as the number on the answer sheet. Be sure to answer either TRUE or FALSE for every statement, even if you have to guess at some. Please use only a soft (number 2 or 2½) pencil on your answer sheet.

You are taking the shortened form of this inventory and should therefore have no problem finishing it before the period ends. Most people take between twenty and forty minutes to complete these 240 questions. Should you find that you have not finished and that the period is about to end, you may omit the last five questions. Be sure you do not fold, tear, or make any stray marks on your answer sheet. When you have finished, please turn in your answer sheet and test booklet to the person administering the test.

APPENDIX I
CORRESPONDENCE WITH CONSULTING PSYCHOLOGISTS PRESS

770 Miller
Rochester, Mi. 48063

(313) 651-3471

July 31, 1982

Dr. Peggy Ferris
Permissions Editor
Consulting Psychologists Press
577 College Ave.
Palo Alto, California 94306

Dear Dr. Ferris:

The purpose of this letter is to request your permission to use an adaptation of the California Psychological Inventory in a research project which I am conducting in the field of music education. Briefly stated, the purpose of this project is to determine if any relationship exists between personality traits and the musical instrument which a student elects to play.

I have already run a pilot project with a limited number of subjects using the standard form of the CPI which you publish. The results of this study indicate that differences do exist in certain personality traits according to the musical instrument played. This pilot study was conducted in my own school district and consequently I had a greater latitude in respect to length of time for test administration than I can expect in the school districts which were randomly invited to participate in this project. My major concern is that the standard form of the CPI will take longer to administer than one typical school period, which is all I have been allotted by the cooperating school districts. Since I successfully piloted this project with the CPI, and since it appears to measure those traits which I am interested in, I am reluctant to switch tests for the actual project.

In 1975, Burger reduced the items on the CPI from 480 to 240 and retained the same 18 scales. Burger reported a high degree of correlation between this short form and the standard form of the CPI. (Range: .78 to .93, median value: .88). Considering this high degree of correlation, the retention of the 18 scales, and the need to contain my test administration to within a typical school period, this short form seems to be an ideal compromise if I may have your permission to reproduce it for my study. If permission is granted, I will purchase from Consulting Psychologists Press the same number of standard forms of the CPI as I would

reproduce short forms and would either destroy or return to you the short forms which I reproduced at the conclusion of the study. I have enclosed a copy of Burger's article on his shortened form of the CPI for your inspection.

As I am aware, from a previous conversation with a member of your staff, your corporation has a strong committment regarding the prevention of possible misuse of any of your publications. I am therefore requesting that the chairman of my dissertation committee forward to you a letter(s) from himself and/or a psychologist at the institution where I am pursuing my degree affirming that your publication will not be misused in any way.

Many of the school districts which will be participating in this project have expressed the desire to have me administer the test in September, within the first few weeks of school being in session. Therefore I would be quite appreciative if you could give this request any type of "priority consideration" and get back to me with your decision as soon as possible. If your decision is affirmative, would you be kind enough to send me a recent catalogue and order forms so that I may order an adequate number of CPI booklets.

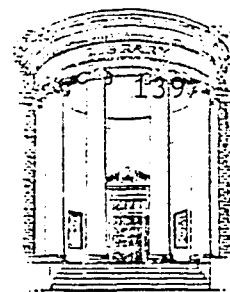
Thank you for your time and consideration.

Sincerely,

Robert C. Sherman

cc: Dr. Walter Wehner

THE UNIVERSITY OF NORTH CAROLINA
AT GREENSBORO



August 10, 1982

School of Music

Dr. Peggy Ferris
Permissions Editor
Consulting Psychologists Press
577 College Avenue
Palo Alto, California 94306

Dear Dr. Ferris:

As Chairman of the dissertation committee of Mr. Robert Sherman (Ed.D. candidate in music education at this institution), I would like to support his request for the use of one of your measures. He is a responsible person and has the knowledge concerning the use of the CPI. In addition, we have an elaborate system here for research involving human subject contact and he has met those requirements.

If I can be of additional assistance, please contact me.

Sincerely,

Walter L. Wehner, Director
Graduate Studies in Music

WLW/bm

cc: Robert Sherman ✓

GREENSBORO, NORTH CAROLINA / 27412-5001

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CONSULTING PSYCHOLOGISTS PRESS, INC.¹⁴⁰
577 College Ave. (P.O. Box 11636), Palo Alto, California 94306 (415) 857-9312

Mr. Robert Sherman
770 Miller
Rochester, Mi. 48063

In response to your request of July 31, 1982 permission is hereby granted you to

reproduce no more than 100 copies of Burger's Short Form of the CPI to use in collecting DATA for your doctoral dissertation

(If you do not have a copy of these items and their scoring direction please let me know)

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The California Psychological Inventory
from _____

by Harrison G. Gough, PhD. PUBLICATION © 1958
AUTHOR

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CONSULTING PSYCHOLOGISTS PRESS, INC.

I/WE AGREE TO THE TERMS LISTED ABOVE

By Peggy Ferris/mg Permissions Editor
PEGGY FERRIS

By Robert Sherman Requestor

Date 9/14/82

Date 9/14/82

Check for \$51.40 rec'd. - thank you.

100 copies = \$10
{ 345 "
@ .12 each = 41.40
Total = \$51.40

APPENDIX J
SAMPLE REPORTING OF SCORES FROM THE PILOT
PROJECT (SHERMAN, 1982)

A COMPARISON OF THE PERSONALITY PROFILES OF THE FEMALE
BRASS AND FEMALE WOODWIND PLAYERS IN THE PILOT STUDY
CONDUCTED IN THE ROCHESTER COMMUNITY SCHOOLS

TRAIT	BRASS SCORES	WOODWIND SCORES	D.F. F. B. W. RATIO	F. PROB.	
Dominance	32.0	26.45	1 20	1.25	.27
Capacity for Status	22.5	18.55		2.70	.11
Sociability	27.0	24.9		.35	.56
Social Presence	41.0	36.55		1.2	.28
Self- Acceptance	24.0	23.0		.10	.74
Sense of Well-Being	28.0	31.5		1.4	.24
Responsibility	27.0	26.45		.14	.71
Socialization	34.5	36.15		.15	.70
Self-Control	9.5	16.85		2.2	.15
Tolerance	14.5	17.95		2.2	.15
Good Impression	7.0	10.9		1.5	.22
Communality	24.0	25.4		.97	.33
Achievement via Conformance	20.5	22.35		.57	.46
Achievement via Independence	13.0	18.25		4.3	.05
Intellectual Efficiency	38.0	35.8		.87	.36
Psychological- Mindedness	8.0	11.0		2.87	.10
Flexibility	10.0	11.7		.28	.60
Femininity	21.0	20.7		.02	.87

APPENDIX K

TABLES ASSOCIATED WITH THE REPORTING OF SCORES AND
STATISTICAL TREATMENT OF THE DATA REPORTED AND
DISCUSSED IN CHAPTERS IV AND V

TABLE 1

MINIMUM NUMBER OF RESPONSES CONSTITUTING A USABLE INVENTORY
FOR EACH OF THE EIGHTEEN SUBSCALES OF THE CPI

Subscale	Total Possible Responses	Minimum Number Selected	% of Total Possible Response	% of People Completing This Number of Responses
Dominance	18	14	77%	79%
Capacity for Status	17	15	88%	93%
Sociability	20	18	90%	92%
Social Presence	17	15	88%	93%
Self Acceptance	16	14	88%	91%
Sense of Well Being	19	15	79%	76%
Responsibility	21	18	86%	91%
Socialization	23	18	78%	78%
Self Control	24	22	92%	90%
Tolerance	12	11	92%	90%
Good Impression	20	19	95%	93%
Communality	9	8	88%	77%
Achievement Via Conformance	18	17	95%	93%
Achievement Via Independence	15	14	93%	93%
Intellectual Efficiency	25	20	80%	78%
Psychological Mindedness	10	10	100%	96%
Flexibility	10	8	80%	77%
Femininity	13	12	92%	96%

TABLE 2-A

ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
DOMINANCE

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	199.12	1	199.12	22.28	.00
Main Effects					
Inst. Family	14.95	2	7.48	.84	.43
Sex	17.17	1	17.17	1.92	.17
2-Way Interaction	20.32	2	10.16	1.14	.32
Residual (Error)	9054.13	1013	8.94		
Total	9317.09	1019	9.14		

TABLE 2-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
DOMINANCE

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	601	26.58
Brass	336	26.72
Percussion	83	26.22
Sex		
Male	392	26.79
Female	628	26.48

TABLE 3-A

ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
CAPACITY FOR STATUS

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	273.87	1	273.87	45.31	.00
Main Effects					
Inst. Family	1.56	2	.78	.13	.88
Sex	12.41	1	12.41	2.05	.15
2-Way Interaction	17.48	2	8.74	1.45	.24
Residual (Error)	7162.65	1185	6.04		
Total	7479.01	1191	6.28		

TABLE 3-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
CAPACITY FOR STATUS

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	690	26.06
Brass	399	25.97
Percussion	103	26.05
Sex		
Male	471	25.88
Female	721	26.13

TABLE 4-A

ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF SOCIABILITY

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	246.30	1	246.30	37.81	.00
Main Effects					
Inst. Family	5.70	2	2.85	.44	.65
Sex	41.62	1	41.62	6.39	.01
2-Way Interaction	16.04	2	8.02	1.23	.29
Residual (Error)	7713.75	1184	6.52		
Total	8062.98	1190	6.78		

TABLE 4-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
SOCIABILITY

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	689	26.45
Brass	399	26.28
Percussion	103	26.30
Sex		
Male	470	26.11
Female	721	26.56

TABLE 5-A

ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
SOCIAL PRESENCE

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	20.96	1	20.96	3.71	.05
Main Effects					
Inst. Family	7.82	2	3.91	.69	.50
Sex	36.01	1	36.01	6.38	.01
2-Way Interaction	5.27	2	2.64	.47	.63
Residual (Error)	6636.23	1176	5.64		
Total	6698.90	1182	5.67		

TABLE 5-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF SOCIAL PRESENCE

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	688	31.36
Brass	394	31.15
Percussion	101	31.24
Sex		
Male	465	31.53
Female	718	31.11

TABLE 6-A

ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
SELF-ACCEPTANCE

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	51.68	1	51.68	11.75	.00
Main Effects					
Inst. Family	39.59	2	19.79	4.50	.01*
Sex	11.26	1	11.26	2.56	.11
2-Way Interaction	10.92	2	5.46	1.24	.29
Residual (Error)	5094.95	1158	4.40		
Total	5197.29	1164	4.47		

TABLE 6-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
SELF-ACCEPTANCE

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	678	25.66
Brass	389	25.36
Percussion	98	25.21
Sex		
Male	458	25.69
Female	707	25.46

TABLE 6-C

F VALUES DERIVED FROM SCHEFFE' PAIR-WISE COMPARISONS OF INSTRUMENT FAMILY
MEANS FOR THE PERSONALITY TRAIT OF
SELF-ACCEPTANCE

Instrument Family	Woodwind	Brass	Percussion
Woodwind	X	8.43 *	4.38 *
Brass	8.43 *	X	1.33
Percussion	4.38 *	1.33	X

* F is significant at or beyond the .05 level.

* F is significant at or beyond the .01 level.

TABLE 7-A

ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
SENSE OF WELL BEING

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	254.82	1	254.82	27.68	.00
Main Effects					
Inst. Family	59.06	2	29.53	3.21	.04*
Sex	.01	1	.01	.00	.97
2-Way Interaction	24.64	2	12.32	1.33	.26
Residual (Error)	8984.48	976	9.21		
Total	9345.24	982	9.52		

TABLE 7-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
SENSE OF WELL BEING

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	580	31.56
Brass	324	31.08
Percussion	79	30.77
Sex		
Male	379	31.34
Female	604	31.35

TABLE 7-C

F VALUES DERIVED FROM SCHEFFE' PAIR-WISE COMPARISONS OF INSTRUMENT FAMILY MEANS FOR THE PERSONALITY TRAIT OF SENSE OF WELL BEING

Instrument Family	Woodwind	Brass	Percussion
Woodwind	X	5.42 ‡	2.98 *
Brass	5.42 ‡	X	1.06
Percussion	2.98 *	1.06	X

* F is significant at or beyond the .05 level.

‡ F is significant at or beyond the .01 level.

TABLE 8-A

ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF RESPONSIBILITY

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	168.54	1	168.54	24.73	.00
Main Effects					
Inst. Family	21.68	2	10.84	1.59	.20
Sex	19.51	1	19.51	2.86	.09
2-Way Interaction	47.13	2	23.56	3.46	.03
Residual (Error)	7959.57	1168	6.82		
Total	8256.84	1174	7.03		

TABLE 8-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF RESPONSIBILITY

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	682	34.00
Brass	393	33.75
Percussion	100	33.53
Sex		
Male	462	33.69
Female	713	34.00

TABLE 9-A
ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
SOCIALIZATION

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	29.83	1	29.83	2.91	.09
Main Effects					
Inst. Family	75.29	2	37.64	3.67	.03*
Sex	113.32	1	113.32	11.04	.00
2-Way Interaction	57.12	2	28.56	2.78	.06
Residual (Error)	10210.08	995	10.26		
Total	10633.52	1001	10.62		

TABLE 9-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
SOCIALIZATION

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	590	38.05
Brass	331	37.77
Percussion	81	36.97
Sex		
Male	387	37.37
Female	615	38.19

TABLE 9-C

F VALUES DERIVED FROM SCHEFFE' PAIR-WISE COMPARISONS OF INSTRUMENT FAMILY
MEANS FOR THE PERSONALITY TRAIT OF
SOCIALIZATION

Instrument Family	Woodwind	Brass	Percussion
Woodwind	X	2.89	3.80 *
Brass	2.89	X	2.54
Percussion	3.80 *	2.54	X

* F is significant at or beyond the .05 level.

* F is significant at or beyond the .01 level.

TABLE 10-A
ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
SELF-CONTROL

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	7.44	1	7.44	1.28	.26
Main Effects					
Inst. Family	58.68	2	29.34	5.03	.01**
Sex	1.97	1	1.97	.34	.56
2-Way Interaction	29.14	2	14.57	2.50	.08
Residual (Error)	6691.42	1148	5.83		
Total	6792.57	1154	5.87		

TABLE 10-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
SELF-CONTROL

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	675	34.67
Brass	382	34.27
Percussion	98	33.88
Sex		
Male	451	34.53
Female	704	34.43

TABLE 10-C

F VALUES DERIVED FROM SCHEFFE' PAIR-WISE COMPARISONS OF INSTRUMENT FAMILY
MEANS FOR THE PERSONALITY TRAIT OF
SELF-CONTROL

Instrument Family	Woodwind	Brass	Percussion
Woodwind	X	8.37 *	5.80 *
Brass	8.37 *	X	2.61 *
Percussion	5.80 *	2.61	X

* F is significant at or beyond the .05 level.

* F is significant at or beyond the .01 level.

TABLE 11-A

ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
TOLERANCE

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	89.63	1	89.63	21.50	.00
Main Effects					
Inst. Family	1.24	2	.62	.15	.86
Sex	8.54	1	8.54	2.05	.15
2-Way Interaction	4.81	2	2.41	.58	.56
Residual (Error)	4819.76	1156	4.17		
Total	4929.22	1162	4.24		

TABLE 11-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF TOLERANCE

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	677	17.46
Brass	388	17.41
Percussion	98	17.53
Sex		
Male	457	17.32
Female	706	17.53

TABLE 12-A

ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
GOOD IMPRESSION

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	20.89	1	20.89	3.42	.07
Main Effects					
Inst. Family	6.72	2	3.36	.55	.58
Sex	118.82	1	118.82	19.42	.00
2-Way Interaction	1.00	2	.50	.08	.92
Residual (Error)	7230.29	1182	6.12		
Total	7448.69	1188	6.27		

TABLE 12-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
GOOD IMPRESSION

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	688	25.81
Brass	399	25.96
Percussion	102	25.71
Sex		
Male	469	26.31
Female	720	25.55

TABLE 13-A
ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
COMMUNALITY

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	80.35	1	80.35	39.75	.00
Main Effects					
Inst. Family	31.62	2	15.81	7.82	.00*
Sex	41.60	1	41.60	20.58	.00
2-Way Interaction	7.13	2	3.57	1.76	.17
Residual (Error)	1983.21	981	2.02		
Total	2224.97	987	2.25		

TABLE 13-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
COMMUNALITY

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	581	16.89
Brass	327	16.52
Percussion	80	16.31
Sex		
Male	383	16.41
Female	605	16.91

TABLE 13-C

F VALUES DERIVED FROM SCHEFFE' PAIR-WISE COMPARISONS OF INSTRUMENT FAMILY
MEANS FOR THE PERSONALITY TRAIT OF
COMMUNALITY

Instrument Family	Woodwind	Brass	Percussion
Woodwind	X	19.17 ‡	10.09 ‡
Brass	19.17 ‡	X	3.34 *
Percussion	10.09 ‡	3.34 *	X

* F is significant at or beyond the .05 level.

‡ F is significant at or beyond the .01 level.

TABLE 14-A

ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
ACHIEVEMENT VIA CONFORMANCE

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	155.41	1	155.41	25.60	.00
Main Effects					
Inst. Family	4.67	2	2.33	.38	.68
Sex	31.32	1	31.32	5.16	.02
2-Way Interaction	1.70	2	.85	.14	.87
Residual (Error)	7049.15	1161	6.07		
Total	7255.61	1167	6.22		

TABLE 14-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
ACHIEVEMENT VIA CONFORMANCE

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	679	28.80
Brass	389	28.83
Percussion	100	28.59
Sex		
Male	458	28.55
Female	710	28.94

TABLE 15-A

ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
ACHIEVEMENT VIA INDEPENDENCE

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	5.25	1	5.25	1.15	.28
Main Effects					
Inst. Family	3.11	2	1.55	.34	.71
Sex	36.12	1	36.12	7.90	.01
2-Way Interaction	2.32	2	1.16	.25	.78
Residual (Error)	5407.03	1182	4.57		
Total	5482.75	1188	4.62		

TABLE 15-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
ACHIEVEMENT VIA INDEPENDENCE

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	689	21.99
Brass	397	21.87
Percussion	103	21.97
Sex		
Male	469	21.70
Female	720	22.12

TABLE 16-A

ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
INTELLECTUAL EFFICIENCY

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	249.36	1	249.36	24.73	.00
Main Effects					
Inst. Family	16.55	2	8.28	.82	.44
Sex	54.98	1	54.98	5.45	.02
2-Way Interaction	2.77	2	1.39	.14	.87
Residual (Error)	10092.51	1001	10.08		
Total	10478.44	1007	10.41		

TABLE 16-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
INTELLECTUAL EFFICIENCY

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	592	37.50
Brass	333	37.31
Percussion	83	37.03
Sex		
Male	359	37.05
Female	619	37.62

TABLE 17-A

ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
PSYCHOLOGICAL-MINDEDNESS

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	28.51	1	28.51	9.32	.00
Main Effects					
Inst. Family	11.26	2	5.63	1.84	.16
Sex	84.73	1	84.73	27.69	.00
2-Way Interaction	11.36	2	5.68	1.86	.16
Residual (Error)	3745.52	1224	3.06		
Total	3920.02	1230	3.19		

TABLE 17-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
PSYCHOLOGICAL-MINDEDNESS

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	720	14.63
Brass	406	14.72
Percussion	105	14.36
Sex		
Male	485	15.02
Female	746	14.39

TABLE 18-A

ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF FLEXIBILITY

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	.14	1	.14	.03	.86
Main Effects					
Inst. Family	12.83	2	6.41	1.49	.23
Sex	.14	1	.14	.03	.86
2-Way Interaction	19.27	2	9.64	2.23	.11
Residual (Error)	4262.40	987	4.32		
Total	4294.65	993	4.33		

TABLE 18-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF
FLEXIBILITY

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	583	13.81
Brass	330	13.77
Percussion	81	13.45
Sex		
Male	385	13.81
Female	609	13.84

TABLE 19-A

ANALYSIS OF COVARIANCE FOR INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF FEMININITY

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariate	22.80	1	22.80	8.38	.00
Main Effects					
Inst. Family	3.25	2	1.62	.60	.55
Sex	876.85	1	876.85	322.11	.00
2-Way Interaction	.76	2	.38	.14	.87
Residual (Error)	3359.17	1234	2.72		
Total	4684.07	1240	3.78		

TABLE 19-B

REPORTING OF SCORES OF THE INSTRUMENT FAMILIES FOR THE PERSONALITY TRAIT OF FEMININITY

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instrument Family		
Woodwind	722	20.01
Brass	415	19.89
Percussion	104	19.88
Sex		
Male	492	18.74
Female	749	20.76

TABLE 20-A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
DOMINANCE

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	227.90	2	113.95	12.77	.00
Age	196.79	1	196.79	22.05	.00
Sex	28.77	1	28.77	3.22	.07
Main Effect (Inst.)	102.90	10	10.29	1.15	.32
Explained	330.80	12	27.57	3.09	.00
Residual	8986.29	1007	8.92		
Total	9317.09	1019	9.14		

TABLE 20-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
DOMINANCE

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	196	26.56
Clarinet	230	26.35
Harmony Clarinets	35	26.66
Saxophones	104	26.84
Double Reeds	36	27.28
Trumpet	153	26.46
French Horn	40	27.48
Trombone	83	26.98
Baritone Horn	32	26.95
Tuba	28	26.10
Percussion	83	26.25

TABLE 21-A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
CAPACITY FOR STATUS

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	297.10	2	148.55	24.57	.00
Age	275.73	1	275.73	45.61	.00
Sex	23.24	1	23.24	3.85	.05
Main Effect (Inst.)	54.50	10	5.45	.90	.53
Explained	351.60	12	29.30	4.85	.00
Residual	7127.43	1179	6.05		
Total	7479.03	1191	6.28		

TABLE 21-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
CAPACITY FOR STATUS

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	226	26.13
Clarinet	262	25.92
Harmony Clarinets	37	26.03
Saxophones	121	26.07
Double Reeds	44	26.78
Trumpet	180	25.89
French Horn	50	26.60
Trombone	97	25.81
Baritone Horn	38	25.91
Tuba	34	25.81
Percussion	103	26.03

TABLE 22-A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF SOCIABILITY

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	328.05	2	164.02	25.19	.00
Age	249.44	1	249.44	38.31	.00
Sex	81.75	1	81.75	12.56	.00
Main Effect (Inst.)	65.39	10	6.54	1.00	.44
Explained	393.44	12	32.79	5.04	.00
Residual	7670.54	1178	6.51		
Total	8063.98	1190	6.78		

TABLE 22-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF SOCIABILITY

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	226	26.24
Clarinet	261	26.52
Harmony Clarinets	37	26.49
Saxophones	121	26.46
Double Reeds	44	26.98
Trumpet	180	26.12
French Horn	50	26.91
Trombone	97	26.47
Baritone Horn	38	26.09
Tuba	34	25.85
Percussion	103	26.30

TABLE 23-A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF SOCIAL PRESENCE

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	49.65	2	24.83	4.39	.01
Age	20.13	1	20.13	3.56	.06
Sex	28.70	1	28.70	5.07	.03
Main Effect (Inst.)	29.35	10	2.94	.52	.89
Explained	79.01	12	6.58	1.16	.31
Residual	6619.90	1170	5.66		
Total	6698.91	1182	5.67		

TABLE 23-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
SOCIAL PRESENCE

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	225	31.33
Clarinet	261	31.41
Harmony Clarinets	37	31.00
Saxophones	121	31.31
Double Reeds	44	31.74
Trumpet	179	31.06
French Horn	50	31.44
Trombone	94	31.11
Baritone Horn	38	31.98
Tuba	33	31.42
Percussion	101	31.23

TABLE 24-A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
SELF-ACCEPTANCE

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	51.84	2	25.92	5.88	.00
Age	51.54	1	51.54	11.70	.00
Sex	.15	1	.15	.04	.85
Main Effect (Inst.)	69.96	10	6.99	1.59	.11
Explained	121.79	12	10.15	2.30	.01
Residual	5075.49	1152	4.41		
Total	5197.28	1164	4.47		

TABLE 24-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
SELF-ACCEPTANCE

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	223	25.70
Clarinet	256	25.63
Harmony Clarinets	37	25.52
Saxophones	118	25.81
Double Reeds	44	26.33
Trumpet	175	25.43
French Horn	49	25.64
Trombone	93	25.21
Baritone Horn	38	25.23
Tuba	34	25.10
Percussion	98	25.11

TABLE 25-A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
SENSE OF WELL BEING

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	276.84	2	138.42	14.99	.00
Age	256.34	1	256.34	27.77	.00
Sex	22.01	1	22.10	2.39	.12
Main Effect (Inst.)	113.63	10	11.36	1.23	.27
Explained	390.47	12	32.54	3.53	.00
Residual	8954.77	970	9.23		
Total	9345.24	982	9.52		

TABLE 25-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
SENSE OF WELL BEING

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	191	31.48
Clarinet	220	31.86
Harmony Clarinets	34	31.63
Saxophones	100	31.41
Double Reeds	35	31.19
Trumpet	146	31.06
French Horn	40	31.53
Trombone	80	31.01
Baritone Horn	32	30.30
Tuba	26	31.29
Percussion	79	30.73

TABLE 26-A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF RESPONSIBILITY

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	228.15	2	114.07	16.79	.00
Age	171.92	1	171.92	25.31	.00
Sex	59.61	1	59.61	8.78	.00
Main Effect (Inst.)	135.90	10	13.59	2.00	.03*
Explained	364.05	12	30.34	4.47	.00
Residual	7892.79	1162	6.79		
Total	8256.84	1174	7.03		

TABLE 26-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF RESPONSIBILITY

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	225	34.28
Clarinet	257	34.06
Harmony Clarinets	37	32.98
Saxophones	119	33.76
Double Reeds	44	34.22
Trumpet	178	33.40
French Horn	49	34.24
Trombone	93	34.14
Baritone Horn	38	33.76
Tuba	35	33.40
Percussion	100	33.51

TABLE 26-C

F VALUES DERIVED FROM SCHEFFE' PAIR-WISE COMPARISONS OF INDIVIDUAL INSTRUMENT
MEANS FOR THE PERSONALITY TRAIT OF
RESPONSIBILITY

Inst.	Fl	Cl	H. Cl	Sax	D R	Tpt	F Hn	Tbn	B Hn	Tba	Perc
Fl	X	2.83 [‡]	3.04 [‡]	2.98 [‡]	.16	6.44 [‡]	.12	.68	1.24	1.96*	3.92 [‡]
Cl	2.83 [‡]	X	2.57 [‡]	1.20	.44	5.11 [‡]	.55	.40	.73	1.50	3.02 [‡]
H Cl	3.04 [‡]	2.57 [‡]	X	1.62	1.84	.95	1.96*	2.26*	1.08	.56	1.05
Sax	2.98 [‡]	1.20	1.62	X	1.09	1.89	1.23	1.46	0	.72	1.00
D R	.16	.44	1.84	1.09	X	2.13*	.03	.18	.69	1.18	1.60
Tpt	6.44 [‡]	5.11 [‡]	.95	1.89	2.13*	X	2.38*	3.33 [‡]	.83	0	.52
F Hn	.12	.55	1.96	1.23	.03	2.38 [‡]	X	.24	.76	1.26	1.77
Tbn	.68	.40	2.26*	1.46	.18	3.33 [‡]	.24	X	.76	1.39	2.23*
B Hn	1.24	.73	1.08	0	.69	.83	.76	.76	X	.48	.51
Tba	1.96*	1.50	.56	.72	1.18	0	1.26	1.39	.48	X	.21
Perc	3.92 [‡]	3.02 [‡]	1.05	1.00	1.60	.52	1.77	2.23*	.51	.21	X

* F is significant at or beyond the .05 level.

‡ F is significant at or beyond the .01 level.

Key to abbreviations: Fl=Flute, Cl=Clarinet, H Cl=Harmony Clarinets(alto, bass, and contra), Sax=All Saxophones, D R=Double Reeds(oboe and bassoon), Tpt=Trumpet/Cornet, F Hn=French Horn, Tbn=Trombone, B Hn=Baritone Horn/Euphonium, Tba=Tuba, and Perc=All Percussion.

TABLE 26-D

SUMMARY TABLE OF INDIVIDUAL INSTRUMENT DIFFERENCES FOR THE PERSONALITY TRAIT OF RESPONSIBILITY

Instrument	Significantly Higher than:	Significantly Lower than:	No Significant Difference from:
Flute	C,A,S,T,B,&P	0	D,H,R,&E
Clarinet	A,T,&P	F	S,D,H,R,E,&B
Harmony Clarinet	0	F,C,H,&R	S,D,T,E,B,&P
Saxophone	0	F	C,A,D,T,H,R,E,B,&P
Double Reed	T	0	F,C,A,S,H,R,E,B,&P
Trumpet	0	F,C,D,H,&R	A,S,E,B,&P
French Horn	A&T	0	F,C,S,D,R,E,B,&P
Trombone	A,T,&P	0	F,C,S,D,H,E,&B
Baritone Horn	0	0	F,C,A,S,D,T,H,R,B,&P
Tuba	0	F	C,A,S,D,T,H,R,E,&P
Percussion	0	F,C,&R	A,S,D,T,H,E,&B

Key to abbreviations: F=Flute, C=Clarinet, A=Harmony Clarinet, S=Saxophone, D=Double Reed, T=Trumpet, H=French Horn, R=Trombone, E=Baritone Horn, B=Tuba, P=Percussion.

TABLE 27-A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
SOCIALIZATION

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	290.75	2	145.38	14.24	.00
Age	32.13	1	32.13	3.15	.08
Sex	260.92	1	260.92	25.56	.00
Main Effect (Inst.)	247.21	10	24.72	2.42	.01*
Explained	537.96	12	44.83	4.39	.00
Residual	10095.56	989	10.21		
Total	10633.52	1001	10.62		

TABLE 27-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
SOCIALIZATION

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	194	37.68
Clarinet	224	38.69
Harmony Clarinets	34	37.69
Saxophones	102	37.73
Double Reeds	36	37.50
Trumpet	151	37.52
French Horn	40	37.70
Trombone	83	37.97
Baritone Horn	32	38.48
Tuba	25	37.63
Percussion	81	36.95

TABLE 27-C

F VALUES DERIVED FROM SCHEFFE PAIR-WISE COMPARISONS OF INDIVIDUAL INSTRUMENT MEANS FOR THE PERSONALITY TRAIT OF SOCIALIZATION

Inst.	Fl	Cl	H. Cl	Sax	D R	Tpt	F Hn	Tbn	B Hn	Tba	Perc
Fl	X	5.14 [‡]	.01	.16	.27	.67	.03	.83	1.08	.05	2.04*
Cl	5.14 [‡]	X	1.45	3.30 [‡]	1.81	5.17 [‡]	1.65	2.14*	.29	1.17	5.07 [‡]
H Cl	.01	1.45	X	.05	.16	.23	.01	.33	.64	.04	.87
Sax	.16	3.30 [‡]	.05	X	.30	.63	.04	.53	.89	.10	1.72
D R	.27	1.81	.16	.30	X	.03	.19	.58	.81	.09	.67
Tpt	.67	5.17 [‡]	.23	.63	.03	X	.28	1.18	1.24	.12	1.47
F Hn	.03	1.65	.01	.04	.19	.28	X	.36	.68	.05	.98
Tbn	.83	2.14*	.33	.53	.58	1.18	.36	X	.58	.32	2.05*
B Hn	1.08	.29	.64	.89	.81	1.24	.68	.58	X	.70	1.72
Tba	.05	1.17	.04	.10	.09	.12	.05	.32	.70	X	.64
Perc	2.04*	5.07 [‡]	.87	1.72	.67	1.47	.98	2.05*	1.72	.64	X

* F is significant at or beyond the .05 level.

‡ F is significant at or beyond the .01 level.

Key to abbreviations: Fl=Flute, Cl=Clarinet, H Clar=Harmony Clarinets(alto, bass, and contra), Sax=All Saxophones, D R=Double Reeds(oboe and bassoon), Tpt=Trumpet/Cornet, F Hn=French Horn, Tbn=Trombone, B Hn=Baritone Horn/Euphonium, Tba=Tuba, and Perc=All Percussion.

TABLE 27-D

SUMMARY TABLE OF INDIVIDUAL INSTRUMENT DIFFERENCES FOR THE PERSONALITY TRAIT OF
SOCIALIZATION

Instrument	Significantly Higher than:	Significantly Lower than:	No Significant Difference from:
Flute	P	C	A, S, D, T, H, R, E, & B
Clarinet	F, S, T, R, & P	0	A, D, H, E, & B
Harmony Clarinet	0	0	F, C, S, D, T, H, R, E, T, & P
Saxophone	0	C	F, A, D, T, H, R, E, B, & P
Double Reed	0	0	F, C, A, S, T, H, R, E, B, & P
Trumpet	0	C	F, A, S, D, H, R, E, B, & P
French Horn	0	0	F, C, A, S, D, T, R, E, B, & P
Trombone	P	C	F, A, S, D, T, H, E, & B
Baritone Horn	0	0	F, C, A, S, D, T, H, R, B, & P
Tuba	0	0	F, C, A, S, D, T, H, R, E, & P
Percussion	0	F, C, & R	A, S, D, T, H, E, & P

Key to abbreviations: F=Flute, C=Clarinet, A=Harmony Clarinet, S=Saxophone, D=Double Reed, T=Trumpet, H=French Horn, R=Trombone, E=Baritone Horn, B=Tuba, P=Percussion.

TABLE 28-A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
SELF-CONTROL

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	13.30	2	6.65	1.14	.32
Age	7.70	1	7.70	1.32	.25
Sex	5.87	1	5.87	1.00	.32
Main Effect (Inst.)	105.22	10	10.52	1.80	.05*
Explained	118.53	12	9.88	1.70	.06
Residual	6674.05	1142	5.84		
Total	6792.58	1154	5.89		

TABLE 28-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
SELF-CONTROL

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	221	34.72
Clarinet	256	34.71
Harmony Clarinets	37	33.82
Saxophones	117	34.82
Double Reeds	44	34.44
Trumpet	172	34.37
French Horn	48	34.33
Trombone	92	34.33
Baritone Horn	37	33.70
Tuba	33	34.17
Percussion	98	33.88

TABLE 28-C

F VALUES DERIVED FROM SCHEFFE PAIR-WISE COMPARISONS OF INDIVIDUAL INSTRUMENT
MEANS FOR THE PERSONALITY TRAIT OF
SELF-CONTROL

Inst.	Fl	Cl	H. Cl	Sax	D R	Tpt	F Hn	Tbn	B Hn	Tba	Perc
Fl	X	.10	2.44*	.65	.88	2.90‡	1.32	2.17*	2.77‡	1.35	4.88‡
Cl	.10	X	2.46*	.62	.87	2.99‡	1.31	2.20*	2.79‡	1.35	5.03‡
H Cl	2.44*	2.46*	X	2.41*	1.07	1.43	.91	1.15	.16	.52	.14
Sax	.65	.62	2.41*	X	1.04	2.68‡	1.43	2.16*	2.69‡	1.43	4.29‡
D R	.88	.87	1.07	1.04	X	.21	.22	.28	1.27	.44	1.45
Tpt	2.90	2.99	1.43	2.68	.21	X	.13	.21	1.75	.47	2.02*
F Hn	1.32	1.31	.91	1.43	.22	.13	X	0	1.13	.27	1.24
Tbn	2.17*	2.20*	1.15	2.16*	.28	.21	0	X	1.42	.33	1.83
B Hn	2.77‡	2.79‡	.16	2.69‡	1.27	1.75	1.13	1.42	X	.70	.41
Tba	1.35	1.35	.52	1.43	.44	.47	.27	.33	.70	X	.61
Perc	4.88‡	5.03‡	.14	4.29‡	1.45	2.62‡	1.24	1.83	.41	.61	X

* F is significant at or beyond the .05 level.

‡ F is significant at or beyond the .01 level.

Key to abbreviations: Fl=Flute, Cl=Clarinet, H Clar=Harmony Clarinets(alto, bass, and contra), Sax=All Saxophones, D R=Double Reeds(oboe and bassoon), Tpt=Trumpet/Cornet, F Hn=French Horn, Tbn=Trombone, B Hn=Baritone Horn/Euphonium, Tba=Tuba, and Perc=All Percussion.

TABLE 28-D

SUMMARY TABLE OF INDIVIDUAL INSTRUMENT DIFFERENCES FOR THE PERSONALITY TRAIT OF SELF-CONTROL

Instrument	Significantly Higher than:	Significantly Lower than:	No Significant Difference from:
Flute	A,T,R,E,&P	0	C,S,D,H,&B
Clarinet	A,T,R,E,&P	0	F,S,D,H,&B
Harmony Clarinet	0	F,C,&S	D,T,H,R,E,B,&P
Saxophone	A,T,R,E,&P	0	F,C,D,H,&B
Double Reed	0	0	F,C,A,S,T,H,R,E,B,&P
Trumpet	P	F,C,&S	A,D,H,R,E,&B
French Horn	0	0	F,C,A,S,D,T,R,E,B,&P
Trombone	0	F,C,&S	A,D,T,H,E,B,&P
Baritone Horn	0	F,C,&S	A,D,T,H,R,B,&P
Tuba	0	0	F,C,A,S,D,T,H,R,E,&P
Percussion	0	F,C,S,&T	A,D,H,R,E,&B

Key to abbreviations: F=Flute, C=Clarinet, A=Harmony Clarinet, S=Saxophone, D=Double Reed, T=Trumpet, H=French Horn, R=Trombone, E=Baritone Horn, B=Tuba, P=Percussion.

TABLE 29-A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF TOLERANCE

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	103.31	2	51.65	12.37	.00
Age	91.13	1	91.13	21.82	.00
Sex	13.68	1	13.68	3.28	.07
Main Effect (Inst.)	24.63	10	2.46	.59	.82
Explained	127.94	12	10.66	2.55	.00
Residual	4801.28	1150	4.18		
Total	4929.22	1162	4.24		

TABLE 29-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF TOLERANCE

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	223	17.37
Clarinet	255	17.49
Harmony Clarinets	37	17.03
Saxophones	118	17.53
Double Reeds	44	17.85
Trumpet	175	17.32
French Horn	49	17.59
Trombone	93	17.34
Baritone Horn	38	17.57
Tuba	33	17.71
Percussion	98	17.54

TABLE 30-A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
GOOD IMPRESSION

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	210.87	2	105.44	17.26	.00
Age	19.32	1	19.32	3.16	.08
Sex	189.98	1	189.98	31.09	.00
Main Effect (Inst.)	53.23	10	5.32	.87	.56
Explained	264.10	12	22.01	3.60	.00
Residual	7184.59	1176	6.11		
Total	7448.69	1188	6.27		

TABLE 30-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
GOOD IMPRESSION.

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	226	25.63
Clarinet	260	25.91
Harmony Clarinets	37	25.43
Saxophones	121	25.90
Double Reeds	44	26.20
Trumpet	179	26.03
French Horn	50	26.20
Trombone	97	25.75
Baritone Horn	38	25.45
Tuba	35	26.38
Percussic.	102	25.71

TABLE 31-A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF COMMUNALITY

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	202.71	2	101.36	50.22	.00
Age	82.28	1	82.28	40.76	.00
Sex	122.36	1	122.36	60.63	.00
Main Effect (Inst.)	54.32	10	5.43	2.69	.01*
Explained	257.03	12	21.42	10.61	.00
Residual	1967.94	975	2.02		
Total	2224.97	987	2.25		

TABLE 31-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF COMMUNALITY

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	191	16.79
Clarinet	222	16.95
Harmony Clarinets	34	17.12
Saxophones	100	16.91
Double Reeds	34	16.88
Trumpet	147	16.35
French Horn	40	17.01
Trombone	82	16.59
Baritone Horn	32	16.69
Tuba	26	16.18
Percussion	80	16.30

TABLE 31-C

F VALUES DERIVED FROM SCHEFFE PAIR-WISE COMPARISONS OF INDIVIDUAL INSTRUMENT
MEANS FOR THE PERSONALITY TRAIT OF
COMMUNALITY

Inst.	Fl	Cl	H. Cl	Sax	D R	Tpt	F Hn	Tbn	B Hn	Tba	Perc
Fl	X	4.07 [*]	2.36 [*]	1.95 [*]	.64	9.06 [*]	1.80	2.84 [*]	.68	3.46 [*]	6.85 [*]
Cl	4.07 [*]	X	1.24	.68	.51	13.15 [*]	.50	5.34 [*]	1.80	4.44 [*]	9.47 [*]
H Cl	2.36 [*]	1.24	X	1.32	1.00	5.27 [*]	.50	3.16 [*]	1.76	4.07 [*]	4.85 [*]
Sax	1.95 [*]	.68	1.32	X	.19	8.26 [*]	.71	3.57 [*]	1.32	3.73 [*]	6.72 [*]
D R	.64	.51	1.00	.19	X	3.63 [*]	.59	1.73	.78	2.55 [*]	3.43 [*]
Tpt	9.06 [*]	13.15 [*]	5.27 [*]	8.26 [*]	3.63 [*]	X	5.14 [*]	3.13 [*]	2.21 [*]	.93	.64
F Hn	1.80	.50	.50	.71	.59	5.14 [*]	X	2.80 [*]	1.41	3.24 [*]	4.69 [*]
Tbn	2.84 [*]	5.34 [*]	3.16 [*]	3.57 [*]	1.73	3.13 [*]	2.80 [*]	X	.57	2.05 [*]	2.91 [*]
B Hn	.68	1.80	1.76	1.32	.78	2.21	1.41	.57	X	1.81	2.21 [*]
Tba	3.46 [*]	4.44 [*]	4.07 [*]	3.73 [*]	2.55 [*]	.93	3.24 [*]	2.05 [*]	1.81	X	.58
Perc	6.85 [*]	9.47 [*]	4.85 [*]	6.72 [*]	3.43 [*]	.64	4.69 [*]	2.91 [*]	2.21 [*]	.58	X

* F is significant at or beyond the .05 level.

‡ F is significant at or beyond the .01 level.

Key to abbreviations: Fl=Flute, Cl=Clarinet, H Clar=Harmony Clarinets(alto, bass, and contra), Sax=All Saxophones, D R=Double Reeds(oboe and bassoon), Tpt=Trumpet/ Cornet, F Hn=French Horn, Tbn=Trombone, B Hn=Baritone Horn/Euphonium, Tba=Tuba, and Perc=All Percussion.

TABLE 31-D

SUMMARY TABLE OF INDIVIDUAL INSTRUMENT DIFFERENCES FOR THE PERSONALITY TRAIT OF COMMUNALITY

Instrument	Significantly Higher than:	Significantly Lower than:	No Significant Difference from:
Flute	T,R,B,&P	C,A,&S	D,H,&E
Clarinet	F,T,R,B,&P	0	A,S,D,H,&E
Harmony Clarinet	F,T,R,B,&P	0	C,S,D,H,&E
Saxophone	F,T,R,B,&P	0	C,A,D,H,&E
Double Reed	T,B,&P	0	F,C,A,S,H,R,&E
Trumpet	0	F,C,A,S,D,H,R,&E	B&P
French Horn	T,R,B,&P	0	F,C,A,S,D,&E
Trombone	T,B,&P	F,C,A,S,&H	D&E
Baritone Horn	T&P	0	F,C,A,S,D,H,R,&B
Tuba	0	F,C,A,S,D,H,&R	T,E,&P
Percussion	0	F,C,A,S,D,H,R,&E	T&B

Key to abbreviations: F=Flute, C=Clarinet, A=Harmony Clarinet, S=Saxophone, D=Double Reed, T=Trumpet, H=French Horn, R=Trombone, E=Baritone Horn, B=Tuba, P=Percussion.

TABLE 32-A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
ACHIEVEMENT VIA CONFORMANCE

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	199.84	2	99.92	16.56	.00
Age	157.83	1	157.83	26.16	.00
Sex	44.43	1	44.43	7.36	.01
Main Effect (Inst.)	86.07	10	8.61	1.43	.16
Explained	285.91	12	23.83	3.95	.00
Residual	6969.70	1155	6.03		
Total	7255.61	1167	6.22		

TABLE 32-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
ACHIEVEMENT VIA CONFORMANCE

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	224	28.94
Clarinet	255	28.80
Harmony Clarinets	37	28.60
Saxophones	119	28.58
Double Reeds	44	29.39
Trumpet	176	28.59
French Horn	49	29.79
Trombone	93	28.76
Baritone Horn	38	28.47
Tuba	33	28.62
Percussion	100	28.55

TABLE 33-A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
ACHIEVEMENT VIA INDEPENDENCE

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	70.22	2	35.11	7.67	.00
Age	5.71	1	5.71	1.25	.26
Sex	64.97	1	64.97	14.19	.00
Main Effect (Inst.)	25.82	10	2.58	.56	.84
Explained	96.05	12	8.00	1.75	.05
Residual	5386.70	1176	4.58		
Total	5482.75	1188	4.62		

TABLE 33-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
ACHIEVEMENT VIA INDEPENDENCE

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	226	22.09
Clarinet	261	21.98
Harmony Clarinets	37	22.61
Saxophones	121	21.88
Double Reeds	44	22.46
Trumpet	180	21.83
French Horn	50	22.16
Trombone	97	21.87
Baritone Horn	38	21.65
Tuba	32	21.72
Percussion	103	21.95

TABLE 34-A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
INTELLECTUAL EFFICIENCY

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	366.10	2	183.05	18.33	.00
Age	254.69	1	254.69	25.59	.00
Sex	116.74	1	116.74	11.69	.00
Main Effect (Inst.)	175.25	10	17.53	1.76	.07
Explained	541.36	12	45.11	4.52	.00
Residual	9937.08	995	9.99		
Total	10478.44	1007	10.41		

TABLE 34-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
INTELLECTUAL EFFICIENCY

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	194	37.54
Clarinet	225	37.63
Harmony Clarinets	34	37.35
Saxophones	103	37.38
Double Reeds	36	37.82
Trumpet	152	36.76
French Horn	40	38.87
Trombone	83	37.23
Baritone Horn	32	37.85
Tuba	26	36.84
Percussion	83	36.97

TABLE 35--A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
PSYCHOLOGICAL-MINDEDNESS

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	152.06	2	76.03	24.96	.00
Age	25.89	1	25.89	8.50	.00
Sex	123.55	1	123.55	40.56	.00
Main Effect (Inst.)	57.70	10	5.77	1.89	.04*
Explained	209.76	12	17.48	5.74	.00
Residual	3710.26	1218	3.05		
Total	3920.02	1230	3.19		

TABLE 35-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF
PSYCHOLOGICAL-MINDEDNESS

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	241	14.65
Clarinet	271	14.54
Harmony Clarinets	35	14.47
Saxophones	126	14.62
Double Reeds	47	15.34
Trumpet	185	14.73
French Horn	50	15.06
Trombone	98	14.66
Baritone Horn	39	14.17
Tuba	34	14.94
Percussion	105	14.35

TABLE 35-C

F VALUES DERIVED FROM SCHEFFE PAIR-WISE COMPARISONS OF INDIVIDUAL INSTRUMENT MEANS FOR THE PERSONALITY TRAIT OF PSYCHOLOGICAL-MINDEDNESS

Inst.	Fl	Cl	H. Cl	Sax	D R	Tpt	F Hn	Tbn	B Hn	Tba	Perc
Fl	X	2.30*	.90	.41	4.45*	1.37	2.79*	.11	2.64*	1.42	3.60*
Cl	2.30*	X	.36	1.13	5.26*	3.43*	3.60*	1.42	2.07*	1.98*	2.36*
H Cl	.90	.36	X	.67	2.86*	1.26	1.99*	.80	.91	1.33	.52
Sax	.41	1.13	.67	X	4.05*	1.35	2.58*	.36	2.19*	1.40	2.53*
D R	4.45*	5.26*	2.86*	4.05*	X	3.75*	1.11	3.55*	4.09*	1.30	5.28*
Tpt	1.37	3.43*	1.26	1.35	3.75*	X	2.13*	.74	2.96*	.99	4.18*
F Hn	2.79*	3.60*	1.99*	2.58*	1.11	2.13*	X	2.17*	3.20*	.40	3.95*
Tbn	.11	1.42	.80	.36	3.55*	.74	2.17*	X	2.24*	1.56	2.58*
B Hn	2.64*	2.07*	.91	2.19*	4.09*	2.96*	3.20*	2.24*	X	2.30*	.84
Tba	1.42	1.98*	1.33	1.40	1.30	.99	.40	1.56	2.30*	X	2.49*
Perc	3.60*	2.36*	.52	2.53*	5.28*	4.18*	3.95*	2.58*	.84	2.49*	X

* F is significant at or beyond the .05 level.

* F is significant at or beyond the .01 level.

Key to abbreviations: Fl=Flute, Cl=Clarinet, H Clar=Harmony Clarinets(alto, bass, and contra), Sax=All Saxophones, D R=Double Reeds(oboe and bassoon), Tpt=Trumpet/ Cornet, F Hn=French Horn, Tbn=Trombone, B Hn=Baritone Horn/Euphonium, Tba=Tuba, and Perc=All Percussion.

TABLE 35-D

SUMMARY TABLE OF INDIVIDUAL INSTRUMENT DIFFERENCES FOR THE PERSONALITY TRAIT OF
PSYCHOLOGICAL-MINDEDNESS

Instrument	Significantly Higher than:	Significantly Lower than:	No Significant Difference from:
Flute	C,E,&P	D&H	A,S,T,R,&B
Clarinet	E&P	F,D,T,H,&B	A,S,&R
Harmony Clarinet	0	D&H	F,C,S,T,R,E,B,&P
Saxophone	E&P	D&H	F,C,H,T,R,&B
Double Reed	F,C,A,S,T,R,E,&P	0	H&B
Trumpet	C,E,&P	D&H	F,A,S,R,&B
French Horn	F,C,A,S,T,R,E,&P	0	D&B
Trombone	E&P	D&H	F,C,A,S,T,&B
Baritone Horn	0	F,C,S,D,T,H,E,&B	A&P
Tuba	C,E,&P	0	F,A,S,D,T,H,&R
Percussion	0	F,C,S,D,T,H,R,&B	A&E

Key to abbreviations: F=Flute, C=Clarinet, A=Harmony Clarinet, S=Saxophone, D=Double Reed, T=Trumpet, H=French Horn, R=Trombone, E=Baritone Horn, B=Tuba, P=Percussion.

TABLE 36-A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF FLEXIBILITY

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	.16	2	.08	.02	.98
Age	.14	1	.14	.03	.86
Sex	.02	1	.02	.00	.95
Main Effect (Inst.)	36.73	10	3.67	.85	.58
Explained	36.89	12	3.07	.71	.75
Residual	4257.77	981	4.34		
Total	4294.66	993	4.33		

TABLE 36-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF FLEXIBILITY

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	191	13.90
Clarinet	223	13.69
Harmony Clarinets	34	13.64
Saxophones	100	14.00
Double Reeds	35	13.56
Trumpet	149	13.66
French Horn	40	13.82
Trombone	83	13.70
Baritone Horn	32	14.28
Tuba	26	14.08
Percussion	81	14.22

TABLE 37-A

ANALYSIS OF COVARIANCE FOR INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF FEMININITY

Source of Variation	Sum of Squares	DF	Mean Square	F	Significance of F
Covariates	1320.06	2	660.03	245.30	.00
Age	29.12	1	29.12	10.82	.00
Sex	1297.25	1	1297.25	482.13	.00
Main Effect (Inst.)	59.88	10	5.99	2.23	.01 [*]
Explained	1379.93	12	114.99	42.74	.00
Residual	3304.13	1228	2.69		
Total	4684.06	1240	3.78		

TABLE 37-B

REPORTING OF SCORES OF THE INDIVIDUAL INSTRUMENTS FOR THE PERSONALITY TRAIT OF FEMININITY

Variable and Category	N	Adjusted Mean for Independents and Covariates
Instruments		
Flute	242	19.94
Clarinet	271	20.27
Harmony Clarinets	37	20.02
Saxophones	127	19.68
Double Reeds	45	20.18
Trumpet	191	20.01
French Horn	51	19.87
Trombone	98	19.55
Baritone Horn	39	20.23
Tuba	36	19.40
Percussion	104	19.84

TABLE 37-C

F VALUES DERIVED FROM SCHEFFE PAIR-WISE COMPARISONS OF INDIVIDUAL INSTRUMENT
MEANS FOR THE PERSONALITY TRAIT OF
FEMININITY

Inst.	Fl	Cl	H. Cl	Sax	D R	Tpt	F Hn	Tbn	B Hn	Tba	Perc
Fl	X	7.84 [‡]	.48	4.02 [‡]	1.69	1.39	.55	5.05 [‡]	1.81	3.38 [‡]	1.89
Cl	7.84 [‡]	X	1.75	9.49 [‡]	.65	5.41 [‡]	3.19 [‡]	9.63 [‡]	.25	5.14 [‡]	6.00 [‡]
H Cl	.48	1.75	X	1.81	.60	.06	.60	2.35*	.74	2.10*	.91
Sax	4.02 [‡]	9.49 [‡]	1.81	X	3.09 [‡]	4.68 [‡]	1.28	1.34	3.05 [‡]	1.46	1.70
D R	1.69	.65	.60	3.09 [‡]	X	1.15	1.38	3.61 [‡]	.19	2.90 [‡]	1.98*
Tpt	1.39	5.41 [‡]	.06	4.68 [‡]	1.15	X	1.05	5.54 [‡]	1.32	3.43 [‡]	2.13*
F Hn	.55	3.19 [‡]	.60	1.28	1.38	1.05	X	1.99*	1.48	1.84	.19
Tbn	5.05 [‡]	9.63 [‡]	2.35*	1.34	3.61 [‡]	5.54 [‡]	1.99*	X	3.52 [‡]	.73	2.72 [‡]
B Hn	1.81	.25	.74	3.05 [‡]	.19	1.32	1.48	3.52 [‡]	X	2.88 [‡]	2.06*
Tba	3.38 [‡]	5.14 [‡]	2.10*	1.46	2.90 [‡]	3.43 [‡]	1.84	.73	2.88 [‡]	X	2.19*
Perc	1.89	6.00 [‡]	.91	1.70	1.98*	2.13*	.19	2.72 [‡]	2.06*	2.19*	X

* F is significant at or beyond the .05 level.

‡ F is significant at or beyond the .01 level.

Key to abbreviations: Fl=Flute, Cl=Clarinet, H Clar=Harmony Clarinets(alto, bass, and contra), Sax=All Saxophones, D R=Double Reeds(oboe and bassoon), Tpt=Trumpet/Coronet, F Hn=French Horn, Tbn=Trombone, B Hn=Baritone Horn/Euphonium, Tba=Tuba, and Perc=All Percussion.

TABLE 37-D

SUMMARY TABLE OF INDIVIDUAL INSTRUMENT DIFFERENCES FOR THE PERSONALITY TRAIT OF FEMININITY

Instrument	Significantly Higher than:	Significantly Lower than:	No Significant Difference from:
Flute	S,R,&B	C	A,D,T,H,E,&P
Clarinet	F,S,T,H,R,B,&P	0	A,D,&E
Harmony Clarinet	R&B	0	F,C,S,D,T,H,E,&P
Saxophone	0	F,C,D,T,&E	A,H,R,B,&P
Double Reed	S,R,B,&P	0	F,C,A,T,H,&E
Trumpet	S,R,B,&P	C	F,A,D,H,&E
French Horn	R	C	F,A,S,D,T,E,B,&P
Trombone	0	F,C,A,D,T,H,E,&P	S&B
Baritone Horn	S,R,B,&P	0	F,C,A,D,T,&H
Tuba	0	F,C,A,D,T,E,&P	S,H,&R
Percussion	R&B	C,D,T,&E	F,A,S,&H

Key to abbreviations: F=Flute, C=Clarinet, A=Harmony Clarinet, S=Saxophone, D=Double Reed, T=Trumpet, H=French Horn, R=Trombone, E=Baritone Horn, B=Tuba, P=Percussion.

TABLE 38
CROSS-TABULATION OF TYPE OF INSTRUMENT BY SEX

Instrument	Male Number	Male Percent	Female Number	Female Percent
Flute	7	2.7%	256	97.3%
Clarinet	31	10.4%	266	89.6%
Alto Clarinet	0	0.0%	2	100.0%
Bass Clarinet	3	9.4%	29	90.6%
Contra Clarinet	6	66.7%	3	33.3%
Alto Saxophone	55	56.1%	43	43.9%
Tenor Saxophone	25	71.4%	10	28.6%
Baritone Saxophone	9	56.3%	7	43.8%
Oboe	4	14.3%	24	85.7%
Bassoon	6	28.6%	15	71.4%
Trumpet	150	70.8%	62	29.2%
French Horn	22	40.7%	32	59.3%
Trombone	90	86.5%	14	13.5%
Baritone Horn	36	76.6%	11	23.4%
Tuba	36	85.7%	6	14.3%
Percussion	82	65.6%	43	34.4%
Piano	0	0.0%	2	100.0%
String Bass	1	25.0%	3	75.0%

APPENDIX L

PARTICIPATING SCHOOLS AND DIRECTORS

1. Brandon H.S.
Roy C. Johnson, Director of Bands
300 South St.
Ortonville, Mi. 48462
2. Hemlock H.S.
Carl A. Gippert, Director of Bands
Hemlock, Mi. 48626
3. Valley Luthern H.S.
David Britton, Director of Bands
3560 McCarty Rd.
Saginaw, Mi. 48603
4. Kalkaska H.S.
Paul Hornung, Director of Bands
109 Birch St.
Kalkaska, Mi. 49646
5. Cranbrook Academy
Sarkis Halajian, Director of Bands
Box 801
Bloomfield Hills, Mi. 48013
6. Martin H.S.
Fred Bogdan, Director of Bands
1556 Chalmers St.
Martin, Mi. 49070
7. Algonac H.S.
Gregory Reed, Director of Bands
5200 Taft Rd.
Algonac, Mi. 48001
8. Gabriel Richard H.S.
Marcia Kneisley, Director of Bands
15325 Penna. St.
Riverview, Mi. 48192
9. Imlay City H.S.
John Cummins, Director of Bands
495 W. 1st St.
Imlay City, Mi. 48444

10. Deckerville H.S.
David Smith, Director of Bands
2633 Blackriver Rd.
Deckerville, Mi. 48427
11. Fremont H.S.
Robert L. Supplee, Director of Bands
204 E. Main St.
Fremont, Mi. 49412
12. Ravenna H.S.
John C. Nelson, Director of Bands
2766 S. Ravenna Rd.
Ravenna, Mi. 49451
13. Marcellus H.S.
Joan L. Bosserd-Schroeder, Director of Bands
P.O. Box 48
Marcellus, Mi. 49067
14. Capac H.S.
Jack Seidler, Director of Bands
541 N. Glassford Rd.
Capac, Mi. 48014
15. White Pigeon H.S.
Suann Norton, Director of Bands
Laird and Prarie Sts.
White Pigeon, Mi. 49099
16. Mt. Pleasant H.S.
Steve Wolf, Director of Bands
1155 S. Elizabeth St.
Mt. Pleasant, Mi. 48858
17. Manistique H.S.
Daniel White, Director of Bands
Cedar and Main Sts.
Manistique, Mi. 49854
18. Fennville H.S.
Penny Daab-Lowe, Director of Bands
N. Maple
Fennville, Mi. 49408
19. Tower H.S.
Mary Lou Kleist, Director of Bands
27900 Bunert Rd.
Warren, Mi. 48093
20. Cheboygan Area H.S.
Ron Smith, Director of Bands
Cheboygan, Mi. 49721

21. Berrien Springs H.S.
Jack Baker, Director of Bands
Box 130, Sylvester Ave.
Berrien Springs, Mi. 49103
22. Cedar Springs H.S.
Dale Working, Director of Bands
204 E. Muskegon Rd.
Cedar Springs, Mi. 49319
23. Big Bay De Noc H.S.
Susan White, Director of Bands
Big Bay De Noc School District
Cooks, Mi. 49817
24. Lansing Christian H.S.
Larry Kablunde, Director of Bands
5525 S. Penna. St.
Lansing, Mi. 48909
25. Gobles H.S.
Gerald Reed, Director of Bands
N. State St.
Gobles, Mi. 49055
26. Southgate-Anderson H.S.
James A. Skura, Director of Bands
Southgate, Mi. 48195