

The purpose of this study was to investigate and identify specific characteristics and frequencies of subject samples as found in the Journal of Research in Music Education from its inception in 1953 through the final issue of 2002. Seven research questions were analyzed with respect to research samples used during the past 50 years. Samples were analyzed in the following categories: school level (elementary, secondary, or college/university); grade in school; major in college/university; public school personnel; college/university personnel; public at large; and geographic location. Results indicated that 34% of subject samples during the past 50 years have been drawn from college/university settings; 21% of subject samples have been from elementary school settings; and 19% of subject samples have been drawn from secondary school settings. Gender- and race-specific samples are analyzed in this study, as were research samples by state and geographic location. Conclusions and implications for future research are discussed.

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Characteristics of 50 Years of Research Samples Found in the *Journal of Research in Music Education*, 1953–2002

Periodically, the opportunity to examine the state of the art of music education research presents itself, and a great deal of information can be gleaned from such study. The year 2002 marks the 50th anniversary of the founding and publication of the *Journal of Research in Music Education (JRME)*. In an attempt to identify specific characteristics of subjects the profession has investigated, I undertook a detailed analysis of research samples used in the *JRME* for the past 50 years.

Previous researchers have studied various aspects of research articles and authors in music education. These investigations have included topics such as content analyses (Radocy, 1998; Schmidt & Zdzinski, 1993; Yarbrough, 1984, 1996); author characteristics (Geringer, 2000); editorial committees (Humphreys & Stauffer,

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2000); eminence in research by citation (Brittin & Standley, 1997; Sample, 1992; Standley, 1984); subjects (Kratus, 1992); and journal eminence by citation (Hamann & Lucas, 1998; Leblanc & McCrary, 1991). To date, Yarbrough has undertaken the most thorough investigation of content analysis specifically contained within the *JRME*, examining research topics, numbering articles based on theses and dissertations, categorizing by research methodology, and reporting subject characteristics.

Kratus (1992) examined subject samples during the period 1961–90 used in three journals: *JRME*, *Bulletin of the Council for Research in Music Education*, and *Contributions to Music Education*. Subjects were categorized by age group and across 10-year intervals. Kratus reported that college-age subjects were participants in a majority of studies and that research samples that included young children received increased attention during the period he investigated. Kratus concluded that more research was needed in age ranges other than college and university students.

While researchers in previous investigations examined general subject age ranges and categorized subjects by level in school and by whether they were studying music (e.g., music majors), there has generally been no attempt to identify specific characteristics of the subjects sampled, such as specific major in school, subject area, specific characteristics of public school subjects and personnel, or detailed characteristics of samples not drawn from school settings or colleges and universities. A detailed exploration and analysis of all subject samples that researchers in music education have investigated during the past 50 years of publication in *JRME* will help identify what progress has been made and suggest directions for future research endeavors.

The purpose of this study was to investigate and identify specific characteristics and frequencies of subject samples as found in the *Journal of Research in Music Education* from its inception in 1953, through the Winter 2002 issue. Specifically, seven research questions were asked:

1. What is the frequency of subject inclusion in research studies by levels of schooling, preschool through graduate school, and by grade in school?
2. What is the frequency of college or university music majors, nonmajors, or other majors in college used as reported in subject samples in research studies?
3. What is the frequency of study of subjects in choral and vocal music, general music, band music, and string or orchestral music by levels of schooling as reported in subject samples in research studies?
4. What is the frequency of inclusion of school music teachers, school administrators, college faculty, college/university administrators, and other school or college/university personnel as reported in research studies?

5. What is the frequency of inclusion of populations (heretofore referred to as the “public at large”) not directly associated with school or college/university settings, such as professional musicians, parents, or private studio teachers and students?

6. What is the frequency of inclusion of special populations by race, disability, or specific gender as reported in research studies?

7. What geographic locations have subjects been drawn from as reported in research studies by state, region, or country?

METHOD

I read and analyzed each article in every issue of *JRME* during the period 1953–2002 (Winter issue) for research sample attributes. Specific characteristics for each research sample were tallied according to the following categories: level in school, prekindergarten through graduate school; major in college; elementary and secondary school music courses; faculty and administration in elementary and secondary schools and in college/university settings; public-at-large populations; samples specific to gender, race, or ability/disability; size of sample; and geographic location of sample. An initial set of tallies was made and the entire process was repeated a total of three times to ensure accuracy.

The way researchers have reported samples in methodology sections has changed over the past 50 years. There were specific cases, especially in earlier issues of *JRME*, wherein few or no details about the sample were given. In these cases, no data were recorded as part of the current summation. A total of 819 articles were studied because they contained sufficient information describing research sample characteristics.

In those samples using subjects drawn from school settings across a variety of age ranges, for example elementary, high school, and college or university, a mark was placed in the elementary category, the high school category, and in the college or university category. A mark was only made in each category if the study specifically mentioned that subjects were drawn from each level. To further identify sample characteristics, a mark was made in categories for band, choral, general, and orchestral, or nonmusicians when those qualities were specifically mentioned. When specific grade levels were mentioned, a mark was placed next to the appropriate grade level. College and university music majors and nonmajors were identified, as were music education majors, elementary education majors, “other” majors, and graduate students. School music teachers were coded according to grade level and subject taught wherever mentioned in the sample. School administrators and college or university faculty and administrators were also identified.

Only specific information contained within the articles regarding subjects was included for analysis and no assumptions were made

regarding any of the categories chosen for use in this investigation. Throughout the process of reading, categorizing, and tallying, samples were identified that could not be appropriately placed in school, college/university, or school personnel categories. These studies included parents, professional musicians, people who had "previously studied music," subjects of various age-groups not drawn from a school or college/university setting, and private studio teachers and their students. A category labeled "public at large" was created to contain subject samples that did not precisely fit in previously established categories. Other samples were included; these contained concert programs, journals, documents, and in one instance, laboratory animals (Tallaraico, 1973).

Researchers have investigated special populations as well. These have included people of various mental abilities, disadvantaged and at-risk children, different races, ethnicities, nationalities, and gender-specific samples. In these cases, tallies were made to reflect each of the above.

To identify geographic locations of subject samples, a listing was made by states and regions in the United States, and internationally by countries. Geographic locations were only recorded when identified in the articles, and no assumptions were made based on location of authors' teaching institutions.

RESULTS

The first analysis was an overall computation of all samples by level of schooling. The number of times that preschool, elementary school, secondary school, college/university, public school personnel, college/university personnel, and public-at-large have been sampled is reported in Figure 1. The greatest number of samples by level of schooling was that of college/university with 344 samples, accounting for 34.1% of the total number of samples. Elementary schools accounted for the second largest area with 212 research samples drawn from this age, accounting for 21.0% of the total number of samples. Secondary schools, including middle school, junior high, and high school, ranked third, with 193, or 19.1% of the total. (See Figure 1 for complete results.)

Among grade levels from kindergarten through Grade 12, there was a peak in samples around Grades 4, 5, and 6. Grade 5 appeared most often, with 94 samples including subjects at that level, accounting for 16.5% of the total of all grade levels. Grade 4, with 80 samples and 14.0% of the total samples for all grade levels, was second highest, followed by Grade 6, with 70 samples, or 12.3% of the total samples across all grade levels. Third grade was included in samples 54 times, or 9.5% of the total samples. The remaining grade levels from largest to smallest by *N* and percentage are: Grade 2, *N* = 46, 8.0%; Grade 7, *N* = 45, 7.9%; Grade 1, *N* = 40, 7.0%; Grade 8, *N* = 30, 5.2%; Grade 9, *N* = 27, 4.7%; Grade 12, *N* = 23, 4.0%; kindergarten, *N* = 22, 3.8%; Grade 11, *N* = 21, 3.6%; Grade 10, *N* = 16, 2.8%.

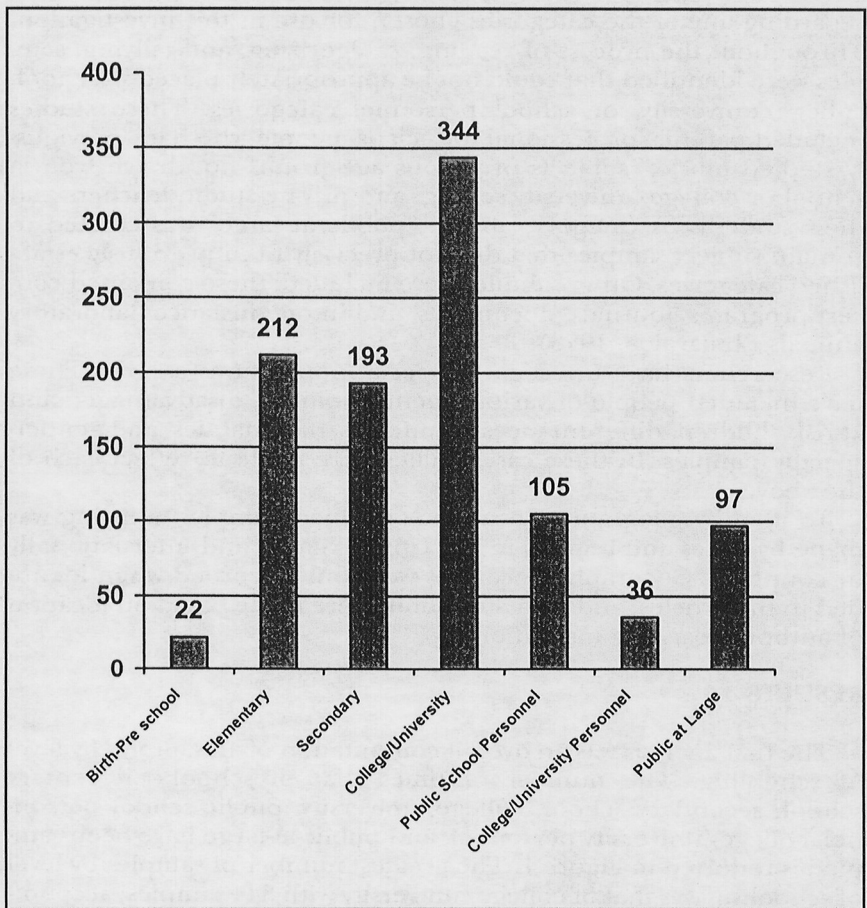


Figure 1. Research samples drawn from each major category: Number of times each population was specifically mentioned in research articles in the *Journal of Research in Music Education (JRME)*, 1953–2002.

The second analysis was computed to determine the number of times that college/university subjects were sampled by major in school. Majors in music performance, theory, and other disciplines were included in the overall music major category. Samples including subjects majoring in music were identified in the journals 182 times. Nonmusic major subjects appeared in samples 116 times and elementary education majors were identified a total of 15 times. Music education majors were identified 42 times. Graduate students in music were included in samples 38 times. Undergraduate rank in school (e.g., freshman, sophomore) or graduate degree pursued (e.g., master's, doctorate) were identified too few times in samples to merit separate mention.

Table 1
Public School Personnel

Category	Times Sampled
Total of all Public School Personnel	105
Public School Teachers	84
Elementary	16
Middle school/Junior high	7
High school	19
Public School Teachers by Subject Area	
Instrumental/Band	19
Choral/Vocal	15
General Music	5
String/Orchestral	3
Other	2
Public School Administrators	21
Music Supervisor	11
Principal	6
Superintendent	3
Other (school board)	1

A third analysis investigated specific music courses mentioned in school settings. Band courses ranked highest, with 73 samples including students in these school music courses. Choral and vocal courses were second with 25 samples mentioned. String or orchestral classes were drawn from seven times as reported, and general music courses were mentioned three times.

Public school personnel, including teachers of kindergarten through Grade 12 and school administrators, have been used in research samples as well. A fourth analysis was conducted to determine the frequency that public school personnel were mentioned in studies. Table 1 contains the frequency of occurrence among public school personnel. Public school administrators (see Table 1) also have participated in research studies during the past 50 years. School administrators were identified a total of 21 times. Music supervisors accounted for most of these and were mentioned 11 times in research samples.

Continuing with the fourth analysis, college/university faculty were mentioned 36 times in samples. Of this number music educa-

Table 2
Public-at-Large Research Samples and Frequencies

Group	Times Sampled
Public-at-large Total	99
Various age-groups (not typically associated with schools)	56
Professional musicians	17
Private studio teachers/students	17
Parents	4
Other/Unspecified	5
Miscellaneous media	13

Note. The category "Various age-groups" indicates subjects not associated with or drawn from school or college/university settings. "Miscellaneous media" include videotapes, concert programs, journal articles, and other materials.

tion faculty were specifically identified in articles five times. Studio, theory/composition, and other faculty were mentioned in samples seven times. College/university administrators appeared in samples five times, and included presidents, deans, and department heads. Identification of faculty in specific disciplines was often difficult due to a lack of information; therefore, this information was not included.

An analysis of research samples not drawn from school or college/university settings was also computed. Table 2 contains a summation of numbers in the public-at-large category. This category was sampled 99 times over the course of the 50-year period considered in the current investigation.

Table 3 shows all information gathered from the *JRME* articles about various special populations. Samples that contained reference to people with disabilities, of specific races or ethnicities, or of a specific gender were also counted and analyzed for the purposes of the current study. Ten studies included samples from specific ethnicities or nationalities. Gender-specific samples targeting male-only or female-only subjects were also included 10 times.

Table 3
Special Populations Sampled

Population	Times Sampled
1. Race/Nationality-specific	10
a. African American	5
b. Asian	1
c. Mexican	1
d. Native American	1
e. South American	1
f. Zimbabwean	1
2. Gender-specific	10
a. Male	7
b. Female	3
3. Mentally Impaired	8
4. Disadvantaged/At-risk	5
5. Disabled	3
6. Twins	2
7. Hyperactive	1
8. Right-handed	1
9. Monotone singers	1

Note. The "Gender-specific" category includes samples that were specifically targeted toward male-only or female-only groups. The "Mentally impaired" category includes various descriptors of mental disability.

Finally, an analysis of research samples by geographic location was undertaken. Locations were marked by state in the United States when specifically mentioned, or by region if regional information was provided. National samples were also recorded, in those cases where the researcher(s) specified that the sample was drawn from a considerable number of states across the country. Table 4 contains the states of the United States listed alphabetically with a total number of samples drawn from each state. Ohio claimed the most samples with 56, followed by Texas with 55, New York and Florida each with 43, and Illinois with 39.

Table 4
Analysis of Research Samples by States in the United States

State	Times Appearing in Sample	Rank (top 10)
Alabama	6	
Alaska	1	
Arizona	8	
Arkansas	0	
California	29	5
Colorado	5	
Connecticut	10	
Delaware	2	
District of Columbia	2	
Florida	43	3
Georgia	12	
Hawaii	3	
Idaho	1	
Illinois	39	4
Indiana	14	9
Iowa	19	7
Kansas	21	6
Kentucky	3	
Louisiana	10	
Maine	1	
Maryland	10	
Massachusetts	4	
Michigan	19	7
Minnesota	9	
Mississippi	2	
Missouri	5	
Montana	2	
Nebraska	4	
Nevada	1	
New Hampshire	0	
New Jersey	4	
New Mexico	1	
New York	43	3
North Carolina	11	
North Dakota	1	
Ohio	56	1
Oklahoma	7	
Oregon	2	
Pennsylvania	16	8
Rhode Island	1	
South Carolina	8	
South Dakota	4	
Tennessee	2	
Texas	55	2
Utah	5	
Vermont	1	
Virginia	6	
Washington	7	
West Virginia	1	
Wisconsin	13	10
Wyoming	1	

Note. States are listed as specifically mentioned in articles. No assumptions were made based on authors' location.

Mention of regions of the U.S. as well as other countries throughout the world revealed in research samples was also identified. Among regions, the Midwest was shown to have the highest number of research samples with 52. The South (21), Southeast (9), and Southwest (9) combined were second with 39 samples total. Northern regions, including the Northeast (5), North Central (2), and Northwest (6), combined for 13 samples total. The East was mentioned specifically twice, as was the West, while national samples were listed a total of 23 times.

Internationally, England was identified in research samples six times, Australia three times, and Canada and Germany two times each. Other countries mentioned only once included Argentina, China, France, Hong Kong, Japan, the Netherlands, the former Soviet Union, and Zimbabwe.

DISCUSSION

During the past 50 years, the largest single body that the profession has drawn research samples from as reported in the *JRME* is college/university students, with approximately 34% of all research subjects coming from this level. These results support Kratus (1992), who found that college/university students accounted for the largest number of samples studied during the years 1961–1990. They also confirm the work of Yarbrough (1984), who reported that college/university students accounted for the majority of subjects studied in samples of *JRME* during the years 1953–1984. Kratus noted that the participation in research by college/university students was due to their accessibility to professors who are completing the research studies published in the research journals.

The sheer numbers of music majors and nonmajors included in samples reported in the current study would seem to confirm Kratus's conclusion. Another consideration should be that of human subjects review boards and the advent of more strict research regulations regarding the use of human subjects under the age of 18 years. Discussions with representatives from school districts in two states revealed that in addition to university-level requirements placed on the researcher, school district requirements must be met before research can take place in a school setting (J. Ashcraft, T. Ratcliff, personal communication, 2002). These requirements often duplicate those of a human subjects review board and include parental consent, building principal, superintendent, and school board approval before a project can begin. Such a process could consume a considerable amount of time and act as a deterrent to researchers with limited time to complete research projects. Collaboration between university faculty, human subjects review boards, and school districts is needed to improve access and communication, and to reduce the amount of bureaucracy and duplication of paperwork.

A simple computation of all *JRME* samples using subjects above the age of 18 based on the data collected in the current study

revealed that nearly 58% of all research samples were drawn from subjects of legal age. Participants at 18 years and under amounted to 42% of the subject samples. This would seem to indicate that more research is needed amid students attending preschools, elementary, and secondary schools. Indeed, Kratus (1992) noted a decline in research in these areas during the past 20 years.

Research samples specifically drawn from middle or junior high schools revealed 31 samples from middle schools and 58 samples from junior high schools. These numbers seem small when compared to 212 elementary samples and 104 high school samples. The larger number in junior high samples can perhaps be attributed to a longer existence and the comparatively recent growth of the middle school concept (Alexander, 1968; Lounsbury, 1992; Wiles & Bondi, 1993). The middle school concept places importance on exploration and the opportunity for more electives courses to be taken. The availability of music education to students in Grades 6 through 8 as well as teaching and study of music at the middle school level is an area in need of more research.

As reported above, there has been a surprising lack of research involving subjects in choral or vocal music, string or orchestral groups, and nonperformance music classes at the elementary and secondary levels. Instrumental or band subjects were specifically identified in 75 research samples, while vocal or choral, string or orchestral, and general music subjects combined did not equal that number. More research is needed in these subject areas.

Finally, an increase in research samples including public school administrators is suggested based on the findings of the current study. These individuals are generally responsible, among other tasks, for making sure that music is included in the school day, that music programs are funded, and that music educators are hired. Overall funding and decision-making often comes from the school board, yet only one instance of a school board member included in a sample was found.

Yarbrough (1996) concluded that the profession has many opportunities to continue groundbreaking and important research that can "revolutionize the way we teach and learn music." It is hoped that the analyses carried out in the scope of this study of research samples will help to identify the current state of the art and provide illumination for future research endeavors.

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