

ABSTRACT

Title of thesis: AUTHORSHIP AND METHODOLOGY PATTERNS IN
MUSIC EDUCATION RESEARCH, 1984-2007

Dawn Marie Farmer, Master of Arts, 2008

Thesis directed by: Professor Michael P. Hewitt, Ph.D.
Department of Music Education

The purpose of this study was to evaluate gender-related authorship and research methodology patterns in music education research. Articles were examined in order to determine if the frequency of women authors in the sample matched the frequency of women receiving doctoral degrees in music education. Furthermore, methodologies of the articles were tallied to determine what types of research were being published and in what frequencies. Analysis of seven top-tier music education journals published from 1984 to 2007 suggested that women published below the expected frequency and that quantitative research comprised 78.93% of published articles. Data indicated that women were less frequent authors than men, but published a greater percentage of qualitative research. The number of women authors increased from the Early Period (1984-1991) to Late Period (1992-2007), as did the number of authors writing qualitative research.

AUTHORSHIP AND METHODOLOGY PATTERNS IN MUSIC EDUCATION
RESEARCH, 1984-2007

by

Dawn Marie Farmer

Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, College Park in partial fulfillment
of the requirements for the degree of
Master of Arts
2008

Advisory Committee:

Dr. Michael P. Hewitt, Chair
Dr. Janet M. Montgomery
Dr. Philip E. Silvey

Acknowledgements

I would be amiss if I did not formally provide a thank you to those who have helped me with this document. First, Scott McCambridge and Dr. Kirk Randazzo enhanced my statistical and SPSS knowledge. Thank you to the supportive friends, classmates, and professors I have had while at the University of Maryland; I appreciate all of you. Warm thanks to Dr. Janet Montgomery who has been a great female role model for me as I test out the research waters. Finally I thank Dr. Mike Hewitt, my advisor, my mentor, and my friend; it has been an honor. Here is my gonfalon.

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Authorship and Methodology Patterns in Music Education Research, 1984-2007

Chapter 1

Presentation of Study

Introduction and Background

Research exists as an integral component of a scholarly career. The synthesis of new ideas, coupled with the formation of fresh theories, advances the knowledge base for all members of that field. While the audience for such research is usually limited to scholars and researchers interested in certain phenomena, the far-reaching effects have the potential for being more widespread. For researchers, their published work and results help define their career. Competent research is noted within a scholarly community and builds the reputation and credibility of the author. When published in a refereed journal, the research scholar is accredited with success. If published in a journal that is considered to be top-tier, their peers in the field bestow the author with an extra modicum of prestige.

Academic fields that have professional membership associations feature at least one professional or scholarly journal; multiple fields, including music education, have several. Such publications range in formality of research, type of research, and specificity of topics covered. There are also journals that are published internationally, nationally, and those with a localized readership. Journals in numerous fields have been ranked to determine prepotency among publications (Tjoumas, 1992). As the Committee on Responsibilities of Authorship in the Biological Sciences National Research Council (2003) concludes, publishing research in higher-ranked journals can lead to respect

within the field, but also yields indirect rewards such as tenure or more desirable job prospects.

Article acceptance in a respectable journal can be considered part of a successful career. However, it has been suggested that women, as a whole, publish less research than men who are in the same field (Ferriman, 1975). Furthermore, if a woman marries, divorces, or otherwise changes her name mid-career, it could affect her visibility as a scholar in her field (Tescione, 1998). As women then proceed through the tenure process or compete with men for career placement and prominence in the field, research and complications with the surname could be an impediment. In sum, using research publication rates as a marker for success in a career may be easier for a man than for a woman.

Studies have shown that men are more prolific publishers in numerous fields, even in those fields that have a strong female membership or even female dominant membership. Political science, a field awarding almost equal numbers of graduate degrees to both men and women (Young, 1995), has far more men than women publishing across the top eight political science research publications (Breuning & Sanders, 2007). Similar results were found in other fields including general psychology (Frolich, 2007) and industrial and organizational psychology (deMeuse, 1987). Women authorship numbers appeared to be especially low in male-dominated arenas, such as surgery (Kurichi, Kelz, & Sonnad, 2005). Professional organization membership numbers in the area of physical education state that there are more female than male dues-paying members, but even in this field men publish more articles than their female counterparts (Schuiteman & Knoppers, 1987).

Researchers have offered suggestions as to why women may produce fewer articles than men. For instance, scholarly journals are more apt to publish quantitative research than other types of articles (Yarbrough, 1996; Ransdell, Beske, & Dinger, 2000; Bruening & Sanders, 2007), while female authors may be more apt than men to utilize qualitative methods (Febbraro, 1998). This issue symbolizes one additional hurdle for women researchers. Furthermore, when men constitute the entire make-up of an editorial board, women publication rates are at their lowest (Ramsdell, Beske, & Dinger, 2000).

In the field of music education, there are numerous professional publications. The most prolific research publication is the *Journal of Research in Music Education, JRME* (Hamann & Lucas, 1998). In the course of its existence, 14% of the editorial board has been female (Humphreys & Stauffer, 2000). While women have been regular contributors to *JRME*, female authorship accounted for only 30% of the articles from 1953 to 1994 (Grashel, 1998). Several articles delineate the most productive music education researchers (Brittin & Standley, 1997) and the most cited music education journal articles (Sample, 1992; Schmidt & Zdzinski, 1993); the results show more men than women on both of those lists. The National Association of Schools of Music (2008) calculated that 45.77% of music education Doctoral degrees presented since 1982 have been awarded to women. Hewitt and Thompson (2006) determined that 44% of university music education faculty members are female; to determine how many of those women hold research positions required further analysis. It was necessary to obtain a list of research universities and count the number of men and women serving on the music education faculty at each location. Investigating the full-time music education faculty at Carnegie Research I Universities shows that women hold 44.88% of those positions.

With nearly equal numbers of men and women in research positions, it could be concluded that in music education, similar numbers of men and women should be publishing research. If music education mirrors findings in other fields, this may not be the case (Schuiteman & Knoppers, 1987; Young, 1995).

The MENC Special Research Interest Group, Gender Research in Music Education (GRIME) was established in 1991. The GRIME Suggested Research Agenda (2007) includes the topics “treatment of women in the academe” and “the role of women in the development of the profession.” However, significant amounts of published research on those topics do not surface when using university library electronic database searches. Lack of literature on such issues points to a gap in knowledge that should be addressed through research; while gender issues, in general, are seen as a female area of interest (Foley & Morgan, 2001), women appear not to be addressing these areas in their personal research agendas. The continued study of the contributions of women in the area of music education research may enhance the status of women in the field and develop a more complete picture of the persons who have shaped the domain.

Lamb, Dolloff, and Howe (2002) suggest that music education is one of the few fields that has neglected to extensively participate in feminist research or gender theory research. Feminist research explores women’s collective roles and experiences, which within the realm of music would include all components of performance, education, and research. In their writings Lamb, Dolloff, and Howe (2002) state that “much research still desperately needs to be done in order to add all of the facts that could be discovered about music and music education” (p. 1167). The recorded histories of music education are typically written by men and heavily focus on the contributions of men (Lamb,

Dolloff, & Howe, 2002); studies highlighting the achievements of women are needed in order to complete an accurate historical record.

Gender theory research, according to Handrahan (1999), recognizes “equal potential while allowing for differences between the genders.” This type of research examines the differences between the genders, both constructed and inherent (Handrahan, 1999) and attempts to comprehend the roles of each gender. For example, the Bern Sex Role Inventory (BSRI) defines certain characteristics as male. Those traits are ones necessary for taking on and completing a research project: self-reliance, independence, analytic ability, assertiveness, willingness to take risks, and leadership; meanwhile, the BSRI labels females as nurturers and caretakers (Fels, 2004). If men, then, are engendered to initiate projects or tasks (do research) while women are engendered to be supportive and helpful (mentor and advise students), research is needed to investigate those gender issues in academia.

Lamb, Dolloff, and Howe (2002) outline the gendered topics in music education that have received attention. They include: gender stereotypes of musical instrument selection, gender stereotypes in performance, composition and improvisation, technology, gender-specific role models, and textbook analysis. Other topics that have surfaced and challenged traditional music education thought include feminist pedagogy, studies that give voice to females in male-dominated areas, studies that have given voice to males in female-dominated areas, and the notion of music education and music teaching as feminized areas (Lamb, Dolloff, and Howe, 2002).

Men and women influence their findings through choice of methodology and writing (Shriver, 1987), which means both gender and methodology need to be examined.

Roughly 44% of music teacher educators and music education university research faculty are female. This provides another valid reason to examine the contributions of women to the leading scholarly journals in music education; currently there is no study measuring the percentage of female-authored articles to determine if they mirror that of the faculty and professionals who are utilizing them as tools in the classroom. Furthermore, there is also a lack of research regarding methodology frequencies in music education research in relation to gender. Studying the variables of methodology and gender could provide needed information for the field of music education research.

Purpose and Research Questions

Creswell (2005) identified several reasons to research a problem. He suggests that a research question should be addressed if the study will fill a gap or void in the existing literature, replicate a past study but utilize different participants and research sites, extend past research, give voice to people not heard in society, or inform the practice. This study addresses all five of these areas.

To date, there is a lack of research tracking authorship and methodology trends related to gender across leading music education research journals. This present study supplied information to fill gaps in current research from a different and more extensive angle than previous studies. Journals were examined across a 24-year time span of published articles; this is longer than existing studies in the literature. When discussing time frames in this study, the term 'Early Period' refers to articles published from 1984 to 1991 and the term 'Late Period' refers to articles published from 1992 to 2007. This time division was selected so that patterns could be viewed in two categories: articles published before the establishment of GRIME and those published after GRIME's

formation. In order to accurately assess the level of involvement of women in music education research, multiple top-tier journals were evaluated. The purpose of this study was to evaluate gender-related authorship and research methodology patterns in music education research. The following questions were investigated:

1. What is the frequency that men and women publish in music education research journals from 1984-2007?
2. Is the frequency of research methodologies related to time period of publication?
3. Is research methodology frequency related to gender?

Overview

This first chapter was intended to serve as an introduction to the study and provide information regarding research scholarship and gender issues. The following chapter is a review of literature of related topics, including women-specific issues with publication, authorship studies in fields other than music, and women's contributions to music education research. Methodology is outlined in chapter three. The fourth chapter summarizes results of data collection and the final chapter discusses those findings and demarcates conclusions and implications for music education and research.

Null Hypotheses

1. The frequency of men and women authors of music education research is unrelated to the frequency of men and women music education professors at Research I institutions.
2. The frequency of research methodology and year of publication are unrelated in the sample.

3. The frequency of research methodology and gender of author are unrelated in the sample.

Chapter Two

Review of Related Literature

Introduction

Literature reviewed for this study was collected through computer-aided searches. Utilizing databases in the areas of music, education, gender studies, and psychology revealed multiple journal articles and research documents related to this current study. Databases used include: Contemporary Women's Issues, Digital Dissertations, EBSCO, ERIC, Gender Watch, JSTOR, MLA International Bibliography, Project Muse, Psych Info, and Women's Studies International. The literature reviewed focused on three areas of concentration: (1) women-specific issues in publication, (2) authorship studies in fields other than music, and (3) contributions of women to music education research. Each of those topics was explored.

Women-Specific Issues in Publication

Scholarly productivity remains a vital role for success in higher education (Ransdell, Beske, & Dinger, 2000) and dissemination of papers and articles is considered to be important for career advancement and tenure (NRCCRABS, 2003). With pressure to be recognized as an author in the research field, both men and women work towards scholarly output. Women, however, face hurdles and challenges that their male counterparts do not.

The most evident issue women face in authorship decisions is deciding on a name to use. As Tescione (1998) relays, it was not until 1975 that married women were given a choice on which surname to utilize. Before that point, courts, employers, and other offices would only recognize a woman's married name as her rightful surname. Two

legal battles in the early 1970s provided women with the choice of which surname to adopt. If a woman establishes herself in the academic world and publishes before she marries, she is recognized with her maiden name. If she later marries, however, she must decide between taking a married name and continuing to use her maiden name. Further issues surface if the woman author divorces or becomes a widow. She can revert back to the maiden name, but if she is to marry a subsequent time, her last name can change again. The potential instability of the surname hinders publishing rates of women (Hamp-Lyons, 1997; Jordan, 1997).

A study by Tescione (1998) suggests that women are more likely than men to be listed incorrectly in research databases. In her study, she found that women average five name variations while men only average two. She cites usage of initials versus full name as the reason why men have multiple entry names, while women have maiden name and nickname issues among other complications. Issues regarding name consistency can affect reference counts and visibility for women (Tescione, 1998); cross-referencing names for the calculation of citation rates has a higher error rate for female names.

Gender issues also affect citation rates. Ward, Gast, and Grant (1998) found evidence that citation rates are not gender neutral. Research authors tend to cite more authors of their same gender (Ferber, 1988; Young, 1995) and men are cited more frequently than women (Creamer, 1998). Citations listed with only initials are assumed to be male (Creamer, 1998; Sanders in Tescione, 1998). Women are also more likely to publish in lesser quality (not top-tier, nationally recognized) journals (Enos, 1990), which are not as likely to appear in databases and research libraries. Women publish fewer articles than their male counterparts, 2.8 over a two-year period versus the 3.1 for men

(Creamer, 1998); also they are more likely to be a secondary or subsequent author rather than the primary author and therefore less likely to be cited (Enos, 1990; Toutkoushian, 1994; Creamer 1998).

Another publication rate issue for women in research is the preference for quantitative methodologies in journals. Women are more likely to publish qualitative-based papers while men are more likely to publish quantitative studies (Febbraro, 1998; Ransdell, Beske, & Dinger, 2000). Flinders & Richardson (2002) describe the growth of qualitative research in music education over the past forty years. The current senior music education research faculty members, they explain, were trained at a time when quantitative research was the acceptable mode; they inadvertently pass on the same techniques to their students. Even if qualitative research is becoming more widespread in music education, terminology issues alone hinder publication (Flinders & Richardson, 2002). Moreover, women are more likely to write book reviews, another area that is not as visible for citations or recognition (Ransdell, Beske, & Dinger, 2000) due to the fact that book reviews are not commonly cited in other research articles. Women are far less likely to resubmit an article once it has been turned down by a publication (Kovar & Overdorf, 1995), which also affects the overall female publication rate.

Finally, women face stereotypes and mental hurdles in academic publishing. Those women who are labeled as “successful” are often seen as overly aggressive (Steinherz-Wasserman, 1999). Therefore, women who are self-motivated and resilient are more likely to achieve in the academic field (Ransdell, Beske, & Dinger, 2000). Female mentors can be difficult to find in certain academic fields (Febbraro, 1998; Fels, 2004; Hall, 2007; Lamb, Dolloff, & Howe, 2002; Ransdell, Beske, & Dinger, 2000) but can be

important support structures and role models. Those role models can help women tap into activities that define a productive career, such as off-campus professional organizations; these activities are more exploited by men than by women (Fels, 2004; Ransdell, Beske, & Dinger, 2000). Finally, Shriver (1987) states that a sizeable challenge for women researchers, especially when conducting gender research or research about women, is to be respected as a source.

Authorship Studies in Fields Other Than Music

In 1975, Ferriman wrote that British female academics publish considerably fewer books and articles than their male counterparts in all areas except social science. Since 1975, multiple studies in various fields have been completed with similar results. This literature review section examines American studies in the following fields: political science, physical education, industrial/organizational psychology, movement science, social psychology, surgery, and behavioral/developmental psychology.

Political Science

Breuning & Sanders (2007) examined six years of articles ($N = 1,605$) in eight prestigious political science journals to determine publication patterns of women. Female authorship was found to be roughly 20%, which is lower than the female membership numbers in political science organizations (approximately 32%). Breuning & Sanders note that while both men and women used statistical analysis in their writing, women were far more likely to use case study method than were men. The researchers in the study expressed concern with the differences the authors had in regards to academic rank; although most primary authors (male and female) were employed at research institutions, significantly more men held full-professor or tenure track positions than did the women

authors. Data show that top-tier journals are more likely to publish authors from research universities, where more men hold permanent employment (Bruening & Sanders, 2007), which could lead to men having a higher publishing rate in such journals.

An earlier study by Young (1995) cites similar results. Young looked at fifteen political science journals over twelve years and determined that sole male, and in the case of multiple authors, male-only authorship were most prevalent, but sole female and mixed gender collaborations were growing in commonality; group female articles were scarce. As for publication space, Young states that female-lead articles were given an equal page count to the male-lead articles, and even averaged slightly longer lengths in some journals.

Physical Education

Schuiteman & Knoppers (1987) studied gender differences in scholarly production in the field of physical education. They selected subdivisions within the field that had equal membership numbers of both women and men and examined journal authorship for those two areas. This study analyzed thirteen journals, ten of which had no female editors over the five-year span. Data showed that significantly more men than women held sole, primary, or secondary authorship for their journals (70% were male). Schuiteman & Knoppers also note that while only 30% of the examined articles' authors were female, 58% of the men and 70% of the women in the field never publish a single article.

Industrial/Organizational Psychology

Kenneth deMeuse's 1987 examination of authorship in industrial/organization psychology is quite extensive. His appraisal of 9,042 articles in five journals over a sixty-

four year span concludes that women had the highest percentage in authorship in the 1920s. While women were an integral catalyst for the early growth of industrial/organization psychology, authorship percentage figures declined through the 1960s and slowly regained footing in the 1970s and 1980s (deMeuse, 1987). In this field, women were more visible in the 1920s than they were in the 1980s and deMeuse suggests a general lack of funding for research to be a possible cause (1987).

Movement Science

Ransdell, Beske, & Dinger (2000) examined journal articles in the field of movement science. Their results show that women authored 38% of the articles published in six journals over a five-year span. There were peaks of female authorship when journals ran publications about women's issues (Ransdell, Beske, & Dinger, 2000), but otherwise men were more prolific publishers than their female counterparts. The authors state that the 38% rate is higher than in most of their related science fields, and cite health sciences as being more female-friendly with a 48% female authorship rate.

Surgery

Kurichi, Kelz, & Sonnad (2005) surveyed the status of female authorship in the field of surgery. Randomly selected issues from odd-year journals were reviewed. The two publications covered a span of time between 1985 and 2003. This study suggests that the percentage of female authorship has increased over time, and at a rate consistent with the number of females serving on a surgical faculty (Kurichi, Kelz, & Sonnad, 2005). A review of the credentials of the authors reveals that more females than males were non-physicians. While the percentage continues to rise, the female authorship rate in surgery is low when compared to other medical specialties (Kurichi, Kelz, & Sonnad, 2005).

Social Psychology

Febbraro (1998) selected University of Michigan graduates with terminal degrees in social psychology ($N = 106$); there were an equal number of men and women in this study. First-authored articles written by this group ($N = 564$) were analyzed to determine similarities. Men were more likely to produce quantitative work, which Febbraro (1998) proffered as a major factor in the publishing rate differences between the male and female groups. Women, on the other hand, were more likely than men to write about gender issues and feminist perspective, both of which have been afforded little journal space (Febbraro, 1998). Both men and women had high productivity rates, most likely due to their affiliation with Michigan's department (Febbraro, 1998).

Behavioral and Developmental Psychology

A study by Frolich (2007) suggests that in the field of behavioral and developmental psychology, female authorship is rising. Four journals were examined, encompassing the years 1982 through 2004. Three of the four journals demonstrated a steady increase in the number of women authors as well as the number of women serving on editorial boards (Frolich, 2007). By the year 2000, two of the journals had more female than male primary authors but men still held more editorial positions for all four journals (Frolich, 2007).

Contributions of Women to Music Education Research

While studies show that women in certain fields do not publish as frequently in top-ranked journals, there has not been an extensive report on the research contributions women have made to the music education field. It would be appropriate, therefore, to examine first what constitutes a top-ranked journal. Hamman & Lucas (1998) base

journal prominence on citation totals. After selecting six nationally distributed music education research publications, Hamann & Lucas tallied article citations and discovered that three journals housed over 80% of the citations. These three journals, *Journal of Research in Music Education*, *Bulletin of the Council for Research in Music Education*, and *Psychology of Music* were determined to be ‘top tier’ publications (1998).

The *Journal of Research in Music Education* is the most prominent music education research journal (Hamann & Lucas, 1998); Yarbrough (1996) analyzed article content of the *JRME* from 1984-1995 and determined that 78% of the articles published during that time were quantitative in nature. Furthermore, 20 senior researchers submitted three or more non-duplicative articles for *JRME* publication and only one of those authors submitted non-quantitative research (Yarbrough, 1996). The sole author of the top-20 list who did not submit strictly quantitative studies did contribute three historical articles.

Humphreys, Bess, & Bergee (1996) studied productivity in historical music education research and they note that starting in the 1950s, female authorship for historical research increased with each subsequent decade, but never at a significant rate. The highest percentage for female authorship in the area of historical dissertations was in the 1980s (Humphreys, Bess, & Bergee, 1996), minus the instance in the 1920s when there was only one historical dissertation published and it was written by a woman (100%). The study concludes that women have penned 21% of all historical music education dissertations.

Women’s research presentations at the bi-annual Music Educators National Conference meetings also peaked in the 1980s (Hedden, 1992). While only 22% of the

presenters at the 1970 conference were female 51.7% of the presenters at the 1980 conference were women. The 1980 conference was the only time there were more female presenters than male presenters, but there was an even balance in 1984 (Hedden, 1992). Between 1970 and 1990, a female served as the organizing chairperson for research only twice (Hedden, 1993). Upon further examination of MENC presenters, Hedden (1992) listed the 26 authors who have presented more than five times between 1970 and 1990; that list contains eight women (30%).

Hedden (1993) further examines gender in *JRME* publications. He specifically analyzes volumes 27-38 and finds that women authored 36% of those articles (Hedden, 1993). Women authored more articles than men in three of the twelve volumes (31 & 32 with 57%, 38 with 55%). In those twelve volumes, 21 authors had three or more articles published and six of those were women (28%). Similarly, there were eighteen researchers listed as senior author more than three times, and five were women (27%). However, there were six people included on the list of researchers listed as sole author for more than three articles, and only one was a woman (16%).

Humphreys & Stauffer (2000) reviewed the characteristics of *JRME* Editorial Board members from 1953-1992. Looking at gender, only 14% of the members of the board have been female (Humphreys & Stauffer, 2000). During 1983-1992, the last decade included in their research, women had the highest percent of board membership (28%), which is more aligned with female participation figures found in Hedden's 1992 and 1993 studies. Still, Humphreys and Stauffer point out that women appointed to the board in the third decade of their research study had published more than twice as many

JRME articles as their male counterparts; this suggests that women had to publish more than men to gain the same recognition (2000).

Sample (1992) investigated the most frequently cited music education studies from 1963-1989. His research yielded 27 articles that were cited ten or more times; women authored 5 of these articles (18%). Schmidt & Zdzinski (1993) structured a similar study in which they examined citations of quantitative studies across six journals from 1975-1990. Their results reported 26 of the most-cited articles, 5 of which had female authorship (19%). Brittin & Standley (1997) also commented on scholarly productivity. Using three prominent journals (*JRME*, *Bulletin of the Council for Research in Music Education*, and *the Journal of Music Therapy*), they determined the 25 most published authors from 1953-1992; the list included 6 women (24%). Utilizing the same three journals, they calculated the 25 most cited authors and six were women (24%), but only three women overlapped both short lists.

Grashel (1998) summarized gender issues in music education publication rates by stating that women have always been regular contributors to *JRME*, but not to the extent of their male counterparts. His study shows that from 1953-1994, women have authored 30% of the articles in the publication and like the journal itself, most of those articles (87%) employed quantitative methods (Grashel, 1998). In the time period studied, women only met or exceeded the 50% mark in seven different years.

Research has documented the issues women face in academic publishing. Studies have furthered the idea that women, on the whole, publish less than men. In the field of music education women hold 45.77% of the terminal degrees awarded since 1983, but research to date shows that women publish far less than 45.77% of the articles studied

(Hedden, 1992; Hedden, 1993; Grashel, 1998). The current study is needed so that the field can assess the contributions of women across multiple journals over an extended time period and broaden the findings of other research studies.

Chapter Three

Methodology

Restatement of Purpose

The previous chapters addressed scholarly authorship and the productivity rates of women in various fields. Because the contributions of women to music education research have not been examined across multiple journals, a study assessing more than one publication is needed. An examination of multiple journals over a substantial time span is more likely to yield an accurate impression of the rate of female authorship and whether it has changed over time. The purpose of the present study was to evaluate authorship patterns with regards to gender and methodology in music education research.

Sample

Seven journals were selected for analysis in the current study. Those journals were:

- *Journal of Research in Music Education (JRME)*
- *Bulletin of the Council for Research in Music Education (Bulletin)*
- *Psychology of Music (Psych)*
- *Contributions to Music Education (ConME)*
- *Journal of Band Research (Band)*
- *Music Perception (MP)*
- *The Missouri Journal of Research in Music Education (Missouri)*

To be considered, journals had to meet certain qualifications, including the following:

1. Appears on Hamann & Lucas' (1998) list of eminent publications
2. Has been in publication since 1984

3. Must have accessible past issues for at least 90% of the articles in the sample, either in the University of Maryland library system, the Library of Congress, through online databases, or on the publisher's website.

In these seven journals, articles in volumes from 1984 to 2007 were analyzed.

Elements of Analysis

Authorship

The gender of the authors for each article was determined by examining the first name of the author. If initials or a unisex name was used, computer searches and databases were employed to determine gender of the author. The author(s) of each article was tallied individually; therefore, an author publishing several articles over time appeared in the sample accordingly. Individual authors (e.g., Stephen J. Paul) appeared in the sample multiple times.

Methodology

In this study, methodology type was divided into four categories: quantitative, qualitative, mixed, and other. These divisions were utilized so that the data collected could be categorized broadly. Quantitative methods included research that was statistical in nature and included experimental and descriptive research. Qualitative research involved case studies and other narrative-based methodologies. Mixed methodology blended elements of qualitative, quantitative, and other methodologies together. Other research involved, but was not limited to literature reviews, music analysis, and historical or philosophical research. Creswell (2005) defines three of these methodologies in the following way:

1. Quantitative research is an inquiry approach useful for describing trends and explaining the relationships among variables.
2. Qualitative research is an inquiry approach useful for understanding a central phenomenon.
3. Mixed methodology designs are procedures for collecting both quantitative and qualitative data in a single study.

Articles not meeting the approaches listed above were categorized as “other” for the purposes of the present study.

The primary methodology for each article was tallied.

Time Periods

The present study research encapsulated articles published from 1984 to 2007. Selecting articles in this time period permitted the study to include the seven journals that had been established by 1984 and had continuous publication through 2007. It also allowed for a comparison of female publishing rates before and after the establishment of GRIME (1991). Originally, the study was designed to cover 25 years of research (1983-2007). However, setting the time span to start one year later (1984) allowed for the inclusion of additional journals such as *Music Perception* and *The British Journal of Music Education*. The second journal, however, was not used because of accessibility issues.

Design

This study was an analysis of the articles contained in several journals. The gender of each article’s authors, the primary methodology, and the year published were

tabulated. The collected data were used to determine the patterns, if any, related to gender authorship and the frequency of methodologies.

Procedures

All research articles ($N = 2213$) published in the seven journals over the 24-year span were examined. Articles were analyzed to determine the methodologies used and the gender of each author. Articles were categorized into one of the following methodologies: quantitative, qualitative, mixed, or other. Book reviews, dissertation critiques, essays, and other non-research based articles were not counted in the sample. In respect to author gender, traditionally male names were considered to be men and traditionally female names were determined to be women. Unisex first names, foreign names, and initials were researched in databases to determine full name and gender. These names were entered into search engines in order to gather more biographical data, such as full name, middle name, spouse name, or photograph to determine gender.

Analysis

A chi-square analysis was used to determine if women and men published at the expected frequency when compared to the observed frequency. Women were expected to publish as 44% of authors in the sample, men 56%.

Comparisons were made between the number of authors using each methodology (quantitative, qualitative, mixed, and other) in regards to both gender (male or female) and era. The *Early Period*, represented authors who published from 1984 to 1991 while the *Late Period* involved authors published from 1992 to 2007. These two periods were used in order to determine if there were changes in authorship gender or methodology after the establishment of Gender Research In Music Education (GRIME) in 1991.

Time Table

The data collection for this study began in February 2008 and continued through March 2008. Journals were analyzed in order of prominence according to Hamann & Lucas (1998) except when journals were not immediately available due to the inaccessibility. In those instances, the next journal on the list was analyzed. Interlibrary Loan wait times ranged from 8 to 12 days. As the journals were analyzed, data were recorded on Excel spreadsheets. Once all available articles were examined, data were processed using SPSS software. By April 2008, all gathered data were formatted for the final report.

Summary

Twenty-four years of music education research was reviewed to determine patterns in authorship and methodology. Data were analyzed to determine the publication ratio between male and female music education researchers in seven major professional journals. Types and frequency of methodology were also tabulated.

Chapter 4

Results and Data Analysis

The purpose of the present study was to examine relationships between authorship gender and methodology among 24 years of seven music education research journals. The data were analyzed using SPSS Standard Version 15.0 software. Chi-square tests were used to determine relationships between gender, research methodology type, and time period. An alpha level of .05 was set for each test.

Authorship Gender

A chi-square test was used to determine the observed and expected numbers of both male and female authors across the sample ($N = 3503$). The gender variables were weighted to account for the ratio of men and women holding music education department teaching positions in Research I institutions. Therefore, men were expected to contribute 1961.7 authors (56%) and women were expected to contribute 1541.3 authors (44%). The chi square test was applied to author gender and was found to be statistically significant, $X^2(1, N=3503) = 48.56, p < .01$. The expected and observed frequencies are shown in Table 1.

Table 1

Frequencies of Male and Female Authors

	Expected N	Observed N	Residual
Men	1961.7	2166	204.3
Women	1541.3	1337	-204.3
Total	3503	3503	
Chi-Square			48.561
df			1
Asymp. Sig.			.000

Methodology

Table 2 shows the frequency of authors' methodology type (qualitative, quantitative, mixed, or other) in relation to gender (male or female). Overall, quantitative research was the most prolific methodology with 78.93% of authors publishing in that medium. It was the most frequent methodology for both men (79.73%) and women (77.64%). The next most common methodology for men was other (13.02%), while the second most commonly used methodology for women was qualitative (10.55%). Men did participate in qualitative as their third most frequent methodology (4.25%) and women used other as their third-ranked methodology (7.40%). Both genders used mixed methodology least frequent (3.00% men and 4.41% women).

Table 2

Time Period, Methodology, and Gender Crosstabulation of Journal Authorship

Gender	Time Period	Methodology				Total
		Quantitative	Other	Qualitative	Mixed	
Female	Early ^a	251	27	14	5	297
	Late ^b	787	72	127	54	1040
	Total	1038	99	141	59	1337
Male	Early ^a	501	126	23	11	661
	Late ^b	1226	156	69	54	1505
	Total	1727	282	92	65	2166

^a = 1984-1991, ^b = 1992-2007

Authorship Gender and Methodology Over Time

The crosstabulation figure in Table 2 also further delineates author counts by time period. The Early Period accounted for 8 of the 24 years of data collected for the sample (33.33%). During this time, 661 men published articles, which account for 30.52% of the total male authors in the entire sample. Furthermore, the 661 male authors represent 69.00% of the total authors in the Early Period. Women published 297 articles during the Early Period. This figure is 22.21% of the total number of women authors in the entire sample and 31.00% of the authors published in the Early Period.

The Late Period encompassed the last 16 years of the sample (66.67%), 1992-2007. In this time period, 1505 authors were male. This figure represents 69.48% of the total male authors across the sample and 59.14% of the authors in the Late Period. In this period, women published 1040 articles. These authors comprise 77.79% of the total women authors in the sample and 40.86% of authors published in the Late Period.

The frequency of methodology within each gender and within each time period is shown in Table 2. Quantitative research was the most frequently utilized methodology across the sample (78.89%). In the Early Period, 752 authors published quantitative work, accounting for 78.50% of the authors in that 8-year period. Men accounted for 501 of the authors (66.62%) and women accounted for 251 of the authors (33.38%). In the Late Period, 2013 authors published quantitative work, representing 79.10% of the authors in that sample. Of the 2013 authors, 1226 were male (60.90%) and 787 were female (39.10%). While the percentage of quantitative research remained high between the two time periods, female authors contributed a greater percentage of quantitative research during the Late Period.

The second most frequent methodology used overall is in the “other” category. This category encapsulated research that is not based in quantitative or qualitative methods, including but not limited to literature reviews, historical research, and musical analyses. A total of 381 authors (10.87%) penned this type of research. In the Early Period, 153 authors published in this category, which represents 15.97% of that sample. Of the 153 authors, 126 were men (82.35%) and 27 were women (17.65%). In the Late Period, the percentages of male and female authors significantly changed; of the 228 authors in that category, 156 were male (68.42%) and 72 were female (31.58%). Overall in this other category, men published 282 of the 381 articles in the complete sample (74.02%) and women contributed 99 articles (25.98%).

Qualitative research authors represented 233 cases in the entire sample (6.65%). In the Early Period, there were 37 qualitative authors (3.86%). Among the 37 authors, 23 were male (62.16%) and 14 were female (37.84%). Those percentages significantly changed in the Late Period. The 196 authors who published Late Period qualitative articles represented 7.70% of the sample. Sixty-nine authors were male (35.20%) and 127 (64.80%) were female. Late qualitative research authors was the only area in which there were more female authors than male authors. Examining data for qualitative authors over all 24 years, there were 233 authors; 92 of the qualitative authors were male (39.48%) and 141 were female (60.52%). Qualitative research was the only methodology type in which women appeared more frequently as authors than men.

The least frequently used methodology used was mixed methodology. A total of 124 (3.54%) authors published mixed method studies in this sample. In the Early Period, 16 authors (1.67%) published mixed method research. Of these authors, 11 were male

(68.75%) and 5 were female (31.25%). In the Late Period 108 authors published mixed method research, accounting for 4.24% of authors for those 16 years. In the Late Period, 54 of the authors were male (50.00%) and 54 were female (50.00%). Other than Late Period qualitative methodology type, this was the only other period in which female authorship exceeded the expected 44%.

Summary of Results

Overall, women authors accounted for 38.17% of the published authors. While this was lower than the expected 44%, the number of women authors significantly increased between the Early and Late Periods (from 31.00% to 40.86%). The higher percentage of female qualitative authors in the Late Period appeared to contribute most to this change.

Null Hypotheses

Null Hypothesis 1

The frequency of men and women authors of music education research is unrelated to the frequency of men and women music education professors at Research I institutions. This hypothesis was retained. The frequency of women publishing articles was 38% while the frequency of women holding professor positions was 44%.

Null Hypothesis 2

The frequency of research methodology and year of publication are unrelated in the sample. This hypothesis was rejected. The frequency of methodology was found to be related to year of publication.

Null Hypothesis 3

The frequency of research methodology and year of publication are unrelated in the sample. This hypothesis was rejected. The frequency of methodology was found to be related to gender.

Additional Tables of Interest

During the compilation of information for this study, data emerged that was of interest to the author and of potential interest to the audience. Such data have been presented in tabular form.

The percentage of qualitative research presented in the seven journals in the data sample is reported in Table 3. The total number of articles published in each of the journals was divided by the number of qualitative articles published in the sample.

Table 3

Percentage of Qualitative Research in Eminent Journals, 1984-2007

Journal	Total Articles	Qualitative Articles	%
<i>The Bulletin</i>	1514	109	7.20
<i>Psychology of Music</i>	1131	46	4.07
<i>Contributions to Music Education</i>	487	18	3.70
<i>Journal of Research in Music Education</i>	1766	32	1.81
<i>Missouri JRME</i>	199	3	1.50
<i>Music Perception</i>	1685	22	1.30
<i>Journal of Band Research</i>	879	3	0.33

Table 4 outlines the frequency of collaboration patterns by research article. The type of collaboration in each article was tallied and categorized into one of the following

categories: sole male author, sole female author, both men and women authors, multiple male authors, and multiple female authors. Sole authorship accounted for 62.00% of the articles in the sample, both gender collaboration occurred in 19.27% of the sample and single-gender group authorship represented 18.73% of the articles in the sample.

Table 4

Frequency of Articles Per Authorship Collaboration Type

Collaboration Type	Number of Articles	Percentage
Sole Male	845	38.22
Sole Female	526	23.78
Both Women & Men	426	19.27
Multiple Men	294	13.30
Multiple Women	120	5.43
Total Articles:	2211	

Collaboration patterns in relation to frequency of author gender are presented in Table 5. The number of authors participating in each type of collaboration was tallied. As shown in Table 5, the greatest percentage of authors was participating in both gender collaborations (32.07%). Sole male and multiple male collaboration pattern authors were more frequent than sole female and multiple female collaboration authors. Patterns involving only men represent 44.94% of the authors in the sample; patterns involving only women account for 22.96% of the authors.

Table 5

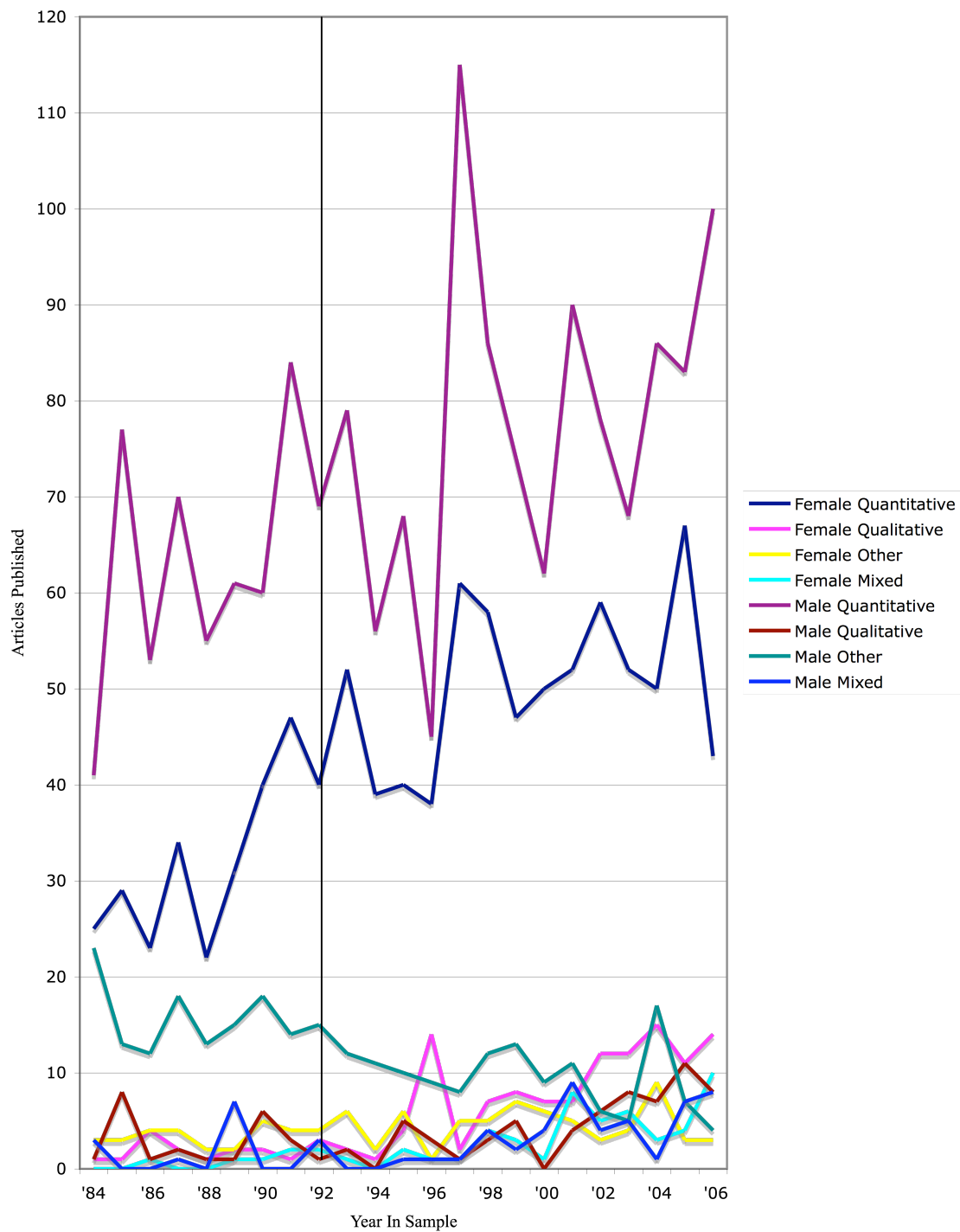
Frequency of Author Gender Per Authorship Collaboration Type

Collaboration Type	<i>N</i>	Percentage
Both Women & Men	1122 ^a	32.07
Multiple Men	730	20.83
Multiple Women	279	7.96
<i>Total Collaborative</i>	<i>2131</i>	<i>60.83</i>
Total Authors:	3503	

^aOf the 1124 authors, 577 were male (51.42%) and 545 were female (48.58%).

Figure 1 depicts the number of articles published by methodology type and gender. Male quantitative articles were always the most frequent article type over the course of the sample. Female quantitative were next most frequent. The other of types of articles have maintained low publication counts in comparison. There is a vertical line in the graph that represents the division between the Early Period and Late Period.

Figure 1

Frequency of Journal Article by Methodology and Gender

Chapter Five

Discussion of Results and Conclusions

Introduction

The purpose of this study was to evaluate authorship and methodology patterns in music education research published in top-tier journals from 1984-2007. Results from this study suggest that more men than women publish articles and that quantitative research is the most frequently used methodology. The remainder of this chapter will examine these findings. First there will be a discussion regarding possible reasons for differences in authorship between the genders; this will be followed by a discussion about methodology choices in music education research. The next portion of the chapter will demarcate implications for music education. Finally, connections to past research will be highlighted and suggestions for future research will be presented.

Discussion on Authorship Gender

The current study found that men are more frequent publishers than women. Across the data sample, there were more male authors than female authors and not as many observed female authors as expected. These results align with studies in other academic fields (Breuning & Sanders, 2007; Creamer, 1998; deMeuse, 1987; Frolich, 2007; Kurichi, Kelz, & Sonnad, 2005; Ransdell, Beske, & Dinger, 2000; Schuiteman & Knoppers, 1987; Young, 1995). Men have been found to be more prolific authors in their fields, regardless of the ratio of men to women within the professional groups for that specific field. These publishing discrepancies may be the result of personal and professional obstacles.

The low observed frequency of female authors in this study may be attributed to several factors as identified in further research. In current literature, familial obligations has been cited as a main deterrent for research activity among women (Fels, 2004; Ransdell, Dinger, Cooke, & Beske, 2001). Women, traditionally, have more responsibility in the home in regards to childcare and other duties (Carr, Ash, Friedman, Scaramucci, Barnett, Szalacha, Palepu, & Moskowitz, 1998). These home and family commitments frequently take precedence over research obligations and may cause women to put projects on hold for extended periods of time. These familial responsibilities could contribute to the results of the current study.

A second reason that women are publishing less than men may be due to a lack of both collaboration and mentoring opportunities. In this study, each author's gender was tallied; several articles had multiple authors and therefore multiple entries in the data set. An article with five authors was counted five times, once per each author. Articles with single-gender collaboration were common, and more common with men. Young (1995) found that men and women both publish as single authors and that while collaboration between genders is common, collaboration among females is less so. Men are more likely to publish with other men, but women are less likely to publish with other women (Young, 1995). The collaboration pattern of male authors allows for more combinations than female author patterns, which may affect the high male author frequency count in the current study.

Tables 4 and 5 delineate the number of articles and authors that could be categorized into the following collaboration patterns: sole male author, sole female author, multiple male authors, multiple female others, and both gender authorship. The

percentage of articles written by men only, sole or in groups, is significantly higher than that of women. Both groups are likely to collaborate with members of the opposite gender, but females are less likely to co-author a study with another woman. Group female projects are the least frequent collaboration across the sample.

The current study also finds that the frequency of women authors publishing music education research is increasing, as is the number of women receiving doctoral degrees in the field (NASM, 2007). In the past 16 years (1992-2007), 48.56% of the doctoral degrees in music education were presented to women; this is an increase from the 8 years before in which only 39.24% were awarded to women. The observed number of women is rising to meet the expected amount of women authors, which implies that women are publishing music education research at an increasing rate. This increase in publication frequency could possibly be attributed to an increase in degrees awarded, but also may be due to the establishment of organizations which support and further the advancement of women's research endeavors or research areas that are considered more "feminine" like gender research.

Gender differences in music education research authorship do exist, although in lesser proportions than found in other fields. Women continue to contribute to music education research through the completion of doctoral degrees and attainment of faculty positions; each of these two roles usually involve at least one research publication, one being a dissertation and one being an article publication for tenure requirements. As more women further themselves in the field of music education research, their continued work as authors/researchers is integral, as these women will become mentors for the next generation of music education researchers.

Discussion on Author Choice of Methodology

The data in this study suggest that music education research journals publish quantitative research more than any other methodology combined (78.93%). The remainder of the research consisted of qualitative research, mixed methodology studies, and research categorized as “other;” research in the “other” category was mostly historical research, philosophical research, and literature reviews. The amount of quantitative research in these journals may suggest a preference of editorial boards to publish articles using this type of methodology. If this methodology is favored by journal boards, authors vying for publication citations may opt to structure their research around quantitative methods in order to increase their chance of selection into a journal. This possible favoritism towards quantitative research could prove to be more detrimental for women than men, as women are more likely than men to use qualitative and mixed methodology research techniques (Febbraro, 1998).

The frequency of women’s use of qualitative methodologies outnumbers men’s use in this study as well as in similar studies in other fields (Febbraro, 1998; Ransdell, Beske, & Dinger, 2000). In the current study, the percentage of women using qualitative and mixed methodologies research increased from 6.40% to 17.40%, suggesting a greater percentage of women are utilizing these techniques in the Late Period than in the Early Period. However, the amount of quantitative research published in the sample still remained high across the periods: 78.50% in the Early Period and 79.10% in the Late Period. If the number of authors using qualitative methods continues to increase, methods of accommodating the publication of new research should be examined. Two options could be that either top-tier journals could integrate more non-quantitative research.

Another is that new outlets for this type of qualitative and mixed method research could be developed. It would be most beneficial if current journals provided additional space especially geared towards qualitative and other non-quantitative methods; this would bring these methodologies and ideas to a broader spectrum of researchers. For instance, the *Bulletin* has published special issues highlighting papers from qualitative research proceedings. Presenting more non-quantitative research in top-tier journals could contribute to a better understanding and broader acceptance of its methodologies.

Women are more likely than men to produce qualitative and mixed methodology research; this may create an additional challenge when attempting to publish that type of research. As Flinders and Richardson (2002) explain, while the field of education is utilizing more qualitative techniques, music education is not following suit. They pose a hypothesis as to why music education research continues to favor and perpetuate the quantitative method:

The current generation of senior faculty who train music education researchers were themselves trained during the heyday of positivism and may have never expanded their own research expertise beyond its confines nor have any reason or interest in doing so. It is no surprise, then, that the language used in major refereed research publications in music education still bears the trappings of the positivist paradigm exclusively... (p.1168)

The present study found that qualitative research authors continue to publish an increasing number of articles, but it is not as frequent a methodology as quantitative research and will most likely be afforded less journal space. Since quantitative research is most prevalent in journals, and has been over time, it is unlikely that editorial boards will suddenly publish lesser quantities of this methodology. Knowing this, both male and female researchers will need to evaluate how to approach article submission; if publication is imperative, an editorial board may more readily accept quantitative-based

research. While the quality of the research should be the most important focus for the author, the choice of methodology and which journal to submit to should also be considered. Table 3 outlines, per journal, what percentage of published research has been qualitative-based.

Implications for Music Education

Music education researchers share ideas that can contribute to the knowledge base of the field. For researchers at the beginning of their careers, the desire to publish and contribute to the canon or the need to be published for tenure purposes may drive their research agenda. Currently, as this study suggests, a majority of published research is based in quantitative methodologies. Noticing this trend may lead the novice researcher to pursue quantitative studies. Music education, then, may continue to see quantitative research as the main focus of research journals or as more researchers learn about the increased use of qualitative and other methodologies, perhaps new researchers will venture outside of the quantitative sphere. With more exposure to multiple methodologies, music education researchers may opt to consider the types of questions that are best addressed through qualitative research. Additionally, the field could be advanced through philosophical and historical research methods, along with other methodologies.

Although women are not publishing as frequently as men, their contributions to music education research are notable. As Grashel (1998) surmises, women have a long and productive history in music education research, but never to the same level as the men in the field. As the number of women receiving doctoral degrees in music education increases, the amount of female research authors also increases. Areas of music education

that have been viewed as predominately female, like gender studies (Lamb, Dolloff, & Howe, 2000), may be further explored and expanded through research. With this continuous increase in the number of women becoming active researchers, music education may be impacted through the choice of methodologies and topics appearing in journals.

Relation to Past Research

Other studies in music education research have suggested incongruence between the contributions of men and women to the field. Hedden (1992, 1993) determined that women's contributions to MENC national conferences and *JRME* are not equal to the output of men in the field. Female members of the *JRME* editorial board from 1953 to 1992 were infrequent; Humphreys & Stauffer found that only 14% of the members during that span were female. Other studies by Sample (1992), Schmidt & Zdzinski (1993), and Britten & Standley (1997) examined frequencies of citations and author eminence; their studies each concluded that men are more prominent in the research publications for music education. Results of the current study align with previous findings: male authors are more frequently published than female authors.

Previous research offers that quantitative studies are prominent in music education research (Yarbrough, 1996). Examining *JRME* article content from 1984 to 1995, Yarbrough determined that 78% of the articles published in that time frame were quantitative in nature. This figure is similar to the 78.89% found in this sample analyzing articles from 1984-2007. The current study indicates that Yarbrough's analysis of *JRME* may be parallel to other music education research journals. Humphreys, Bess, & Bergee (1996) examined historical music education research by analyzing dissertations. To

predict future research trends, different types of publications, such as dissertations, should also be studied.

Suggestions for Future Research

Based on this current study and on previous research, there are still questions that should be addressed. The following ideas are submissions for future music education research.

1. In this study, there was a significant focus on qualitative and quantitative methodologies. The research articles in the “other” category should be analyzed further as to determine the frequency of research published in specific categories (historical, philosophical, literature reviews, etc.) and the frequency of men and women authors within those categories. This information can provide a more complete picture of music education research landscape.
2. The examination of localized journals (state publications) and of professional non-research journals (e.g., *Teaching Music*) can also be completed. The results of such studies may suggest where more female authors are publishing research-based work that might not be limited to a strictly academic audience.
3. A similar study examining doctoral dissertations may provide more information regarding trends in authorship and methodology. Comparing data from that study with the current study could forecast trends for the upcoming years, as those doctoral degree graduates will then enter the research field.
4. Determining the most prolific female music education research authors could provide the field with necessary data. As discussed, women role models are needed for female graduate students and young researchers. Being able to articulate who these

frequent publishers are, what type of research they complete, and how much they publish can serve as an example for those authors with little female influence in their own school or department.

5. Qualitative data regarding female music education researchers may help determine the influence of other factors on research publication. Interviews, case studies, and narrative inquiry could provide new information about the motives, struggles, and feelings women researchers encounter in their career. The data could clarify the motives behind both frequent and infrequent publications by authors.

6. The author would like to proffer the following advice for novice researchers: run a sample of gathered data early in the data collection phase. Especially if unfamiliar with SPSS or statistics programs, it would be beneficial for a researcher to create a trial run of data. This way, if data are being tabulated or collected incorrectly, collection methods may be altered.

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