The Relationship between Collegiate Band Members' Preferences of Teacher Interpersonal Behavior and Perceived Self-Efficacy

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Abstract

The purposes of this study were to describe collegiate band members' preferred teacher interpersonal behaviors and perceptions of self-efficacy based on the gender, year in college, instrument, and major and to measure the relationship between preferences of interpersonal teacher behavior and self-efficacy scores. The sample (N = 1,020) was composed of band members at 12 universities from different regions of the United States. Participants completed the Teacher Interaction Preference Questionnaire (TIPQ) and the Self-Efficacy Questionnaire (SEQ). Descriptive statistics were calculated for each of the questionnaires. Results for the TIPQ showed that all sub-groups most preferred the dominant-cooperative behaviors, followed by submissive-cooperative behaviors, and least preferred the dominant-oppositional behaviors. Results for the SEQ showed subtle variations for all subgroups. Three Pearson product-moment correlation coefficients were calculated to measure the relationship between the three teacher interaction styles and students' perceived self-efficacy. Implications are discussed.

Introduction

During the early 1980s, researchers at Utrecht University in the Netherlands were studying beginning teachers in an effort to improve the teacher education program. A line of research was developed in which teaching was analyzed from an interpersonal perspective that examined the teacher-student relationship (Wubbels & Brekelmans, 2005). Teacher interpersonal behavior was described as actions by the teacher that create and maintain a positive, warm classroom atmosphere, conducive to learning. The primary focus of the research centered on the relationship between the teacher and students, which has been considered to be one of the most important dimensions of class climate (Moos, 1979).

Using the systems theory of communication as a theoretical framework, Wubbels, Creton, and Hooymayers (1985) developed a model to map teacher interpersonal behavior. This model was called the Model for Interpersonal Teacher Behavior (MITB) and was based on Leary's research on the interpersonal diagnosis of personality (1957). The MITB has been used extensively in teacher interpersonal behavior research. It was designed to measure the manner in which the teacher and students interact. The researchers made a distinction between the study of interpersonal behavior and teacher personality. In their

theory, personality tends to refer to stable, unchangeable traits. Behaviors, however, can be learned and altered as well as influenced by relationships and interactions with others.

The first studies measured teachers' and secondary students' perceptions of interpersonal teacher behavior and created profiles based on the MITB (Brekelmans, 1989; Creton & Wubbles, 1984; Wubbels & Levy, 1991). The studies were conducted in The Netherlands, Australia, and the United States with large samples and found that the teachers and students perceived the teachers as high on leadership, helpful/friendly, and understanding behavior and low on uncertainty, dissatisfaction, and admonishment. Studies comparing teachers' and students' perceptions of teacher interpersonal behavior using the *Questionnaire on Teacher Interaction* (QTI) have found consistent results to previous research.

Teacher interpersonal behavior has been studied in many contexts. Teacher and student perceptions of actual and ideal teacher interpersonal behaviors have also been measured and compared (Kyriakides & Muijs, 2005; Levy, Creton, & Wubbels, 1993). Researchers have also studied the relationship of teacher interpersonal behavior to student achievement (den Brok, Brekelmans, & Wubbels, 2004; Kalu & Ali, 2004). Significant differences were found between male and female students' perceptions and preferences of teacher interpersonal behavior (den Brok, Brekelmans, & Wubbels, 2004; den Brok, Levy, Brekelmans, & Wubbles, 2005). Van Oord and den Brok (2004) found that male students prefer different teacher behavior than females, with the males preferring more strictness, dissatisfaction and admonishing behavior. A limited number of studies have been conducted in higher education settings as well as in primary and secondary schools (Hunter, 2004; Smith, 1997). Smith (1997) altered the original QTI to create the *Professor Interpersonal Teaching Behavior Instrument* (PITBI) in order to study college students' perceptions of actual and ideal teacher interpersonal behavior.

Research studies have found differences in the teacher interpersonal behavior of teachers from different academic areas. These studies involving have been conducted in many academic areas including science (Kim, Fisher, & Fraser, 2000; Rickards & Fisher, 1998), biology, chemistry, physics (Kalu & Ali, 2004), English as a second language (den, Brok, et. al, 2004; den Brok et al., 2005), mathematics (Goh & Fraser, 1998), teacher education (Lourdusamy & Khine, 2001), and music (Hunter, 2004). The research has found that social studies teachers were perceived as the least dominant and foreign language and mathematics teachers were perceived as the most dominant (Levy, et al., 1993). In addition, foreign language teachers (Levy, et al., 1993) and music teachers (Hunter, 2004) tended to be perceived as the most strict and the lowest on the student responsibility/freedom domain.

Personality traits of music teachers have been studied to determine common trends (Teachout, 2001; Teachout & Hamann, 1997). Studies have shown that students perceive that teachers generally tend to be cooperative, conscientious, gregarious, self-disciplined, trusting, and gentle (Hendel, 1995). Teacher personality traits have been shown to positively influence student motivation as well as achievement and musicianship. Research has shown also that teachers of high achieving music students tend to be rated as warm, friendly, relaxed and encouraging (Davidson, Moore, Sloboda, & Howe, 1998; Hendel, 1995).

High levels of music teacher intensity have also been found to influence positive perceptions of teacher effectiveness (Byo, 1990; Cassidy, 1990; Madsen, 2003; Madsen & Geringer, 1989; Madsen, Standley, & Cassidy, 1989). Hamann, Mills, Bell, Daugherty, and Koozer (1990) studied high school band and choir students' perceptions and found student achievement to be strongly related to teacher involvement, support, order and organization, and rule clarity. Student achievement in music ensembles has also been shown to be positively affected by teacher behaviors such as maintaining eye contact and

use of facial expression and moving throughout the ensemble while rehearsing (Hendel, 1995). In addition, studies of high school band, orchestra, and choir rehearsals have found that teacher behavior can also strongly affect students' attention and on-task behavior (Yarbrough & Madsen, 1998; Yarbrough & Price, 1981).

Research on interpersonal teacher behavior in music is limited. Hunter (2004) examined ensemble members' perceptions of student conductors' teacher interpersonal behaviors, teaching effectiveness, and conducting/rehearsal techniques. On the QTI, 11 conductors were identified as helpful/friendly, 11 conductors were identified as understanding, and 8 conductors were identified as strict. Conductors in the strict category had the highest overall mean score for teaching effectiveness and helpful/friendly conductors had the lowest overall mean score.

According to Wigfield and Harold (1992), "it is not just what the teachers do but how students view teachers' behaviour that relate both to students' own sense of efficacy and their school performance" (p. 98). Self-efficacy is the set of beliefs a person holds regarding his or her own capabilities to produce desired outcomes and influence events that affect his or her life (Bandura, 1986). Bandura (1997) believed that individuals create and develop self-perceptions of capability that become instrumental to the goals they pursue and to the control they are able to exercise over their environments. These beliefs can affect how people think and behave, the choices they make, goals they set and courses of action they pursue.

Strong self-efficacy beliefs may also enhance personal accomplishment and well-being. People with high self-efficacy tend to approach difficult tasks as challenges to be mastered rather than as dangers to be avoided, tend to have greater intrinsic interest in activities, tend to set challenging goals and maintain a strong commitment to them, tend to heighten their efforts in the face of failure, tend to recover their confidence after failures or setbacks, and tend to attribute failure to insufficient effort or deficient knowledge and skills which they believe they are capable of acquiring. Conversely, people with low self-efficacy may believe that things are tougher than they really are—a belief that fosters stress, depression, and a narrow vision of how best to solve a problem. As a result of these influences, self-efficacy beliefs can be strong determinants and predictors of the level of accomplishment that individuals attain (Bandura, 1986, 1997). General efficacy has been studied and found to be an important variable in education.

According to Bandura (1986), self-efficacy can have a significant impact on students' academic achievement. Bandura (1997) theorized that self-efficacy beliefs can inspire students to work harder and persist longer when they encounter obstacles. Researchers have found self-efficacy to be an important factor in students' academic success (Bandura, 1991; Pajares, 2002; Pajares & Schunk, 2001; Schunk & Pajares, 2001; Zimmerman, 1995, 2000), motivation, (Bandura, 1986; Pajares & Miller, 1995), goal-setting (Locke & Latham, 1990), anxiety (Pajares & Miller, 1994), and self-regulation (Pintrich & Schunk, 1995). General self-efficacy scores have also been used to successfully predict new student academic success with students rating high on self-efficacy tending to attain higher grades during the first year of college than those with lower self-efficacy (Choi, 2005).

Considerable research has been conducted on self-efficacy in music. Researchers have found relationships between self-efficacy and musical achievement and performance (McCormick & McPherson, 2003; McPherson & McCormick, 2006; McPherson & Zimmerman 2002), practice habits (Hallam, 2001; Nielson, 2004), self-regulation (Hallam, 2001; Matthews, 2007), performance anxiety (Petrovich, 1989; Sinden, 1999), music teaching (Bergee & Grashel, 2002), jazz and improvisation (Ciorba, 2007; Wehr-Flowers, 2008), and student retention (Stewart, 2002). Studies have found that student musicians who are highly efficacious were are likely to be cognitively and metacognitively

involved in the learning process as compared with students low in efficacy beliefs (Nielson, 2004). Students' feelings of self-efficacy to learn or perform a task have also been found to be related to the utilization of practice strategies (Hallam, 2001). There has also been a noted relationship between self-efficacy beliefs and music performance quality (McPherson & McCormick, 2003, 2006; McPherson & Zimmerman 2002). Nielsen's (2004) study of self-efficacy and practice habits examined the variables of gender, instrument, and degree program. Consistent with other studies, a significant effect was found for gender, with males having higher self-efficacy than females. The study found no significant difference in self-efficacy for instrument or degree program. However, there was a significant interaction between gender, degree, and self-efficacy.

Research has also been conducted in the areas of interpersonal teacher behavior and self-efficacy in music; however, the research on music teacher interpersonal behavior is limited. Additional research is needed to help understand students' preferences of teacher interpersonal behavior and student self-efficacy in music as well as the relationship between the two in order to assist music educators in improving their teaching.

The purposes of this study were to answer the following three research questions: 1) what were the students' preferences of the directors' interpersonal teacher behavior in terms of gender, year in school, major, and instrument?; 2) what were the students' self-efficacy scores in terms of gender, year in school, major, and instrument?; 3) what is the relationship between collegiate band students' preferences of directors' interpersonal teacher behaviors (categorized into dominant-cooperative, submissive-cooperative, and dominant-oppositional) and students' perceived self-efficacy?

Method

The responding sample included university undergraduate students (N = 1,020) participating in collegiate band programs from 12 universities representative of regions in the United States: 3 Eastern, 3 Northern, 3 Southern, and 3 Western. Each region included 1 private, 1 small public (enrollment under 15,000), and 1 large public (enrollment over 15,000) university, all of which were selected based on criteria and solicited for participation by the researcher.

A total of 1020 undergraduate students participated in the study by completing two questionnaires. The responding sample included 22 fifth-plus year students, 167 fourth-year students, 169 third-year students, 281 second-year students, and 381 first-year students. There were male (n = 530) and female (n = 490) brass players (n = 426), percussionists (n = 115), and woodwind players (n = 479) majoring in business (n = 53), computer/technology (n = 22), education (n = 58), engineering (n = 108), fine/performing arts (n = 55), humanities (n = 78), music (n = 387), pre-professional (n = 30), math/science (n = 94), social science (n = 98), and undecided (n = 37).

This study used a nonprobability, purposive sample of university band members from across the United States. Procedures were used in order to achieve the greatest possible representation of the population, however, it should be noted that the representativeness of the population cannot be completely ascertained and thus the results cannot be generalized outside the sample. Within each university, a convenience sample was used which was comprised of students who were enrolled members of one intact band at their respective school.

Two measurement instruments were used in the study: the Teacher Interaction Preference Questionnaire (TIPQ) and the Self-Efficacy Questionnaire (SEQ). The Teacher Interaction Preference Questionnaire (TIPQ) was used to measure students' preferences of teacher interpersonal behavior. The instrument includes 30 items measured on a 5-point Likert

scale ranging from 0 (never prefer) to 4 (always prefer). Each completed questionnaire produces three summed section scores, one for each of the teacher interaction styles: high on dominance and cooperation, high on submission and cooperation, and high on dominance and opposition. Each section includes 10 statements resulting in section scores ranging from 0 to 40 for each of the three sections. Examples of statements include: "The teacher should know everything that goes on in the classroom" (dominant-cooperative), "The students should have input in the class decisions" (submissive-cooperative), and "The teacher should be strict" (dominant-oppositional). Since all items are positively scored and one of the sections contains items considered to be negative teacher/student interaction behaviors, there is a possibility of inverse correlation results in this study.

The Questionnaire on Teacher Interaction (QTI) was selected as a model test for this study due to its prolific use in educational research (e.g., den Brok et al., 2004; Wubbels & Brekelmans, 2005; Wubbels & Levy, 1993). The QTI's basic format was used to develop the test for this study: the Teacher Interaction Preference Questionnaire (TIPQ). The theoretical framework linked to the Questionnaire on Teacher Interaction (QTI) is the model of interpersonal teacher behavior (MITB), and it was originally developed as a means of categorizing the findings for the Questionnaire on Teacher Interaction (QTI).

The TIPQ was developed based on the American version of the Questionnaire on Teacher Interaction (QTI) by Wubbels and Levy (1991). The original QTI was developed in 1984 by Creton and Wubbels in The Netherlands (Creton & Wubbels, 1984) based upon Leary's Interpersonal Adjective Checklist and revised for use in educational settings (Creton & Wubbels, 1984). The QTI was developed as a measure of secondary students' and teachers' perceptions of teacher interpersonal behavior.

In order to develop the TIPQ for use in this study, changes were made to the original QTI. The original four quadrants of the model of interpersonal teacher behavior were used as categories rather than the divided subsections. The submissive-oppositional quadrant was eliminated due to the negative content that did not align with a survey of preference on teacher behavior. Ten items that were appropriate for measuring preferences in teacher interpersonal behavior were kept. Like the original questionnaire, the order of statements were arranged in order to inter-mix the statements associated with the six scales and make the scale categories less apparent to the student.

The second test, the Self-Efficacy Questionnaire (SEQ) was used to measure students' general sense of perceived self-efficacy in music. The instrument includes 20 items measured on an 11-point Likert scale ranging from 0 (cannot do at all) to 10 (certain I can do). Scores are summed resulting in a score ranging from 0 to 200. Examples of statements include: "I can reach my goals if I try hard enough," "I can solve most problems if I invest the necessary effort," and "I keep working on a task even if I am having trouble." In addition to the 20 items, there were 5 demographic items including the students' age, year in school, gender, band instrument, and college academic major that were analyzed separately.

The Self-Efficacy Questionnaire (SEQ) used for this study was developed based on the General Self-Efficacy Scale originally created in 1981 by Schwarzer and Jerusalem (1995).

Since its development, the General Self-Efficacy Scale has been used prolifically in educational research. It was for this reason, and its broad approach to self- efficacy measurement, the General Self-Efficacy Scale was used as the basis for the Self- Efficacy Questionnaire (SEQ).

The SEQ is usually self-administered and can be used as part of a more comprehensive questionnaire with the 10 items mixed at random into a larger pool of items that have the same response format to address specific content areas (Schwarzer & Jerusalem, 1995).

Following this example, an additional 10 researcher developed questions were also added to the original.

In order to establish content validity, a copy of the two questionnaires was sent to three experts: 1) interpersonal relations, 2) college band director and 3) psychologist. These experts were asked to evaluate the items on the questionnaires for 1) clarity in the format and wording of the instructions and the questions, 2) appropriateness to the topic and whether items should be included or eliminated 3) thoroughness and whether any topics needed to be added, and 4) organization and ordering of the items. Based on the feedback received, minor changes in wording and format were made. A field test was also conducted.

A pilot study was conducted with 59 participants from a small university in the southern part of the United States. The internal consistency reliability (Cronbach's alpha) for the final version of the Self-Efficacy Scale (SEQ) was .96. The internal consistency reliability (Cronbach's alpha) for each of the three categories of the final version of the Teacher Interaction Preference Questionnaire (TIPQ) were as follows: Dominant-Cooperative = .83, Submissive-Cooperative = .86, and Dominant-Oppositional = .80.

A packet containing the two questionnaires was sent to a university band director at each participating school. The questionnaires were distributed and collected during the regular ensemble meetings by the conductor. Together, the two questionnaires required an average of five minutes to complete. Out of the 1,380 questionnaires that were distributed, 1,020 questionnaires were completed and returned (74%). Return rates ranged from 67% to 86% with an overall return rate of 74%. Because no identities were gathered with the questionnaires, there were no follow-up possibilities. As a result, the return rate may have been lower, leading to a possible restriction of scores.

Means, standard deviations, and ranges were used to answer research questions one and two, which described students' preferences for interpersonal behavior and ratings of self-efficacy. Research question three was answered using three Pearson product- moment correlation coefficients, which were calculated between the scores for each of the three preferred teacher interaction styles and students' self-efficacy. Due to the possible over-use of the data with multiple correlations, a Bonferroni adjustment was made to avoid a Type I error (.05/3 = .016).

Results

Results for the first research question revealed that all respondents had the greatest preference for dominant-cooperative teacher behaviors (M = 31.51, SD = 4.44), submissive-cooperative behaviors were rated next highest (M = 28.19, SD = 4.23), third highest were the dominant-oppositional behavior (M = 16.66, SD = 4.77). While respondents agreed in terms of the overall scoring for the dominant-cooperative, submissive-cooperative, and dominant-submissive categories, there was some variability across sub-groups. The full TIPQ results are presented in Table 1.

Results for the second research question revealed that the calculated sub-group self-efficacy mean scores for gender, year in school, major, and instrument were close to the overall mean for the entire sample (M = 144.65, SD = 21.05). For gender, the females (M = 145.97, SD = 21.01) had slightly higher mean scores than the males (M = 143.43, SD = 21.06). For year in school, the five-plus year students had the highest self-efficacy scores (M = 144.94, SD = 21.34) followed by the third year students (M = 147.89, SD = 22.48), and the second year students had the lowest scores (M = 141.60, SD = 19.87). For instrument, the percussion (M = 149.20, SD = 23.55) had the highest self-efficacy scores and the brass (M = 143.85, SD = 21.19), had the lowest scores. For major, the

pre-professional majors (*M* = 152.73, *SD* = 25.92) had the highest self-efficacy scores and the undecided majors (*M* = 136.11, *SD* = 22.06) had the lowest. The SEQ results are presented in Table 2.

Pearson product-moment correlation coefficients were calculated in order to answer research question 3. Prior to calculating the correlations, the assumptions of normality, linearity, and homoscedasticity were checked. All assumptions were met.

Table 1

Descriptives for the Teacher Interactive Preference Questionnaire

		Dominant Cooperative		Submissive Cooperative		Dominant Oppositional	
	n	Mean	*SD*	Mean	*SD*	Mean	*SD*
Full Sample	1,020	31.51	*4.44*	28.19	*4.23*	16.66	*4.77*
Males	530	31.43	*4.47*	28.09	*4.87*	17.22	*4.86*
Females	490	31.59	*4.42*	28.29	*4.09*	16.06	*6.60*
First Year	381	31.45	*4.44*	28.38	*4.05*	16.75	*4.78*
Second Year	281	31.58	*4.42*	28.24	*4.11*	16.40	*4.52*
Third Year	169	31.50	*4.11*	28.31	*4.23*	16.96	*5.01*
Fourth Year	167	31.43	*4.77*	27.76	*4.62*	16.77	*4.93*
Fifth+ Year	22	32.31	*4.86*	26.59	*5.54*	16.00	*4.87*
Brass	426	31.51	*4.45*	28.19	*4.52*	16.50	*5.06*
Woodwind	479	31.60	*4.42*	28.13	*3.91*	16.58	*4.49*
Percussion	115	31.15	*4.54*	28.38	*4.48*	17.60	*4.76*
Business	53	30.98	*4.87*	28.38	*4.54*	16.28	*4.16*
Comp/Tech	22	32.32	*4.31*	29.27	*4.83*	15.50	*4.67*
Education	58	31.66	*5.14*	30.19	*4.06*	15.02	*4.77*
Engineering	108	30.36	*4.03*	27.78	*4.05*	16.35	*4.55*
Fine/Perf Arts	55	31.36	*4.92*	29.29	*3.69*	16.73	*4.73*
Humanitites							
Music	78	31.54	*4.83*	28.76	*3.89*	15.89	*4.56*
Pre-Prof	387	31.76	*4.21*	27.18	*4.26*	18.20	*4.79*
Math/Sci	30	32.57	*5.35*	28.93	*4.53*	15.10	*3.24*
Social Sci	94	31.80	*4.33*	28.52	*4.01*	15.09	*4.49*
Undecided	98	31.59	*4.15*	29.17	*4.02*	15.66	*4.61*
	37	30.57	*4.55*	28.97	*3.86*	14.58	*4.35*

Table 2

Means, Standard Deviations, and Ranges for the Self-Efficacy Questionnaire

Self-Efficacy Questionaire				
	n	Mean	*SD*	Range
Full Sample	1,020	144.65	*21.05*	119
Males	530	143.43	*21.06*	117
Females	490	145.97	*21.01*	119
First Year	381	144.94	*21.34*	100
Second Year	281	141.60	*19.87*	112
Third Year	169	147.89	*22.48*	117
Fourth Year	167	145.07	*20.38*	117
Fifth+ Year	22	150.50	*20.77*	68
Brass	426	143.85	*21.19*	119
Woodwind	479	144.27	*20.19*	110
Percussion	115	149.20	*23.55*	94
Business	53	145.75	*19.50*	102
Comp/Tech	22	141.95	*15.47*	61
Education	58	144.21	*24.38*	119
Engineering	108	141.56	*18.56*	98

Fine/Perf Arts	55	142.60	*20.67*	85
Humanitites	78	144.32	*22.96*	93
Music	387	145.65	*21.03*	103
Pre-Prof	30	152.73	*25.92*	84
Math/Sci	94	143.68	*20.41*	89
Social Sci	98	147.47	*19.19*	98
Undecided	37	136.11	*22.06*	107

Pearson product-moment correlations and coefficients of determination (r^2) were calculated between self-efficacy and dominant-cooperative, submissive-cooperative, and dominant-oppositional. Because three correlations were being performed, a Bonferroni correction was applied to reduce the possibility of a Type I error due to overuse of the data. As a result, the initial alpha level of .05 was adjusted to .016 (.05/3). A significant positive relationship was found between self-efficacy and dominant-cooperative (r = 0.47, p = .000000017). The coefficient of determination (r^2) documented the amount of variance explained between self-efficacy and dominant-cooperative to be 22%. A significant positive relationship was found between self-efficacy and submissive-cooperative (r = .26, p = .0000062). The coefficient of determination (r^2) documented the amount of variance explained between self-efficacy and submissive-cooperative to be 7%. Finally, a significant positive relationship was found between self-efficacy and dominant-oppositional (r = .23, p = .00030). The coefficient of determination (r^2) documented the amount of variance explained between self-efficacy and dominant-oppositional to be 5%. The large sample size for this study may have contributed to the statistically significant findings.

The three correlations investigated the strength of the trend that respondents with higher perceived self-efficacy also tended to prefer the summed teacher interpersonal behavior category items. The strongest correlation was noted between self-efficacy and dominant-cooperative teacher behaviors (r = 0.47, p = .000000017). The next strongest correlation was noted between self-efficacy and submissive-cooperative teacher behaviors (r = .26, p = .0000062). The weakest of the three correlations was noted between self-efficacy and dominant-oppositional teacher behaviors (r = .23, p = .00030).

Discussion

As with any study, caution must be taken when interpreting these results. Participants in this study were volunteers and therefore may have had different opinions than those who did not volunteer to participate in the study. There are threats to the external validity of this study that raise concerns regarding the generalizability of the findings, therefore, results should not be generalized beyond the sample population used. Efforts were made to obtain a representative sample of the target population by including different types and sizes of schools from across the United States. However, while the sample size was large (N = 1,020) it was still an accessible population and not necessarily generalizable to all college band students. The Hawthorne Effect may also be a threat to the external validity of the study. Through the introduction to the study and the informed consent forms, the students were fully aware of the topic of the study. As a result, it is possible that the students answered questions as they thought they should or in a manner in which the researcher wanted, and differently than they would have answered otherwise.

The descriptive results from research question one describing students' preferences of teacher interpersonal behavior provides information that a conductor could apply in a rehearsal in order to better connect with the student musicians. The results are consistent with research previously conducted in educational settings showing Dominant-Cooperative traits as the most desirable (Levy et al., 1993). While the overall findings in regards to preferences in interpersonal teacher behavior are consistent, there are minor variations

within the numbers that shows the need to interact with students differently. The knowledge that there are differences in preferences could be beneficial to the conductor who is willing to survey the ensemble to learn of the group and individual preferences and is willing to apply this knowledge to the daily interactions with ensemble members.

The descriptive results from research question two describing students' perceived self-efficacy are informative as there are many contradictory previous findings for this variable. This study revealed that the female college band members had slightly higher self-efficacy scores than their male counterparts. This finding contradicts most previous comparative research (Pajares & Miller, 1994, 1995; Sinden, 1999), but it must be noted that the current study was descriptive and not comparative in nature, thus caution should be maintained when aligning the results of the current study with any comparative study. However, Nielson (2004) also found that females who were music education majors had higher self-efficacy for practicing than the males. This study did not differentiate between the various types of music majors. One factor contributing to the contradictory findings for gender could be related to the shift that has taken place in recent years in higher education. According to the National Center for Education Statistics, in 2004, women received 58 percent of all bachelor's degrees in the United States. While this study did have more male participants than female, perhaps the trend toward females outperforming males in school has affected the perceptions of self-efficacy (Buchmann & DiPrete, 2006).

The results on the variable, year in school, provides information in an area that has not been the subject of much research, but indicate possible contradictory findings. The descriptive results of this study show fluctuations in self-efficacy from year to year, which seems to contradict Bandura's (1986) original theory that states self-efficacy increases with experience. Also, Wehr-Flowers (2008) study of jazz self-efficacy of collegiate jazz band members found no significant differences for year in school. Another consideration for this study is the number of respondents in each year of school. The numbers of participants in the third, fourth, and five-plus years decreased noticeably and had higher self-efficacy than the previous years. It is possible that the low efficacious students dropped out of the band program thus causing the scores to rise. Improved monitoring of student self-efficacy through regular student questionnaires could improve retention in the collegiate band program. These findings indicate that further research is needed in this area.

For instrument and major, the descriptive results again can provide valuable insight to the conductor on how to best provide instruction and support for the students. Little research has been conducted in these areas; however, there is much the conductor can learn from knowing more about the students individually in the band. A single study examining jazz self-efficacy found no significant differences for instrument (Wehr-Flowers, 2008). Research on students' self-efficacy in terms of major is also limited. Nielson's (2004) study of practice self-efficacy examined three categories of music majors and found no significant differences. The high scores for pre-professional and low scores for the undecided majors in this study were in alignment with past research that found that self-efficacy was related to the extent of perceived career options and career choices (Lent & Hackett, 1987) to which student felt they had access. Again, it must be noted that the current study was descriptive and not comparative in nature, thus caution should be maintained when aligning the results of the current study with any comparative study. However, this information could be beneficial because identification of students with lower self-efficacy may enable teachers to develop practices to help students in ways of raising self-efficacy such as providing opportunities to observe successful peers perform, receiving additional individual assistance and guidance, and providing opportunities for low stress performances in which the student may feel successful.

Concerning the third research question, little research has been conducted on the relationship between student preferences of teacher interpersonal behavior and student self-efficacy. The correlation results of this study do align with a similar study conducted by Matthews (2007) that found the students whose teachers used mastery goals had significantly higher self-efficacy than the students whose teachers used performance goals. Together, these results indicate a possible link between self-efficacy and teacher variables, however, more specific research is needed on this topic.

It should also be noted that the correlation results of the main study contradicted the findings of the pilot study. Since the pilot study data were collected at a single school and the data for the main study data were collected from 12 schools across the nation, it may be important for studies to investigate students' preferences of interpersonal behavior by region so as to obtain a more complete picture of this complex issue.

Although statistically significant positive relationships were found between each of the three interpersonal teacher behavior categories and students' self-efficacy, the coefficients of determination were not large. The amount of variance explained between self-efficacy and dominant-cooperative was 22%, between self-efficacy and submissive-cooperative was 7%, and between self-efficacy and dominant-oppositional was 5%. Therefore it must be considered that the large sample size for this study may have contributed to the statistical significance findings.

While the results from this study were informative, future research could study these issues more closely by examining responses to individual questions by similar sub-groups. Examining descriptive and comparative results may reveal more specific trends in students' preferences of teacher interpersonal behavior and self-efficacy. In addition, observational study of current conductors could provide insight and guidance for developing future teachers' skills.

Additional studies could also be conducted on ways of raising student perceived self-efficacy within an ensemble setting. More research is also needed on students' preferences of music teacher interpersonal behavior at other levels of education. Longitudinal studies could also be conducted to measure preferences over a span of many years in order to understand better the changes that may occur and at what ages the changes may take place. Overall, continued research is needed in order to understand more completely the relationship between interpersonal teacher behavior and self-efficacy in terms of the possible ramifications on teacher preparation programs and teaching methodologies.

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