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THE EFFECTS OF INTERPERSONAL COMPETITION VERSUS INDIVIDUALISTIC-PROGRESS LEARNING STRUCTURES ON THE ACHIEVEMENT ATTRIBUTIONS, MOTIVATION TO PRACTICE, AND AFFECT OF SIXTH GRADE BAND STUDENTS

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THE EFFECTS OF INTERPERSONAL COMPETITION VERSUS INDIVIDUALISTIC-PROGRESS LEARNING STRUCTURES ON THE ACHIEVEMENT ATTRIBUTIONS, MOTIVATION TO PRACTICE, AND AFFECT OF SIXTH GRADE BAND STUDENTS

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ABSTRACT

THE EFFECTS OF INTERPERSONAL COMPETITION VERSUS INDIVIDUALISTIC-PROGRESS LEARNING STRUCTURES ON THE ACHIEVEMENT ATTRIBUTIONS, MOTIVATION TO PRACTICE, AND AFFECT OF SIXTH GRADE BAND STUDENTS

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The purpose of this study was to gain insight into the use of competition in a middle school band setting so that this information could be used to improve instrumental music instruction. The specific problems of this study were to compare the achievement attributions and affect of students in individualistic-progress (control) versus interpersonal competitive (treatment) learning structures. As secondary questions, the researcher examined practice trends and achievement level patterns. Subjects (n=56) came from two sixth grade band classes from a semi-rural school district in Michigan. For the first three weeks, students were individually assessed on performance tasks and allowed multiple retesting opportunities. For the next three weeks, students participated in competitive chair challenges. After each task, subjects completed a survey assessing their attributions, affect, and amount of practice time. Paired samples t tests revealed no significant differences on students' ratings of musical ability, effort expenditure, or luck for the two conditions. Students' ratings of task difficulty, nervousness, and teacher fairness were significantly higher in the control condition ($p<.01$). Students also indicated significantly greater enjoyment in the treatment task. Moreover, participants spent significantly more time practicing in the control condition than in the treatment condition. Finally, the attributional responses, affect, and self-reported practice time of students in the highest and lowest achievement quartiles differed significantly.

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LITERATURE REVIEW

"Trying to do a task well and trying to be number one are two different things."

-Alfie Kohn

INTRODUCTION

Thursday: Chair challenge day for the sixth grade brass and percussion students. An air of excitement fills the band room as students with sweaty palms practice those last minute passages before the start of class. From third chair, Amanda nervously looks sideways at the player to her right and hopes that luck is on her side today. She has been secretly practicing these few measures over and over every night in the hopes of moving up to second chair (first chair is too good a player—she wouldn't dream of trying to beat him!). Her turn comes. She checks her valves one more time and takes a deep breath. Here it goes.

COMPETITION AND EDUCATION

The Pervasive Use of Competition in Education.

Competitive seating based on ability is just one example of the many forms of competition evident in instrumental music classrooms today. Other examples include competitive auditions for acceptance into ensembles, concert band festivals, solo and ensemble festivals, and marching band contests. The competitive nature of many school music activities reflects the prevalence of competition in American society. Alfie Kohn, educator, author and speaker, suggests that "life for us has become an endless succession

of contests" (1986, p. 1). From the Super Bowl to American Idol, the global technology race to the political power race between Democrats and Republicans, competitive spillover into the classroom seems inevitable. Miller (1994) further highlights the competition mania evident in both society and the schools:

> For art to be art, it must be a reflection of our human condition. This is because art is ultimately a subjective sharing of emotion, usually emotion affected by or in response to the conditions in which the artist and the subject find themselves. Paradoxically, art very often becomes a casualty to the very social conditions it tries to reflect. One of the most insidious examples of this in our contemporary society is the obsession for competing that has permeated all venues of our society, including our artistic environment (p. 28).

A Debate on the Merits of Competition in the Classroom.

Competition continues to emerge as a "hot topic" in American education today. In *No Contest: The Case Against Competition*, Kohn (1986) mentions some of the common misconceptions about the value of competition in the classroom. According to Kohn, some of the myths about competition's benefits include beliefs that it appeals to our innate competitive nature, motivates students, increases achievement, builds character, confidence and self-esteem, and provides ways of measuring student progress as well as the best way for students to have a good time. In his journal article "Competition: Is Music Education the Loser?" Austin (1990) further highlights some of these popular beliefs about the benign or even beneficial nature of competition:

> The expression 'A little healthy competition never hurt anyone' mirrors our common belief that competition is an effective means of generating student interest, stimulating students toward higher levels of achievement, measuring students' achievement in relation to that of other competitors, and preparing students for the eventualities of winning and losing in the real world (p. 22).

Some educators, however, are beginning to turn a critical eye toward competition in the classroom. In physical education, for instance, a realm in which competition has traditionally played a large role, teachers are beginning to revise their course content and teaching methodology to place less emphasis on competition in the classroom (Miller, 1994). While some music educators cling to their competitive ways, others are beginning to reassess their value systems and ask questions: How does the entertainment value of the competition compare to its educational value? Does competition help to teach music, or does it merely teach competition itself? What are the musical and nonmusical reasons why educators use competition in their classrooms? Does competition instill a love of learning in students?

In questioning the use of competition in music, Miller (1994) asks, "Is it really necessary to have everyone audition to be first chair, second chair, and so on? Does it really matter that the best clarinet player sits in the first chair... and that the three tenor saxophonists, who are playing the same part, be certified as the best, middle, and worst player?" (p. 31). In "Winners and Losers: Point of View on Competitions" (1983), another band director recognizes the prominent role competition plays in society, but questions its place in education:

> All we do is a form of natural competition, yet it is not the role of academic education, of which music is a critical part, to teach competition as the basis for its being [sic]. In most cases, the stress on competition at the high school level or before will merely cause learning to center on using music to win rather than using music to learn (p. 30).

COMPETITION AND OTHER TYPES OF GOAL STRUCTURES

Goal Structure Definitions and Subcategories.

Competition can be defined as one of several distinct types of goal or reward structures. "Goal structure" is a term frequently used by researchers to describe the classroom arrangement by which students are evaluated in relation to each other and to a particular goal (Austin, 1990). In the context of the present study, "learning/goal/reward structures" will be used interchangeably to refer to the way in which students are evaluated and/or rewarded. Besides being competitive (students work against each other toward some goal or reward), the goal structure of a classroom can be described as cooperative (students work with each other for a common goal) or individualistic (students work toward independent goals). Individualistic versus competitive goal structures have also been referred to in the literature as task versus ego involvement (Nicholls, 1984), learning versus performance goals (Dweck, 1986), or mastery-focused versus ability-focused goals (Ames & Ames, 1984).

There are also several subcategories within these general goal structures. For example, competition can be reduced to two separate types: Intergroup competition and interpersonal competition. Intergroup competition is defined here as groups of students

competing against other groups of students (i.e., marching band competitions). Interpersonal competition involves individuals competing against other individuals. Competitive chair challenge systems would fall under this latter category. In addition to competitive structures, there are also subcategories for cooperative and individualistic goal structures. "Cooperation with competition" refers to a cooperative group competing against another cooperative group, "individualistic-standards" refers to an individual trying to meet some kind of criteria or fixed standard, and "individualistic-progress" refers to individual's achievement being compared to prior achievement of that same individual.

Competition Research in Music Education.

Competition continues to be a recurring theme in music education research. The most common research on competition in music involves studies examining the attitudes of students, directors, administrators, and parents towards music contests or marching band competitions. For example, Hurst (1994) surveyed high school band directors across the United States and found that six types of competitive music activities addressed in his study questionnaire—marching band, concert band, sight reading, solo/ensemble, jazz ensemble, and clinic band auditions—comprise the main competitive music activities in which high school bands participate. Through survey responses, he found that the most important reasons cited for participation in music competitions were that they "provide a sense of accomplishment for students, help maintain quality student performance and high standards for music education, provide a means of evaluation, and a clear goal for instruction" (p. 86).

In addition to surveys documenting people's attitudes towards competition, researchers have also examined its effect on students' affective responses. Austin (1988) found that elementary music students who participated in band contests experienced significant gains in self-concept. This finding held true for both groups—those students who received adjudicated ratings and written comments as well as those students who received written comments only. In other studies, cooperative learning structures have been found to be superior to competitive structures in evoking positive self-concept and affect (Ames, 1981; Johnson & Ahlgren, 1976; Ryan & Patrick, 2001; Sherman, 1986). In "Point of View: Are Music Contests Valuable for Young Children?" (1982), several music educators stated their beliefs on the merits of competition in instrumental music education. One participant argued that competition negatively impacts a student's self-concept: "To be recognized as a winner of such a contest provides a proud moment for one child but long moments of dejection for many others" (p. 47).

MOTIVATION AND ACHIEVEMENT

Motivation and Achievement in the Classroom.

One of the reasons why educators incorporate competition into their classrooms, according to Kohn (1986), is that they believe that it motivates students to try their best and results in higher achievement. Regardless of the use of competition, research does support the importance of motivation in affecting learning. Asmus (1995) suggests that from 11 percent to 27 percent of achievement can be attributed to motivation. Motivation's share in achievement is important, because it can be affected directly by the teacher (Deci & Ryan, 1985; Schunk, 1989). Other factors important to achievement,

such as intelligence, aptitude, and socio-economic background, are usually not under the control of the teacher.

Motivation can be further delineated into two types. Extrinsic motivation is motivation due to factors outside the learner, while intrinsic motivation is derived from within the learner. Ryan (2000) further defines intrinsic motivation as doing something because it is inherently interesting or enjoyable and extrinsic motivation as doing something because it leads to a separable outcome. Students motivated intrinsically have the tendency to persist and work at learning tasks, even when extrinsic motivators are not present.

The Effect of Different Goal Structures on Achievement.

One of the emerging interests of competition researchers is to determine how competitive goal structures compare to individualistic and cooperative ones in terms of achievement. Conflicting answers to this question exist. One of the first studies to manipulate music classroom goal structures experimentally was Austin's 1988 study. He determined that competitive settings in elementary band produce greater achievement as measured by scores on a standardized music achievement test and by solo performance. However, several other studies have shown non-competitive structures to be superior to competition in their effects on student achievement (Covington & Omelich, 1984; Johnson, Maruyama, Johnson, Nelson, & Skon, 1981; Temple, 1973). Still others have found no difference in achievement between competitive and non-competitive formats (Austin, 1991; Clifford, 1972).

The Effect of Different Goal Structures on Student Motivation.

Motivation has been an important topic in music and in education in general for more than 20 years. In August, 1982, for instance, music educators gathered at the University of Michigan for the third session of the Ann Arbor Symposium (Austin & Vispoel, 1992). One of the purposes of this conference was to present current thinking on motivation and apply this information to music instruction across grade levels. The topic of motivation was chosen due to growing concern within the profession about declining participation and interest in music among both student and adult populations.

Through experimental research, researchers have examined the effects of different goal structures on overall student motivation. Some studies have found that competition in fact increases motivation on the part of students (Clifford, 1972; LaRue, 1986; Asmus, 1986). Subjects in the LaRue study were found to value large group and individual competitive factors in the band program as a source of motivation and group spirit. Still other studies have found that non-competitive learning structures increase motivation (Covington & Omelich, 1984). Whether the motivation measured in prior studies was of an extrinsic or intrinsic nature is at times unclear.

In considering how to increase student motivation, researchers and educators must also consider *which type* of motivation different learning structures evoke. Kohn (1986) argues that competition behaves just like any other extrinsic form of motivation. He believes that it is not the learning activity itself that is rewarding to students but rather its consequence of "beating someone else." In this way, extrinsic motivators fail to instill a lasting love of learning in students. Further, Kohn contends that extrinsic motivators

"simply cannot make us perform as well as we do when we find an activity rewarding in itself" (p. 28).

ATTRIBUTION THEORY

Weiner's Attribution Theory.

Weiner's attribution theory (1972, 1974, and 1979) has served as the basis for numerous studies on student motivation (Vispoel & Austin, 1995). Weiner's theory considers students' beliefs and perceptions about the causes of their success or failure. How students assess or interpret the causes of their success and failure may be influenced by a number of situational factors, including classroom structure (Ames, 1984). Students' attributions are important, because they are thought to play a role in subsequent achievement-related affect (i.e., feelings of personal satisfaction), behaviors (i.e., persistence), and cognitions (i.e., expectations for future success) (Ames, 1984). In this way, attribution theory assumes that children's perceptions of the causes of their successes and failures will influence the quality of their future achievement (Covington, 1984).

The Three Dimensions of Causal Attributions.

Although success or failure may be attributed to a number of different factors, the four main attributions include ability, effort, luck, and task difficulty (Weiner, 1974). These core attributions can be defined by three dimensions: stability, locus of control, and controllability (Vispoel & Austin, 1995). In the stability dimension, ability and task difficulty are categorized as stable because they do not tend to vary over time for a task

(see Figure 1). Luck and effort are classified as unstable because they vary from task to task. According to the locus of control dimension, ability and effort are categorized as internal because they are assumed to originate within the individual. Task difficulty and luck are classified as external due to their assumed cause by factors external to the individual. Finally, in the controllability dimension, effort is defined as controllable by the student while ability, task difficulty, and luck are outside of student control. In addition to these four main attributions, others include strategy, interest, family influence, and teacher influence.

Attribution	Locus of Control	Stability	Controllability
Ability	Internal	Stable	Uncontrollable
Effort	Internal	Unstable	Controllable
Task Difficulty	External	Stable	Uncontrollable
Luck	External	Unstable	Uncontrollable
Strategy	Internal	Unstable	Controllable
Interest	Internal	Unstable	Controllable
Family Influence	External	Stable	Uncontrollable
Teacher Influence	External	Stable	Uncontrollable

Figure 1 - Causal attributions classification system

Note: Based on Weiner (1979), Elig and Frieze (1979), and Russell (1982) as adapted from Vispoel & Austin (1995).

Causal Attributions and Motivation in the Context of Music Education.

In assessing the importance of causal attributions to motivation within the context of music education, it is helpful to consider different conclusions to the scenario that opened this paper. In her attempts to challenge second chair and move up in her section, perhaps the fictitious student "Amanda" was not successful. If she believes that the reason for her failure was ability (internal, stable, uncontrollable), then she may be less likely to challenge in the future. She may believe that her ability will not change with

repeated attempts at the task, and she may resign herself to the fact that another failure will likely result.

If, on the other hand, "Amanda" attributes her failure to a lack of effort (internal, unstable, controllable), she will likely engage in future attempts to challenge because she believes that, if she works harder and practices more, the outcome might change. What if "Amanda" won her initial challenge only to lose to another student? This kind of information could cause her to attribute her failure to luck. A belief in luck (external, unstable, uncontrollable) will encourage future attempts, but only for a limited number of trials unless success is experienced. Finally, the student might believe that task difficulty (external, stable, uncontrollable) was the reason for her failure. Future attempts are unlikely with this attribution, because the student believes that the task is not going to change and that no matter what she does, the results will be the same.

The Attributional Characteristics of Individualistic Goal Structures.

Individualistic goal structures are also referred to as "task-focused" goals, because students are encouraged to focus on the task at hand rather than any other kind of outside stimulus. Students who adopt task-focused goals are said to be primarily concerned with task mastery and intrinsic learning (Anderman & Maehr, 1994). By allowing students to have individual, independent goals, these structures have been found to encourage attributions of effort (Ames, 1984). Hurley (1996) contends that students who attribute effort as the reason for success are more likely to develop continuing motivation for that activity. Further, he argues that while high-achieving students can do well in multiple types of classrooms, low-achieving students do better in task-oriented settings. Involving

students with the task places emphasis on their effort rather than promoting the perception that only ability is valued (Nicholls, 1984).

When the criteria for success in individualistic structures is defined in relation to an absolute standard, students may tend to focus on their ability and exhibit affect that is similar to those in competitive structures (Ames, 1984; Covington, 1984). "Mastery learning" is a type of individualistic learning structure that provides opportunities for self-improvement, encouraging a focus on skilled effort over perceived ability in achievement. Mastery learning allows students multiple chances to test and study so that they can master subject content to a set level of competency. The standard for the final product is held constant, while the amount of study time is allowed to vary. Mastery learning encourages students to judge their own adequacy based on self-comparisons (Covington 1984). Even in failure situations, mastery-oriented children tend to attribute their failure more to effort and use strategies to modify their effort and task performance.

The Attributional Characteristics of Cooperative Goal Structures.

Cooperative learning, another type of "task-focused" learning structure, has been highly promoted for fostering higher achievement, higher self-esteem, and more positive interpersonal attitudes (Ames, 1981). A cooperative goal structure elicits a concern for responsibility (Ames, 1984). The focus here is on group performance information and effort directed toward the group's goals for the task.

Cooperative learning situations are thought to promote interdependence between members of the group, social awareness, obligation to do one's part, and responsibility for helping others (Ames & Ames, 1984). Some distinction has been made between

successful versus failing groups, however, in that failing groups may have negative consequences on the attributional patterns and general affect of students (Ames, 1981). Regardless of the purported benefits, less time will be given to cooperative goal structures in the context of this discussion, since they are not the focus of the present study.

The Attributional Characteristics of Competitive Goal Structures.

While individualistic and cooperative learning structures are "task-focused," competitive goal structures are referred to in the literature as "ability-focused" or "ego-focused" in nature. When students adopt ability-focused goals like those inherent to competitive goal structures, they tend to concentrate on demonstrating their ability and outperforming others. Based on Weiner's attribution model (1979), competition's emphasis on social comparison would be expected to elicit perceptions of high ability in students who win and perceptions of low ability in students who lose. Ames (1984) contends that believing success derives from one's high ability may be ego-enhancing for students, but relating failure to one's lack of ability creates a situation of perceived helplessness.

Covington's self-worth theory of achievement motivation (1984) assumes that a "central part of all classroom achievement is the need for students to protect their sense of worth or personal value" (p. 5). Perception of ability is critical to students maintaining their sense of worth, because many students equate the possession of high ability with worthiness and feelings of being valued (Hurley, 1996). Low-achieving students focus

more on avoiding failure and protecting their ego in competitive situations in which emphasis is placed on winning (Nicholls, 1984).

In competitive goal structures, students tend to make social comparisons between their own competence and the competence of other students around them (Vispoel & Austin, 1993). Again, to the exclusion of other information available to them, competing students tend to evaluate their ability as high after winning but as low after losing (Ames, 1984). Their personal satisfaction with their performance depends more on whether they have won or lost than on how hard they tried or worked.

Motivation and Achievement in the Middle School Years.

According to Maehr (1993), early adolescence is a time of change when enduring patterns of motivation, achievement, and social relations emerge. As students transition from the elementary grades to middle school and junior high, effort attributions decrease while ability attributions increase (Maehr, 1993). While younger children view their ability as something that can be improved through instruction, effort, and experience, older students begin to view ability as something that is fixed. Beginning around the age of 11, children's previous self-comparisons give way to the use of social-comparisons for judging their own performance (Covington, 1984). This change results in their sense of personal worth depending on doing better than their peers.

While this phenomenon seems to be part of the normal developmental process, the increased use of competition by teachers at these grade levels can acerbate its negative effects. According to Covington, competitive learning situations force many students to "abandon the positive coping strategies associated with striving for success"

and to "adopt tactics designed to avoid failure" (p. 15). For instance, students may minimize their expenditure of effort when the chances of failure are high. They fear that if they attempt a task and fail, they will be judged to be incompetent and experience humiliation and shame (Anderman, 1994). One way for these students to avoid negative judgment and maintain self-worth is not to try.

CHAPTER SUMMARY

Competition in music education abounds and reflects the pervasive use of competition in greater American society. However, competition is controversial, with the debate centering on competition's effects on student motivation and achievement. Prior research on competition in music has examined student and educator attitudes toward competition, the effect of competition on student affect, and the effect of different goal structures on achievement, motivation, and causal attributions.

The goal structures examined in prior research have included individualistic (individualistic-standards or mastery learning formats), cooperative (with or without competition between groups), and competitive (intergroup or interpersonal competition). These studies have found that these different goal structures elicit distinct attributional patterns. Finally, children in the middle grades experience profound change in their attribution patterns, and this change might be accelerated by competitive learning structures.

PURPOSE AND PROBLEMS

Several questions are left unanswered by the previous research, especially as focused on middle school instrumental music settings. Will research in a classroom field setting confirm findings on the attributions of students in the middle grades? How do interpersonal competitive goal structures compare to mastery learning situations in affecting students' achievement attributions and affect? Are students in the middle grades more motivated to practice their instruments in competitive or individualistic goal-oriented classrooms? The purpose of this study is to gain insight into the use of competition in a middle school band setting so that this information can be used to improve instrumental music instruction.

This study will attempt to answer the following questions: How do sixth grade band students who participate in competitive chair challenges compare to students who do not participate in competitive chair challenges on: (1) the amount of time spent in home practice and (2) their attributions for success or failure in instrumental music? Further, as secondary questions, this study will compare the attributions for success and failure and affective responses of high-achieving versus low-achieving students.

CHAPTER TWO

RELATED RESEARCH

INTERGROUP COMPETITION RESEARCH

Non-Music Research on Intergroup Competition.

One of the seminal psychological studies involving intergroup competition was published by Johnson, Maruyama, Johnson, Nelson, and Skon in 1981. These researchers conducted a meta-analysis of 122 studies in order to compare the effectiveness of cooperation, cooperation with intergroup competition, interpersonal competition, and individualistic goal structures in affecting achievement and productivity. They stated that meta-analysis, defined by them as "the combining of results of independent experiments for the purpose of integrating their findings" (p. 49), is suited well to research on goal structures and achievement, because many of the variables used in prior studies are identical, or at least similar conceptually.

Johnson, et. al. (1981) used the terminology of Lewin's (1935) field theory of motivation to operationalize their variables. According to this theory, individuals are motivated to accomplish their goals by a state of tension within themselves (Johnson, et. al., 1981, p. 47). Deutsch (1949, 1962) expanded Lewin's theory to explain how the tension systems of different individuals can be defined in one of three types of goal structures: cooperative, competitive, and individualistic. Using Deutsch's conceptualizations, Johnson, et. al. defined a cooperative goal structure as one in which the "goals of the separate individuals are so linked together that there is a positive correlation among their goal attainments" (p. 47). A competitive goal structure is defined as one in which the "goals of the separate participants are so linked that there is a

negative correlation among their goal attainments" (p. 47). Finally, an individualistic goal structure is defined as one in which "there is no correlation among the goal attainments of the participants" (p. 48).

Johnson, et. al.'s meta-analysis included every study that "was available to [them]" and performed on North American samples, contained achievement or performance data, and compared two or more of the four goal structures: cooperation, cooperation with intergroup competition, interpersonal competition, and individualistic. They used three methods of meta-analysis (the voting method, the effect-size method, and the z-score method).

Cooperation was found to be superior to cooperation with intergroup competition, interpersonal competition, and individualistic efforts in promoting achievement and productivity. Especially relevant to the present study, the findings indicated no significant differences between interpersonal competition and individualistic goal structures in terms of achievement. This review included studies that took place in a variety of settings and academic domains and used subjects of various ages and backgrounds. Conclusions were based on three separate methods of meta-analysis. Due to these facts, the generalizability of the findings is promising.

Music Research on Intergroup Competition.

Much of the music research on intergroup competition has involved band contests. Sheldon's 1994 study examined the effects of competitive versus noncompetitive performance goals on music students' ratings of band performances. The subjects were 226 high school students who were active in their school band programs.

Subjects were drawn from three separate schools that were identified as highly competitive, moderately competitive, and noncompetitive, based on their participation in adjudicated music events throughout the school year. Participants were randomly assigned to one of two conditions: the Contest Rehearsal Group (subjects in this group thought they were listening to a dress rehearsal prior to State Concert Band Contest) and the Concert Rehearsal Group (subjects in this group thought they were listening to a dress rehearsal prior to a spring concert).

Subjects listened to two taped music excerpts—a slow, lyrical piece performed by an "above average" junior high band and a fast tempo piece by an "average" high school band. They then rated each performance based on the following six categories: correct notes, correct rhythms, tone quality, intonation, expressiveness, and overall rating. Participants in the Contest Rehearsal Group rated the performances significantly higher than those in the Concert Rehearsal Group. This finding held true regardless of excerpt type or rating category. The researchers concluded that music students may place more importance on competitive events, believing that the band in the competitive condition is more entitled to reward.

It would have been interesting for the researcher to include how students from each of the three schools (highly competitive, moderately competitive, or noncompetitive) compared in their ratings. Because the researcher equalized the competitive backgrounds of the subject pool, the impact of students' varying competitive experience on the data remains unclear. The design of this study was such that students merely observed another group rather than actually participating in the competitive or

noncompetitive setting themselves. The findings of this study may have been different had the subjects been direct participants in the event.

Temple's 1973 study was one of the first attempts in music research to determine the effects of direct participation in band contests on students' musical knowledge or skills. The purpose of his study was to determine if students in bands rated superior in a state concert band competition would score higher on standardized music achievement and performance tests than students in noncompetitive bands that were rated outstanding by a panel of experts. Twelve pairs of schools (one school with a competitive band and one school with a noncompetitive band) were matched by size classification and curricular offerings. Ultimately, one pair of bands was randomly selected from each of the five school size classifications.

The band director of each participating school administered three separate measurement instruments. The sight-reading instrument was Form B of The Watkins-Farnum Performance Scale. The music achievement instrument was Test 4 of The Colwell Music Achievement Test (MAT). An experimenter-designed questionnaire assessed the musical background and educational history information of each student.

While the independent variables of competition and size of school population did not significantly affect sight-reading scores when tested separately, significant differences were found in the mean scores of the ten schools when the two variables were permitted to act together. Also, students from non-competitive band programs scored significantly higher on the music achievement test than students in competitive band programs. However, one obvious problem with this study is the fact that the administration of the measurement devices and data collection was not controlled by the

researcher, but rather by multiple band directors. Differences in procedural practices may have affected the results obtained in the study.

The purpose of Hayslett's (1992) study was to determine if competing in concert band contests has any effect on students' perceptions of contest rating importance, musical achievement, and self-worth. The researcher surveyed 281 high school band members from five Ohio bands before and after participation in a district level, rated band contest. The 13-item researcher-designed questionnaire examined students' perceptions of personal musical achievement, self-worth in terms of making a positive contribution to the organization, and perceived importance of high contest ratings in determining a band's success.

Band 2, a class C band and the only ensemble to utilize the "no rating—comments only" contest option and have no prior contest experience, was also the only group to experience a significant decline in "rating importance" after participation in the contest. Band 1, a class A band and the only band in the study to be extensively involved in marching band competition, associated high contest ratings with musical success to a significantly higher degree than other groups surveyed on both the pre-contest and post-contest surveys. Band 1 members also perceived that they had acquired a lesser amount of musical learning and skill development than both Band 2 and Band 5 (class AA) members.

The only significant self-worth finding was that Band 5 members reported having a significantly higher perception of personal self-worth than Band 4 (class C) members. Bands 4 and 5 were from the same school. Notably, Band 5, a "select" band consisting of members chosen by audition, had the highest achievement scores before and after contest,

while Band 4, consisting of the members who did not qualify to be in Band 5, had the second to lowest achievement scores.

Summary of Intergroup Competition Research.

Several helpful insights in terms of methodology and criterion measures can be gained from this prior research on intergroup competition. First, future researchers might consider subjects' direct participation in the treatment condition to obtain authentic, personal responses to the survey items. While precedence has been set for researcher-designed questionnaires and other measurement tools, future researchers may prefer to incorporate standardized tests, like the Colwell Music Achievement Test (MAT), in their studies on competition.

INTERPERSONAL COMPETITION RESEARCH

Non-Music Research on Interpersonal Competition.

Of special interest to the present study is past research incorporating interpersonal competitive goal structures. There have been many examples of interpersonal competition in non-music experimental studies. In Clifford's 1972 study, fifth grade students were administered a vocabulary learning task under three goal structure conditions in a typical classroom setting. The "control" condition was a noncompetitive treatment in which no grade comparisons were made between students. In the competitive "reward" condition, score comparisons were made between students, and the student who scored the highest on the vocabulary quiz in each group was given candy. In

the competitive "game" condition, score comparisons were also made, and this time, the two highest scoring students received an advantage in a follow-up game activity.

Clifford examined the effects of these three conditions on student performance on the vocabulary quiz, interest in the task, and retention of the learned material. After taking the final vocabulary quiz, which was the last of 10 quizzes, students responded to a three-item questionnaire to assess their interest in the task. Two and a half weeks later, students took a 50-item follow-up vocabulary test to determine retention.

Students in both competitive conditions combined showed significantly more interest than students in the noncompetitive condition. Competitive versus noncompetitive treatment had no significant difference on performance or retention, and no differences were found between the "game" and "reward" conditions for any of the three dependent variables. Despite the fact that teachers had loosely identified students by ability in order to place them in homogenous groups for the treatment, no discussion of the interaction of ability with the other variables was made.

Johnson and Ahlgren (1976) compared the attitudes toward cooperation and competition of over 2,400 students in grades 2 to 12. Specifically, the researchers examined the relationship between student attitudes toward cooperation and competition and their attitudes toward relationships with school personnel, motivation to learn, relationships to other students, involvement in learning activities, personal worth, and behavior. The measurement device used to assess students' attitudes was the Minnesota School Affect Assessment.

Student cooperativeness was found to be significantly correlated to several positive relationships with school personnel. Cooperativeness was also found to be

related to intrinsic motivation, while competitiveness was related to extrinsic motivation until high school. Competitiveness was positively related to the attitude that luck and other people's behavior determines school success (external locus of control) until high school. Cooperativeness was related to positive interactions with other students.

While cooperativeness was positively related to willingness to express ideas and feelings in small and large groups, competitiveness was only related to beliefs that one is not able to express oneself in class, is not listened to by teachers, and is not able to ask or answer questions. This latter finding declined and became insignificant in high school. Cooperativeness was further related to positive self-worth as a student, while competitiveness became increasingly related to self-worth in junior through high school. The researchers were careful to note that the correlational nature of this study cannot imply causality between the variables. However, they failed to specify whether "competitiveness" referred to interpersonal or intergroup competition.

In a study by Ames (1981), sixth-grade children performed at a high or low level on a novel, achievement-related puzzle task under competitive or cooperative reward conditions. The children worked in pairs in the same reward structure, but one member of the pair was manipulated into performing at a high level on the task and the other at a low level. Each child's individual performance was determined by the number of solvable puzzles within a set of six puzzles. In the competitive condition, the children were told that the student who correctly solved the most puzzles would get a prize. Children in the cooperative condition were told that if, working independently, the two of them could solve a total of six puzzles, both students would get a prize. The researcher

further manipulated the task so that there would be both successful and failing cooperative groups.

After completing the puzzle task, subjects responded to a questionnaire that asked them to first evaluate their own performance by answering four attribution questions related to ability, effort, task difficulty, and luck. Subjects were then told to evaluate the performance of their partner using the same procedure. Next, the children were asked how much reward they felt was deserved for their own performance and that of their partners. Finally, researchers measured how satisfied the children were with their own performance and that of their partners. The researcher did not disclose the origins or reliability of the dependent measures used in this study.

Results indicated that children who performed at a high level on the task reported higher ability and effort, lower task difficulty, better luck, and more satisfaction and feelings of deserving reward than children in the low level category. These findings were further enhanced by type of reward structure. Winning in the competitive contingency seemed to increase perceptions of ability, satisfaction, and deservingness of reward.

Low-performing children indicated the most positive attributional and affective response in a successful cooperative group, judging their ability higher and feeling more deserving of reward and satisfied in this type of setting. Failing cooperative groups resulted in negative attributions, much like a competitive failure. Cooperative conditions seemed to equalize self-other perceptions, while competitive conditions created strong differences. Finally, some gender differences emerged in that male children attributed more ability to themselves than their partners, judged their ability higher, and rated the task as more difficult than female children.

In a similar study, Ames (1984) randomly assigned fifth and sixth grade children to either a competitive or individualistic-mastery goal structure on a novel puzzle task. The treatment was further manipulated to establish a high- versus low-performance outcome based on the number of solvable puzzles in each set. In the competitive goal structure, children worked in pairs and were told to try to solve more puzzles than their partners. In the individualistic-mastery goal structure, children worked alone and were told to solve as many puzzles as possible, trying to improve their performance on the second task. While anticipating a subsequent task, the children responded to a questionnaire that included items related to ability and effort attributions, instructions the children might give themselves regarding the upcoming task, and affect.

The classroom teachers of the students included in the study sample had been asked to place the children in high, middle, or low achievement categories, depending on their performance in the general areas of reading and language arts before data collection. However, analysis of the data revealed no significant main effects or interactions involving this achievement factor. Children in the competitive condition reported more ability attributions than children in the individualistic-mastery condition. Children in the individualistic-mastery condition reported more effort attributions and utilized more self-instructions than children in the competitive condition. In terms of gender differences, females tended to demonstrate a lower self-concept of ability by attributing success to high effort but failure to low ability.

Covington and Omelich (1984) compared the motivation and achievement of students in interpersonal competitive, individualistic-standards, and individualistic-mastery learning structures. As part of an introductory psychology course, college

students were assigned to either a "norm-referenced" or "criterion-referenced" grading condition for the duration of the course. Prior to the course, students took The Michigan State Self-Concept of Ability Scale and were placed in high or low-self concept of ability groups accordingly. Students within the individualistic conditions took turns being assigned to either a one-test or retest (mastery) condition for half the term. Students' individual achievement on a midterm exam was evaluated in comparison to others in the group for the norm-referenced condition. In the criterion-referenced group, any number of students could achieve a certain grade, assuming they had met the criteria. Students in the retesting/mastery condition took the exam again two days later, with only the highest of the two scores counting towards their grade. Students in the one-test condition only took the exam one time.

The dependent measures of Covington and Omelich's study were the midterm exam and a motivation questionnaire assessing achievement orientation, system fairness, grade confidence, grade aspirations, and system responsiveness. Both low and high self-concept students in the mastery condition performed significantly better on the midterm exam than students in the competitive condition. Moreover, mastery students performed significantly better than one-test students in either grading condition. While high-self concept students in the mastery condition scored higher on the exam than low-self concept students in the competitive condition, significant achievement differences were still found between high and low-self concept students in the mastery condition. When compared to the competitive condition, students in the mastery condition reported higher personal grade aspirations, increased grade confidence, and a greater sense of system fairness and responsiveness to effort.

In a companion study, Covington & Omelich (1982) tracked students who had experienced different numbers of test-taking failure in both mastery and competitive learning conditions. In the mastery condition, students maintained their positive perceptions of ability in the face of failure, as long as they improved or reached their grade aspirations. On the other hand, the competitive condition, providing no retesting opportunity, led to greater student demoralization despite the lower frequency of failure experiences.

In another introductory psychology course, Sherman (1986) examined the effects of goal structure on student achievement and affect. College students were randomly assigned to one of three classroom conditions: (1) A criterion-referenced grading system in a cooperative goal structure without intergroup competition; (2) A criterion-referenced grading system in a cooperative goal structure with intergroup competition; and (3) A norm-referenced grading system and an individually-competitive goal structure. The dependent measures were a course exam administered before and at the end of the study, a university-sanctioned "course/professor/evaluation" form, and a survey assessing student attitudes towards classroom cooperation, competition, grading practices, and general feelings about the class.

Students in all three learning formats demonstrated significant achievement gains on their posttests. No significant differences between the learning formats were found. Responses from the course evaluations were significantly more favorable in the "cooperative group without group competition" versus the "individually competitive" group and versus the "cooperative group with competition." All three groups indicated a strong preference for a cooperative classroom environment. The most negative affect

was obtained from students in the individually competitive group. Two potential problems with this study were the predominance of female subjects in the sample as well as the potential confounding effects of criterion- versus norm-referenced grading systems.

Ryan and Patrick (2001) investigated how students' perceptions about the social environment of their math classroom related to changes in motivation and engagement as students move from seventh to eighth grades. Recognizing that these factors may interact with academic outcomes, the researchers controlled for students' gender, race, and prior achievement. Students were recruited in the fifth grade, and survey data was collected when students were in seventh and eighth grades. The survey was a combination of items from pre-established and newly-created measures. The reliabilities for researcher-designed items ranged from .44 to .88.

One of the study's findings was that promoting performance goals was negatively related to social efficacy with teachers and peers, academic efficacy, and self-regulated learning and related positively to disruptive behavior. Statements related to "performance goals" on the survey included "my math teacher tells us how we compare to other students," "my math teacher lets us know which students get the highest/lowest scores on a test," and "my math teacher calls on smart students more than on other students." In this way, when students perceived an emphasis on comparison and competition, they reported less confidence in their ability to relate well to the teacher and more inclination to engage in disruptive behavior. In contrast, teacher support, promoting interaction, and promoting mutual respect were found to be positively related

to social and academic efficacy and self-regulated learning and negatively related to disruptive behavior.

Summary of Non-Music Interpersonal Competition Research.

Much can be learned in terms of methodology and criterion measures that can be applied to the present study. Clifford's 1972 study demonstrated the importance of a reliable method for assessing student achievement level so that the interaction of this variable with others could be studied. Johnson and Ahlgren's 1976 study clearly demonstrates the proper development of a survey over time, the use of standardized measures as a model, the ideal balance of a sample for sex, and the procedure for removal of incomplete surveys.

From Ames (1981), it becomes clear that children's attributions and affect might be significantly affected by whether they are able to attain their achievement goal. The present survey should include items that allow subjects to clearly indicate whether they attained their achievement goals in terms of playing quiz scores and chair challenge placement. Ames also examined gender differences, another possible consideration for the present study.

The design of Ames' 1984 criterion measure was effective. Her questionnaire contained attribution and affect items presented in random order. For each subject, four scores were obtained based on how many statements the child circled in each of the four categories examined in the study. By using this method, Ames provided concise means of looking at the direction of children's thinking that was not limited by their ability or willingness to express themselves. In addition to the survey, Ames designed her study so

that students anticipated subsequent tasks, a condition that may be important in affecting attribution and affect. Finally, Ames designed the individualistic-mastery learning format in such a way as to avoid the use of external criteria, or absolute standards, in the grading system. Instead, the children were encouraged to try their best and were provided with an opportunity for self-improvement. Designing the mastery learning format in this way may heighten the attributional and affective differences between it and competitive learning formats.

Finally, several design elements from Covington and Omelich's work are relevant to the present study. In their 1984 study, for example, all subjects in the mastery condition retested on the midterm exam two days later, with the highest of their two scores counting towards the final grade. In this way, the researchers ensured that all subjects would fully experience and benefit from the mastery learning condition. As mentioned earlier in the discussion of Ames' 1981 study, Covington and Omelich (1982) clearly acknowledged that the ability of students to show improvement or attain their achievement goals under a mastery condition may significantly affect perceptions of ability.

Music Research on Interpersonal Competition.

In music education, few experimental studies on interpersonal competition have taken place in real classroom settings. Of those that have, the majority have examined the effects of solo festival competition. For example, in Austin's 1988 study, 44 fifth and sixth grade band students participated in an adjudicated solo contest in which they received either written comments and ratings or written comments only. Students

received a performance rating ranging from high (I) to low (V) and comments pertaining to tone quality, intonation, rhythm, technique, musicianship, articulation, and other related performance factors. Students participated in this event after one month of preparation in their weekly lessons. Before and after the contest, students were administered the Music Achievement Test (MAT) and the Self-Concept in Music (SCIM) scale.

In addition to measuring students' music achievement and self-concept, the researcher designed a posttest questionnaire to assess subjects' achievement motivation and attitude. Questionnaire items were created from open-ended student responses and from prior research on attribution theory. Austin included 20 possible reasons why some students do well in music. Each of the four traditional attribution categories—ability, task difficulty, luck, and effort—were represented on the questionnaire by five items. Subjects were directed to "choose the ten best reasons why some students do well in music" (p. 99). Finally, students responded "yes" or "no" to four items presented verbally by the researcher to determine students' attitudes toward rated and nonrated contest formats.

The results of Austin's 1988 study showed significant gains in musical self-concept for rated and nonrated groups. However, only the rated group made a significant gain in music achievement. No significant difference in motivation scores was found for rated versus nonrated students. Effort was the most frequently cited attribution for music success, and task difficulty was the least frequently cited attribution. Of the entire sample, 76% percent of students said they would prefer to participate in a rated contest format in the future. However, students who received relatively low ratings or

participated in the nonrated format were less likely to indicate preference for a rated format. According to Austin, pretest scores on the Music Achievement Test were the best predictor of performance achievement in the contest. Generalization of these results is limited due to the narrow, early grade levels of subjects and the small sample size. Calculating adjudicator rating reliability is also recommended to eliminate bias as a confounding variable.

Similar to the above research, Austin's 1991 study included 48 fifth and sixth grade band students who were participating in an adjudicated solo contest. He examined the effect of competitive and non-competitive goal structures and music self-esteem on achievement, motivation, and attitude. Students were assigned to either a competitive (rewards based on absolute standards) or non-competitive (all participants rewarded for trying their best) contest format. In the competitive goal structure, students were encouraged to perform well enough and score high enough on the task to receive a special ribbon. Students could receive white, red, blue, or no ribbons for good, excellent, superior, or poor performances, respectively. In the non-competitive goal structure, students were told that their goal was to perform as well as they possibly could and that all students who played solos would receive ribbons for their participation.

No significant differences were found between the competitive and noncompetitive goal structure formats for music self-esteem, motivation, or achievement. One nearly significant finding ($p<.068$) was that students in the noncompetitive format performed equal to, if not better than, students in the competitive format. Overall, music students more readily endorsed effort than any other attribution. Music self-esteem significantly affected motivation in that students with low self-esteem were less

interested in music and gave less endorsement to "effort" and "affect" as explanations for success. Students with low music self-esteem also reported significantly less "perception of having learned" than students with moderate or high self-esteem. Finally, students' future goal structure preference was found to be significantly related to the type of goal structure they had experienced within this study, but not to level of music self-esteem.

Schmidt (1995) also incorporated interpersonal competition into his study. Junior high and high school students enrolled in a summer choral music camp were presented with audiotaped private lesson episodes. The teacher in these excerpts had been coached to provide approval and disapproval feedback to the lesson student from the following categories: (1) approval focused on academic information; (2) student improvement; (3) norm-referenced approval; (4) person praise; (5) personal approval; and (6) approval-control. An example of "student improvement" approval was "that sounds much better than it did last week." An example of "norm-referenced" approval was "you're doing much better on that exercise than other students I've had" (p. 318).

After listening to the audiotape, subjects completed a questionnaire that gathered demographic and attributional information. Specifically, subjects were told to list "the most important reason why some students *succeed* in vocal music" and "the most important reason why some students *fail* in vocal music" (p. 317). These free responses were then coded as internal-stable, internal-unstable, external-stable, or external-unstable. According to Schmidt's findings, vocal music students were significantly more likely to attribute success in choral music to internal reasons, with a slightly higher tendency to make effort over ability attributions. Differences in grade level were not significant, but gender differences did seem to have some effect. Finally, subjects rated improvement-

oriented teacher feedback as most valuable and positive and norm-referenced teacher feedback as least valuable and positive.

In a later study by Schmidt (2005), band students in seventh through twelfth grades completed a questionnaire to gather demographic information, practice time per week, participation in music ensembles, and ratings at solo festival. The questionnaire also included items related to commitment to band, self-concept in instrumental music, and motivation variables (mastery, intrinsic, individual, cooperative, competitive, ego, approach success, avoid failure). Examples of the "competitive" and "ego" survey items included the following: "I work harder in music when I try to do better than other students;" "I feel most successful in band when I am the best;" and "I feel most successful in band when I know more than other students" (p. 139). Additionally, the students' band teachers were asked to rate their individual performance achievement and overall effort.

Several notable findings emerged. The competitive orientation was significantly correlated with ego, achieve success, and avoid failure orientations. Ego, competitive, and avoid failure orientations were not significantly correlated with commitment to band. Practice time was significantly correlated with intrinsic orientation, commitment to band, mastery orientation, self-concept, cooperative orientation, and achieve success. Competitive, ego, and avoid failure orientations were not significantly related to instrumental participation (private lessons, all-county band, and solo and ensemble festival), or performance achievement.

Few studies to date have examined interpersonal competition in the form of competitive chair challenges. In an investigative study by Chandler, Chiarella, and Auria

(1988), band students from three separate band programs completed a researcher-designed, piloted questionnaire that included demographic, affective, and attributional items. The demographic survey items asked subjects to indicate their current chair placement and the number of times they challenged and were challenged. In terms of affective items, subjects were asked to indicate in which chairs they thought they should be placed, chair aspirations in three months, satisfaction with current performance level, degree of success, and degree of enjoyment. The seven attribution items included on the survey were technical knowledge of the instrument, help from the director, help from others, effort, natural musical ability, difficulty level of the instrument, and luck.

"Natural musical ability" was significantly correlated to accounting for successful performance. Practice time was positively correlated to the number of times students challenged for higher chairs. For students who challenged, degree of success was positively related to internal attributes, including technical knowledge of the instrument and natural musical ability. In summary, students who perceived success and satisfaction challenged more and attributed their success to internal factors. Fewer challenges and external attributions were found to be significantly correlated with perceptions of failure and lack of satisfaction.

Summary of Music Research on Interpersonal Competition.

Many issues relevant to the present study can be clarified from the methodological and design problems in these previous music studies. Austin (1991) did not calculate adjudicator reliability in judging the solo contests. Also, instead of obtaining a reliable pre-test measure of performance achievement, the lesson instructor

was asked to rank order band students numerically (1-48) before the contests took place. These rankings were loosely based on students' current level of progress in the band lesson books as perceived by the instructor. As a result, the present study should incorporate a reliable method of grading the students in the control condition and deciding the chair competition outcomes in the treatment condition and testing students' prior achievement level.

While Schmidt (1995) clearly elicited attributional responses to success or failure experiences, his results were limited in that he only asked students to provide one reason (i.e., "the most important reason why some students *fail* in music") for each achievement outcome. However, the stated purpose of his study was to identify which reason students believed to be most important in explaining success and failure in music, not to elicit multiple reasons. In addition, the results may have been skewed by the fact that the sample only included students who had elected to attend a vocal music camp, not students in public school choral programs at large.

Schmidt (2005) asked band teachers to provide individual performance achievement information about the students included in the sample, but this variable was not explored in the study's analysis. Finally, Chandler, Chiarella, & Auria (1988) failed to provide information regarding the exact wording of the attribution items. As a result, their specific methodological approach to assessing students' attributions in the survey remains unclear. This latter study, while investigative, is one of the few music studies in the literature to examine interpersonal competition in the form of chair challenges. Including competitive chair challenges as one of the treatments, the present experimental, longitudinal study appears to be unique in music education research.

MASTERY LEARNING RESEARCH

Many of the prior studies incorporating mastery learning structures, including their relevance to the present study, were discussed in earlier sections (Ames, 1984; Covington & Omelich, 1982; Covington & Omelich, 1984; Schmidt, 1995; Schmidt, 2005). Austin and Vispoel conducted two key experimental music studies that involved mastery learning structures (Austin & Vispoel, 1992; Vispoel & Austin, 1993). In their 1992 study, band students in grades five to eight were randomly assigned to one of nine treatment conditions that included three levels of goal structure (interpersonal-competitive, individualistic-standards, or individualistic-progress) and three levels of outcome attribution (ability and skill, effort, or practice methods and strategies).

Subjects were presented with a scenario describing the failure experience of a fictitious band student named "Bill." The researchers manipulated the goal structures by altering the depiction of a sign posted in the hypothetical band room by "Bill's" band director. The sign listed award criteria for a band contest in which "Bill" was to participate. In the competitive scenario, the sign read "special performance awards will be given to the three students who receive the highest scores at the contest" (p. 9). In the individualistic-standards condition, all students who scored 20 points or more at the contest would receive an award. In the individualistic-progress condition, students who improved their performance score by five or more points at the contest would receive a prize.

The researchers manipulated outcome attribution by presenting subjects with "Bill's" post-contest evaluation report. Feedback on this report was related to either ability and skill, effort, or practice methods and strategies. Finally, to reinforce the

researchers' attribution and goal structure manipulations, subjects observed a picture of "Bill" with a caption where he attributed his failure experience to one of the three causes. Following the scenario, subjects completed a 35 item questionnaire to measure students' perceptions of "Bill's" future performance, future effort, future strategy use, future risk-taking, future support, attribution feedback affect, and goal failure affect.

The researchers found no significant interactions or main effects for goal structure, but attribution feedback produced several significant main effects. Students who observed "Bill" receiving effort and strategy attribution feedback reported significantly higher future expectations for improved performance, effort, and strategy use than students in the ability attribution feedback condition. Strategy attribution feedback led to significantly higher expectations for improved strategy use than did effort attribution feedback. The affective responses of students in the competitive, individualistic-standards, and individualistic-progress goal structures were not significantly different.

In a variation of their previous research, in Vispoel and Austin's 1993 study, junior high school general music students again were randomly assigned to the same nine treatment conditions (goal structure x outcome attribution). This time, the fictitious character, "Bill," was a general music student. In the "competitive" scenario, "Bill's" grade in the hypothetical general music class was based on his performance compared to other members of the class. In the "standards" scenario, "Bill's" grades were based on the total number of points he earned during the term. In the "progress" scenario, his grade was based on the amount of progress he made since his pretest score.

The goal structures were further highlighted by presenting a copy of the grading criteria to subjects. For example, in the competitive condition, the subjects were told that "Bill" would need to score among the top 10th percentile in order to receive an "A." Similar to their previous study, subjects also read a feedback form given to "Bill" by his general music teacher. Attribution feedback was manipulated on this form by emphasizing feedback related to ability and skill, effort, or practice and study methods. Again, to reinforce the researchers' attribution and goal structure manipulations, subjects observed a picture of "Bill" with a caption where he attributed his failure experience to one of the three causes.

Following the scenario, subjects completed a 35 item questionnaire that was similar to the one used in the 1992 study. Vispoel and Austin (1993) found that students presented with the effort and strategy attribution feedback scenario reported significantly higher expectations for "Bill's" improved performance, effort, and strategy use than did students presented with the ability attribution feedback scenario. These findings replicated those found in their earlier 1992 study. While classroom goal structure had no significant effect on affective response, attribution feedback did produce significant results.

While thorough and creative in their manipulations of goal structures and attributions in these two studies, Vispoel and Austin's "hypothetical scenario" methodology did not directly measure subjects' personal responses to failure. As a result, the subjects may not have fully identified with the fictitious student "Bill." Had the students participated as "actors" in the study, perhaps the researchers may have found statistically significant goal structure effects. The present survey will assess subjects'

personal responses to success and failure following their direct participation in competitive and mastery learning conditions.

METHODOLOGICAL APPROACHES TO ATTRIBUTION RESEARCH

Situational Methodologies.

As evident in the above studies, attributions have been investigated using a variety of different methodologies and measurement tools. The most common methodological approach is a "situational" study in which subjects consider a detailed scenario about a success or failure experience of a hypothetical individual and then infer that individual's attributional beliefs (Austin & Vispoel, 1998). Researchers often manipulate aspects of the scenario, with subjects responding to various attribution items related to each scenario.

A situational approach can be limiting because subjects' perceptions about another individual's attributional beliefs may not be the same as their own. Further, their inferences about that person's behavior may only be applicable to that given situation. This methodology is considered appropriate for "initial investigations of motivation in novel settings (e.g., general music classes)" (Vispoel & Austin, 1993, p.115). Vispoel and Austin also contend that hypothetical scenarios are also useful because they help researchers to manipulate variables more easily, obtain data on large samples more efficiently, and obtain more statistical power than laboratory or real-world situations provide.

As discussed earlier, Vispoel and Austin (1993) provided an example of a study that is clearly situational in nature. A hypothetical student named "Bill" was presented to

subjects in either an interpersonal competitive, individualistic-standards, or individualistic-progress scenario. Bill's fictitious general music teacher gave him an evaluation report with attribution feedback from three categories: (1) Ability and skill, (2) effort, and (3) practice and study methods. The scenario then ended with a picture of Bill with captions indicating whether he attributed his failure experience to either lack of ability and skill, inadequate effort, or inappropriate strategy use.

Dispositional Methodologies.

Another methodological technique to attribution research is a "dispositional" approach. In this type of methodology, researchers measure subjects' attributions as traits, or dispositions, as opposed to states (Austin & Vispoel, 1998). In a dispositional study, subjects consider several brief and general statements pertaining to a series of particular events in an achievement context. For each event, participants indicate the relative importance of various attributions. For example, Austin and Vispoel (1998) gave the following instructions to the subjects in their study:

> Think about your past experiences in school involving music-related activities like singing, playing an instrument, reading music, making up songs and so forth. When you do (well, poorly) at activities like these, it might be due to different reasons. The following statements are possible reasons for doing (well, poorly). Read each statement carefully and put an "X" in the appropriate box to indicate the extent to which you agree or disagree with each statement (p.34).

Dispositional approaches are considered more effective than situational methodologies, because they are assumed to be more generalizable to different achievement tasks.

However, experts warn that causal beliefs may, in fact, vary from situation to situation and may change when presented with an appropriate intervention.

Critical Incident Methodologies.

Finally, some researchers use a "critical incident" methodological approach to assess subjects' causal attributions. In critical incident studies, subjects recall a real-life success or failure experience and evaluate attributions related to that particular experience. Unlike situational and dispositional studies, critical incident studies assess individual responses to real-life experiences (Vispoel & Austin, 1995). Significant differences may be more likely to occur when participants function as actors rather than interpreters of attributional beliefs (Ames and Ames, 1981). A limitation of the critical incident approach is that results may only apply to the particular event recalled.

There are two types of critical incident studies. In the first type of critical incident study, participants recall naturally-occurring success or failure experiences and then evaluate their causal attributions for success or failure. Vispoel and Austin (1995) argue that subjects' recalled events are more likely to be familiar, valued, and gender appropriate to them because the participants (not the researcher) personally defined the event and outcome. Also, when subjects are given the opportunity to recall events, researchers may be given insight into the types of experiences most commonly associated with success and failure. Vispoel and Austin's 1995 study provides an excellent example of this first type of critical incident approach. Their questionnaire began with the following set of directions:

> Think about your past experiences in junior high school (math, English, general music, physical education) classes. Try to remember a time when you did particularly (well, poorly) on an activity that was important to you. The activity you are thinking of might be listed below. If so, circle the letter preceding the activity. If the activity is not listed below, circle the letter preceding "other" and describe the activity in the space provided. Be sure to circle only one letter (p.384).

In the second type of critical incident study, researchers select an achievement task and then measure subjects' attributions after they complete the task. In Ames' 1981 study, children were given novel and achievement-related puzzle tasks. After trying to solve these puzzles, the subjects evaluated their own performance by an answering four attribution questions relating to their ability ("How smart do you think you were in solving the puzzles?"), effort ("How hard did you try to solve the puzzles?"), task difficulty ("How hard do you think the puzzles were to solve?"), and luck ("How lucky do you think you were in solving the puzzles?"). The present critical incident study uses a researcher-designed, close-ended questionnaire assessing participants' attributional beliefs as a function of an experimentally-manipulated achievement event.

ATTRIBUTION RESEARCH

Non-Music Attribution Research.

Several attribution studies were discussed in earlier sections (Ames, 1981; Ames, 1984; Johnson and Ahlgren, 1976). However, additional researchers have used attributional beliefs as the focus of their studies. In an experimental study by Wigfield

(1988), students in second through sixth grades were assigned to one of four conditions—"self-focus failure," "self-focus success," "task-focus failure," or "task-focus success." In individual sessions, each child listened to a tape-recorded story, verbally recalled it, and received evaluative feedback. In the "self focus" condition, the children were told to think of the memory task like it was one of their school tests, and how well they remembered the story as a good test of how well they do in school. In the "task-focus" condition, the children were instructed to "concentrate very hard on the story at all times" (p. 77). The experimenter told half of the children in each condition that they had recalled the story well and half that they had recalled the story poorly.

After completing the memory task and receiving the feedback, the children answered questions read aloud to them by the researcher. Children separately rated the importance of possible reasons for their performance, including the attributions of ability, effort, difficulty, luck, and interest. In addition, they answered four other questions in reference to future success expectations, future choice of easier or more difficult memory tasks, degree of self-focus, and degree of task-focus. The four grade levels were combined into "younger age group" and "older age group."

Wigfield (1988) found that success or failure experience had the greatest impact on children's attributions. Children in the success group judged effort, especially task-focused effort, as the most important cause of their performance. In general, children rated ability, interest, and task difficulty as moderately important reasons for success. In the failure group, only task-focused ability and task-focused difficulty were rated as somewhat important causes. Children in the failure group did not endorse lack of effort as an important reason for the task outcome. Children in the task-focus condition

attributed failure to task difficulty to a moderately higher degree than children in the self-focus condition. This finding suggests that task focus provides a more positive interpretation of failure as resulting from external causes. The self-focus condition elicited more internal attributions for older children than for younger children.

Vispoel & Austin (1995) deviated from their usual music focus to include four subject areas in their attribution study: English, math, general music and physical education. Seventh and eighth grade students enrolled in all of these four courses responded to one of two experimenter-designed questionnaires. The questionnaire assessed success or failure attributions, demographic information, and course grades.

The two versions of the questionnaire were identical in all respects except one assessed only failure attributions and one only success attributions. Each class (math, English, general music, physical education) was addressed on a separate page. As part of this retrospective critical incident methodology, subjects were instructed to think about their past experiences in each course, remembering a time when they did particularly well/poorly on an activity that was important to them. After identifying the specific experience, subjects indicated the degree to which ability, effort, interest, task difficulty, luck, family influence, strategy, and teacher influence attributions accounted for their success or failure.

All of the attributions included in the survey except luck were seen by subjects as significantly viable reasons for success. The most to least endorsed success attributions were effort, interest, teacher influence, ability, task difficulty, strategy, family influence, and luck. In every subject area, effort was the most endorsed success attribution and luck was the least endorsed. In contrast, only interest and task difficulty attributions were

viewed by subjects as significantly viable reasons for failure. The most to least endorsed failure attributions were interest, task difficulty, strategy, effort, ability, luck, teacher influence, and family influence.

The results also indicated that students took more responsibility for their successes (more effort and ability attributions) than for their failures (more luck and task difficulty attributions). In terms of family and teacher influence, students were more likely to give family members and teachers credit for success rather than to blame them for failure, a phenomenon researchers referred to as the "altruism effect" (p. 389). In examining subject area differences, physical education and general music classes elicited unique patterns of attributional ratings. Overall, these findings clearly demonstrated that attributional responses are dependent on success or failure outcome, subject area, and activity.

Summary of Non-Music Attribution Research.

In Wigfield's study (1988), the subjects recalled a memory task and verbalized their perceived reasons for success or failure on the task. For each attribution question, the researchers read aloud a specific version and a general version. For example, the specific version of the effort attribution question contained the phrase "because you tried hard to remember the story" and the general version contained the phrase "because you usually try hard in school." The older, more developmentally mature children seemed better able to distinguish between specific and general causes of behavior. Also, the researchers asked the questions aloud, not allowing the children the time to think and reflect at their own pace as they might have done responding to a written survey.

By anticipating potential pitfalls, Vispoel and Austin (1995) provided a precise, thoughtful design that will serve as a model for future studies. For example, the researchers assessed subjects' academic achievement by asking them to self-report the most recent grades they had received in English, math, general music, and physical education. By using self-reported rather than actual grades, the students were able to maintain their anonymity and the experimenters were able to maximize participation and obtain potentially more honest responses to the survey questions. Vispoel and Austin also found stronger relationships between students' reported grades and attributional responses than those found in prior research, suggesting that their "critical incident" methodology may have been especially powerful.

Vispoel and Austin chose to include "interest" as a possible attribution on their survey. Interest was the most highly rated failure attribution and the second most highly rated success attribution. Although not always included in traditional attribution models, interest may be an important attribution to include in future research, especially studies involving students in non-elective courses. Since subjects declined to significantly endorse many of the failure attributions, future researchers may want to expand this list further to include "performance anxiety" or "nervousness."

With the exception of math, Vispoel and Austin found that subjects' most recalled failure and success experiences did not involve testing, an activity that has been the focus of many prior attribution studies. Future experimenters should consider including classroom activities other than tests in their study design in order to better understand student motivation. Finally, the researchers aptly addressed potential fatigue and

carryover effects by putting the directions and attribution items for each subject area on a separate page.

Music Attribution Research.

Many of the attribution studies in prior music research were discussed earlier in the context of intergroup, interpersonal, or mastery learning structures (Chandler, Chiarella, & Auria, 1988; Austin, 1991; Austin, 1988; Vispoel & Austin, 1993; Schmidt, 1995; Austin & Vispoel, 1992). However, other researchers have studied the attributional beliefs of music students. In an investigative study by Asmus (1985), the attributional beliefs of 118 sixth grade general music students were surveyed. Students could give five free responses to each of the following directives: "Identify five reasons you believe why some students do well in music" and "identify five reasons you believe why some students do not do well in music" (p. 5). Subjects' responses were then analyzed by assigning each response to one of four attribution categories—ability, task difficulty, effort, and luck. The experimenter created a profile for each student consisting of three sets of attribution scores, including "do well," "do not do well," and the two directives combined.

The results of this investigation revealed that most subjects in the sample attributed success and failure in music to ability and effort. Students from the three different schools included in the sample—parochial, inner city, and suburban—indicated different attributional patterns. Effort was the most frequently endorsed attribution for success or failure in general music. In general, students tended to make internal attributions for success and failure in music. The researcher found no significant

differences between the attributions elicited by the "do well" and "do not do well" categories.

In 1986, Asmus expanded upon his earlier study to include 589 students, grades 4 through 12, enrolled in instrumental, vocal, and general music classes. Students from eight different public schools participated in the study. Similar to his 1985 attribution survey, Asmus used an open-ended format for which subjects stated five reasons why some students do well in music and five reasons why some students do not do well in music. Three trained judges independently coded the responses into the following attributional categories: internal-stable, external-stable, external-unstable, and internal-unstable.

The results of this study indicated that the most frequently cited attributions were internal-stable (i.e., ability) in nature. While internal-unstable (i.e., effort) attributions were also frequently cited, external attributions were much less commonly used. Overall, students attributed the causes of success or failure in music to internal reasons approximately 80% of the time. Unlike in his 1985 study, students made significantly different attributions under the "do well" and "do not do well" directives. Subjects made more internal-stable and external-stable attributions under the "do well" directive and more external-unstable (i.e., luck) attributions under the "do not do well" directive. In terms of gender differences, female students made more internal attributions than male students. Grade level also had an effect in that as grade level increased, attributions shifted from internal-unstable (effort-related) to internal-stable (ability-related). This finding was especially pronounced between the fifth and sixth grade. A clear trend was not discernable in school-related attributional patterns.

In an investigative study, Arnold (1997) surveyed band students in grades 6, 8, and 10 from seven schools to determine if their attributions differed by grade and gender. Students ranked the degree to which ability, effort, luck, and task difficulty accounted for the reasons why some students "do well" in music and "do not do well" in music. For example, under the "do well" directive, students completed the sentence "I think some students do well in music because" by numbering the following statements from 1 to 4: "they practice more than other students;" "music is an easy subject to learn;" "they have musical talent and ability;" and "some people are just lucky in some subjects" (p. 20). The surveys were administered in class by the students' respective band teachers.

In the "do well" portion, effort attributions were found to decrease as grade level increased, with a corresponding increase in ability and task-difficulty attributions. In the "do not do well" portion, students endorsed effort and luck more and ability and task difficulty less than had students in the "do well" portion. Effort attributions for males decreased as grade level increased in the "do well" responses. Effort attributions for females also decreased, although at a smaller rate. The ability attributions for males increased by grade level, but the ability attributions for females only increased between grades 6 and 8. Across grade level and gender, students tended to attribute lack of success to effort rather than ability.

In Austin and Vispoel's 1998 investigative study, 153 seventh grade music students (enrolled in one of six music classes all taught by the same instructor) completed two questionnaires. One type of measure assessed demographic information, music self-concept, and attributional beliefs. The second measure included two parts of Colwell's (1969) Music Achievement Test. The attribution questionnaire included 52 six-point

Likert scale items assessing eleven attributions—ability, effort, persistence, strategy, metacognition, interest, task difficulty, luck, family influence, teacher influence, and peer influence. Four or five items representing each attribution category were included on the survey. Students were randomly administered a survey assessing either success or failure attributions. They rated the degree to which the various causal reasons answered the following item stem: "When I do (well, poorly) on a music-related activity in school, it is usually because" (p. 34).

Austin and Vispoel (1998) found that all success attributions were seen by students as viable reasons for succeeding in music activities. The most to least endorsed success attributions were teacher influence, peer influence, family influence, luck, ability, metacognition, persistence, effort, strategy use, interest, and task difficulty. Only three of the eleven failure attributions were seen as viable—family influence, ability, and luck. Attributional beliefs were found to be strongly related to music self-concept and achievement. Failure attributions demonstrated an especially strong relationship with self-concept and achievement. Ability attributions were more strongly correlated with self –concept and achievement than any of the other attributions for both success and failure outcomes.

Summary of Music Attribution Research.

Although Asmus (1985, 1986) used a qualitative approach in his open-ended attributional surveys, he only coded the data into the four traditional attribution categories. Open-ended response formats allow participants to indicate a wider variety of attributional responses than close-ended formats. The study's narrow analytical focus did

not fully consider the diversity of attributional responses. As evident in his 1986 study, the independent judges who coded the responses struggled to categorize them into "ability," "effort," "task difficulty," or "luck." Later, the judges recoded the responses into internal-stable, external-stable, external-unstable, and internal-unstable categories. In addition, by asking students to provide reasons why "some students" do well (or do not do well) in music, they were not reflecting on specific incidents or activities of personal relevance and importance. Finally, although his 1986 subject sample included general music, instrumental, and vocal students, Asmus did not address attributional differences between the different classes in his analysis.

Rather than using an open-ended format, Arnold's (1997) survey required students to rank order several provided statements. Like Asmus, Arnold only used the four traditional attributions, and students did not reflect on personal experiences or specific activities in the content area. However, various gender differences did emerge. The researcher also reported that the total number of girls in the study was 2.5 times the total number of boys. As a result of these gender differences and participation rates, Arnold addressed the need to include this variable in future attribution research and to consider ways to improve retention of male band students.

The results of Austin and Vispoel's 1998 study clearly demonstrated the need for researchers to assess success and failure attributions separately. Several non-traditional attributions, including persistence, strategy use, metacognition, and family influence, were found to be strongly linked to self-concept and music achievement. This finding illustrated the importance of including non-traditional attributions in music research. Finally, Austin and Vispoel found that standardized test scores were more strongly

correlated to attributions and self-concept than class grades. The researchers contend that standardized music achievement tests may be more valid measures of music achievement than course grades.

CHAPTER SUMMARY

In summary, numerous attribution studies have been conducted in both music and non-music achievement domains. These studies have included elementary school children through university students. Much of the music research involving competition and/or attributions has been limited to investigative, non-experimental designs, and there have been few longitudinal attribution studies in a field setting. Prior research involving competitive goal structures has focused on band contests rather than interpersonal competition. Few examples exist of music research on competitive chair challenge systems or mastery learning structures. Attribution studies have been conducted by means of one of three different methodologies—situational, dispositional, or critical incident. The need to separate success and failure outcomes has been established. While some researchers have used Weiner's original four attributions of ability, effort, task difficulty, and luck, others have included non-traditional attributions in their studies as well.

The present study was prompted by the pervasive nature of competition still evident in music classrooms across the United States. Moreover, there appears to be a dramatic lack of experimental research on interpersonal competition in music. No music studies to date have compared competitive chair challenge systems to mastery learning structures, especially not in a real-world field setting. Because adolescence is a critical

period in the formation of attributional perceptions, this study will examine middle school students' beliefs about success and failure in music. In addition to including several non-traditional attributions in success and failure scenarios, this study will explore any differences due to achievement level or goal structure.

This study will attempt to provide answers to questions left open by prior research. How does the saliency of traditional and non-traditional attributions under an interpersonal competitive goal structure compare to that of a mastery learning structure? How will the attributions of high- and low-achieving students differ in the context of these two goal structures? Will students engage in more home practice in the competitive or individualistic learning structures? And finally, will the interpersonal competition or individualistic-progress learning structure emerge as "winner" in terms of educational merit in a music classroom setting?

CHAPTER THREE

METHOD

PARTICIPANTS

The participants in this study were predominantly Caucasian students in two sixth grade band classes in a low-to-middle-income semi-rural school district of mid-Michigan. Thirty-five female students and twenty-one male (n = 56) students participated in the study. The sample included 33 students from fifth hour band class and 23 students from sixth hour band class. The students ranged in age from 11 to 13 years old and had completed one to two years of instruction on their instruments.

Both classes were taught by the same band teacher (the researcher) and met four times per week for 50 minutes per class period. Students playing woodwind, brass, or percussion instruments met on Mondays, Tuesdays, and Fridays in a large combined band setting. Only woodwind students met on Wednesdays in order to receive specialized instruction, take playing quizzes, or participate in chair challenge competition as part of this study. Brass and percussion students met on Thursdays to receive instruction and complete their portion of the study. Prior to this study, students did not participate in competitive activities as part of routine classroom procedure. However, mastery learning did take place prior to the study in the form of instrumental playing quiz retesting opportunities.

DESIGN

This study was a paired samples, quasi-experimental design. As part of this design, subjects participated in the control condition (individualistic-progress learning

structure) for three weeks and then subsequently in the treatment condition (interpersonal competition learning structure) for three weeks.

PROCEDURES

Before the study began, students were assured that their participation was strictly voluntary and that their responses to the questionnaire would remain confidential. They were also told that their decision to participate would in no way affect their grade in the class. In order to participate in the study, students were required to return a consent letter signed by a parent or guardian. Students and parents were told that the topic of the study involved the effects of competition on music students' motivation to practice and their perceived reasons for success or failure in music.

Once a week in the control condition, subjects took a pre-assigned instrumental performance exam on an exercise from their band method book or an excerpt from their concert music. Immediately after performing this selection for the teacher and class, students were given a survey on which they would indicate how much time they had spent practicing for the task over the course of the week. Students would also indicate their perceived reasons for success or failure on the task. After completing the exam and survey, each student was told privately the score he or she had received on the exam by the teacher at the end of the class period. The teacher rated students on a 10-point scale based on how well they executed the following musical elements: articulation, note accuracy, rhythmic accuracy, tone quality, tempo, and dynamics.

As part of normal routine for this course, the grades students received on these playing quizzes affected their grades in band class. Throughout this course and in the

control portion of the study, students were allowed to retest on their instrumental playing quizzes in order to receive a better grade. Students could retake their exam before or after class, during their lunch period (recess), or before or after school. There was no limit to the number of times a student could retest, and the highest score attained on any particular exam counted towards their final class grade.

In the experimental portion of the study, participants first performed a musical selection so that the teacher could rank the students in chair order within each section. This placement exam did not count towards the students' grade (nor did any of the performance opportunities during the treatment condition). For example, all the flute students participating in the study played an exercise from their band method book or an excerpt from their concert music. The teacher would privately assess how well students completed this task in relation to each other. Much like for playing quizzes in the control condition, the teacher would rate students on a 10-point scale. Later, the teacher rearranged the seating of each instrumental section so that the student who had performed "best" on the task was placed in the first chair, the student who had performed "second best" was in the second chair, and so on.

Once the chair order was established by ability, students were given the opportunity to compete against other students within their section in order to try to improve their chair placement. "Chair challenge days" took place during one class period per week. The teacher announced to students which musical selections would be included in that week's chair challenges so that they would have time to prepare. All students participating in the study were required to challenge one time per week. Each student was given only one turn to challenge another student seated higher in the section.

The student in last chair was given the opportunity to challenge first. That student would reveal his or her chosen musical selection and the person against whom they elected to compete. The student in the lower chair would perform the selection first. After both students had completed the task, the teacher immediately announced to the class which participant performed better and also provided some constructive feedback. Seating order would change accordingly at this point (for example, if fifth chair challenged second chair and won the challenge, fifth chair would move up to second chair, second chair would move down to third chair, and everyone else below third chair would move down one chair as well).

In the case of a tie-breaker, the teacher would choose a different musical selection within the confines of the measures assigned for that particular week, and the process would be repeated. The next student sitting in the lowest chair would now take a turn. After all the students in a section had taken their turns challenging, the researcher/teacher administered a similar questionnaire to the control condition assessing attributions and amount of home practice.

CRITERION MEASURES

In the individualistic learning structure, participants responded to an experimenter-designed questionnaire that included 14 total items, with 11 of those items assessing causal attributions, two items reporting their achievement on the instrumental performance exam (the score students believed they had earned as well as the grade given to them by the teacher), and one item reporting the amount of time the students practiced

for the exam. The forms for all participants and for each of the three performance exams in this control condition were identical.

Due to the critical incident methodological approach to this study, experimenters were interested in assessing subjects' causal attributions as a function of their direct participation in the tasks. Survey items in prior attribution research required subjects to state generic reasons why "some students do well/poorly in music." In contrast, items on the present researcher-designed survey gave subjects the opportunity to provide personal attributions to specific experiences they had encountered. The wording of this survey was modeled after the one used in Ames' 1981 study (e.g., to assess the attribution of effort, subjects were asked "How hard did you try to solve the puzzles?" in Ames' study and "How hard did you try on today's playing quiz?" in the present study). To facilitate data collection and avoid the effects of potential "survey fatigue" (from filling out six surveys over the course of this study), experimenters limited the present survey to 14 five-point Likert scale items.

In another researcher-designed questionnaire, Wigfield (1988) informed subjects that there are different possible reasons for remembering stories well (or poorly) and that they were going to rate the importance of several different reasons for their performance. Using Wigfield's 1988 survey instructions as a guide, students in the present study were given the following set of directions: "Think about how well you performed on today's playing quiz. Your performance may be due to several reasons. Read each item carefully before answering the question. Circle the number that represents the best answer to each question below." These directions were followed by a series of five-point Likert-scale items measuring subjects' attributional responses. To measure ability

attributions, students were asked "How would you rate your overall ability to play your band instrument" (1 = poor, 5 = excellent) and "How would you rate your musical ability in general (not just playing your band instrument, but other musical skills that you may have)?" (1= poor, 5 = excellent).

To measure effort, students were asked "How hard did you try on today's playing quiz?" (1 = little effort, 5 = high effort) and "How well do you feel you prepared for today's playing quiz?" (1 = not very well, 5 = very well). In this regard, students also self-reported practice time: "Estimate the number of minutes you practiced TOTAL for today's playing quiz (mark an X next to the number closest to your estimate)." Participants indicated their practice time by marking one of the following categories: "0 minutes," "more than 0, but less than 15 minutes," "more than 15, but less than 30 minutes," "more than 30, but less than 60 minutes (1 hour)," "more than 60, but less than 90 minutes (1 and ½ hours)," "more than 90, but less than 120 minutes (2 hours)," or "more than 120 minutes."

To measure interest in the task and affect, students were asked "How much did you enjoy doing today's playing quiz?" (1 = very little, 5 = very much) and "how nervous were you during today's playing quiz?" (1 = not very nervous, 5 = very nervous). To measure attributions of luck, students were asked "How much did luck play a part in influencing how you did today?" (1 = very little, 5 = very much). To rate task difficulty, students were asked "How difficult do you think today's playing quiz was?" (1 = low difficulty, 5 = high difficulty). To measure family influence, students were asked "Do you agree that musical ability runs in your family?" (1 = highly disagree, 5 = highly agree). To measure peer influence, students were asked to "rate how encouraging you

felt other students were towards you before, during, and after today's playing quiz?" (1 = not very encouraging, 5 = very encouraging).

Students then indicated which score (out of a total possible 10 points) they would give themselves on their performance. They were directed to answer two more questions after waiting in line to receive the grade the teacher had given them: "At the end of class, please give Ms. Lewis this finished survey. She will tell you the grade you received on the quiz. She will then keep this survey." After checking that each student had completed the survey items, the teacher then recorded the grade for the task on the survey and asked the student to complete the final item. To measure teacher influence, students were asked on this last question to "rate how fair you think the band teacher was in deciding your playing quiz score" (1 = very unfair, 5 = very fair).

For the purpose of measuring students' instrumental achievement level, the researcher determined the mean score from the three playing quizzes performed in this control condition. Students' scores on the playing quizzes were based on a 10-point grading scale. The teacher assigned the students' scores after assessing their ability to perform the correct rhythms, pitches, and notated markings in the musical passages. Modeled after Schmidt (2005), participants were placed in the following categories based on their mean playing quiz score of the three scores measured in the control condition: (1) lowest 10%, (2) lowest 25%, (3) lower 40%, (4) middle 20%, (5) upper 40%, (6) highest 25%, and (7) highest 10%.

The questionnaire for the treatment condition (chair challenges) was similar to the one used for the control condition (individual performance exam). The wording was changed to reflect the new task. For example, to measure effort, students were now asked

"How well do you feel you prepared for today's chair challenges?" There was the addition of one attribution item to measure strategy: "How would you rate your strategy in choosing who to challenge and which song to use?" Finally, rather than indicating their score on the performance task as they did in the control condition, participants were asked to indicate which chair they were in before and after today's chair challenges.

ANALYSIS

The researcher calculated the mean response for each subject in the control and treatment conditions, respectively, for ability (instrumental ability and general musical ability combined), effort, luck, task difficulty, enjoyment, nervousness, teacher fairness, and practice time. From the three performance exam grades in the control condition (rated on a 10-point scale), the researcher then determined the mean score of each participant. Based on this mean score, students were then placed in either the highest 25% achievement or lowest 25% achievement categories.

Dependent sample t tests were conducted to establish any statistically significant differences between the control and treatment conditions for ability, effort, luck, task difficulty, enjoyment, nervousness, and teacher fairness. The means and standards deviations for these attributions are also provided. The researcher examined trends to determine any differences in amount of practice time between the two conditions. Finally, the researcher also examined trends to determine any attributional differences in the control and treatment conditions based on achievement level.

CHAPTER FOUR

RESULTS AND INTERPRETATIONS

MEANS AND STANDARD DEVIATIONS

Means and standard deviations were calculated for causal attributions (ability, effort, luck, task difficulty, and teacher fairness) and affective responses (enjoyment, nervousness). The means and standard deviations for the control (individualistic-progress) and treatment (interpersonal competition) conditions are reported in Table 1 below. The means for ability, effort, and luck were virtually the same for the control and treatment conditions. Students rated task difficulty, teacher fairness, and feelings of nervousness higher in the control condition than in the treatment condition. Students rated enjoyment of the task higher in the treatment condition than in the control condition.

Table 1 - Means and Standard Deviations

	Control Mean	Control Std. Dev.	Treatment Mean	Treatment Std. Dev.
Ability	4.05	0.57	4.06	0.66
Effort	4.53	0.55	4.40	0.71
Luck	2.52	1.29	2.54	1.24
Task Difficulty	3.14	0.81	2.57	0.83
Teacher Fairness	4.42	0.53	3.91	0.88
Enjoyment	2.96	0.95	3.60	0.84
Nervousness	3.24	1.25	2.74	1.00

PAIRED SAMPLES T TESTS

Paired samples t tests were used to determine if interpersonal competition had a significant effect on the attribution and affect means. No statistically significant differences (df =55) were found between the control and treatment conditions for ability,

effort, or luck. The t values were -.08, 1.59, and -.12, respectively, which were not significant at the .05 level. Sixth grade instrumental students' attributions for ability, effort, or luck in the individualistic-progress learning structure (control) did not differ from those in the interpersonal competition learning structure (treatment).

Statistically significant differences (df = 55) were found between the control and treatment conditions for task difficulty, teacher fairness, enjoyment, and nervousness. The t values were 4.91, 4.52, -4.71, and 2.74, respectively, which were significant at the .01 level. Subjects rated the playing quizzes in the control condition as being more difficult than the chair challenges in the treatment condition. Students rated the teacher as being fairer in the control than in the treatment condition. Students reported more enjoyment in the treatment condition and more nervousness in the control condition.

Discussion.

Within the stability dimension of attribution theory, ability is classified as stable because this attribution is believed not to vary across time and from task to task (Asmus, 1985). Consistent with this premise, no significant difference was found in students' perceptions of their own musical ability between the individualistic-progress and interpersonal competition conditions. In addition to viewing their musical ability as a stable trait that did not change between the two tasks, the band students in this study rated their musical ability relatively high. According to a five-point Likert scale, the average ability rating was 4.05 in the control condition and 4.06 in the treatment condition.

Prior research has established that competition can direct students' attention to social comparison information, thus causing them to doubt their own ability (Covington & Omelich, 1984). In contrast, the social comparison information available to subjects in

the interpersonal competition goal structure did not seem to affect their self-evaluation of musical ability. Prior research has also confirmed that competition increases students' perceptions of ability as the cause of their success and failure. The design of the present survey prohibits support for this latter argument, in that subjects were simply asked to rate their musical ability, not to rate the extent to which ability may have accounted for their success or failure on the task.

While ability is defined by Attribution Theory as internal, stable, and uncontrollable, effort has traditionally been promoted by educators because it is internal, unstable, and controllable (Austin & Vispoel, 1992). Unlike ability, students can control their personal effort expenditure in order to directly affect achievement. According to this theory, individuals who attribute failure to lack of effort will still approach future tasks with optimism and persistence. These individuals expect that they can improve their future performance through greater effort (Austin & Vispoel, 1992). Survey limitations prohibit determining if students believed effort expenditure accounted for their success or failure more so than other attributions. However, subjects did report a high amount of effort for both types of tasks (4.53 and 4.40 for the control and treatment conditions, respectively). Austin (1988) inferred that students in the rated competitive condition received higher performance scores because they were motivated to exert greater effort in learning their solos. In contrast, the interpersonal competition condition in the present study did not seem to motivate students to exert greater effort.

Luck, the third attributional factor examined in this study, is defined as external, unstable, and uncontrollable. On the present survey, students were asked, "How much did luck play a part in influencing how you did today?" The mean luck response for the

control condition was 2.52. The mean luck response for the treatment condition was 2.54. The difference in these means was not significantly different and their moderate value illustrates students' lack of belief in the importance of luck as affecting the outcome of either task. At a value of 1.29 in the control condition and 1.24 in the treatment condition, the standard deviation indicated that there was a wide variance in students' beliefs about the degree to which luck accounted for their success or failure on the tasks.

On the survey, students were asked, "How difficult do you think today's task was?" The mean for task difficulty was 3.14 in the control condition and 2.57 in the treatment condition, and the difference between these means was statistically significant at the .001 level. "Task difficulty" is categorized in Attribution Theory as external, stable, and uncontrollable. However, in the case of the present study, students could choose which musical selection they performed in order to challenge in the treatment condition (ignoring the fact that another student might counterchallenge them on a musical selection outside of their control), but not for the playing quizzes in the control condition. Moreover, perhaps students thought it was easier to simply win or lose a chair challenge, but attaining the playing quiz grade they desired proved more difficult.

Subjects also may have rated the chair challenges as less difficult because they viewed them as a game. The trick of the game was to simply choose a musical selection that would win the chair challenge. Students did not place as much importance on winning the game from week to week, especially given the fact that they knew doing so in no way affected their band grade. Finally, in anticipation of an upcoming spring concert, students were tested (control) or allowed to challenge (treatment) on a different

musical selection each week. Perhaps students perceived that the musical selections during the control weeks were cumulatively more difficult than the musical selections during the treatment portion of the study. Finally, the standard deviation of task difficulty in the control condition was 0.81. In the treatment condition, the standard deviation was 0.83. These values indicate that the students were varied more than would be expected in their perceptions of the difficulty level of the two tasks.

Like task difficulty, "teacher fairness" can be defined as external, stable, and uncontrollable. In responding to the survey's instructions to "rate how fair you think the band teacher was for today's task," the mean rating was 4.42 in the control condition and 3.91 in the treatment condition. The difference in teacher fairness ratings between the two conditions was statistically significant at the .001 level. One possible explanation for this result is that students were more familiar with the teacher's grading system for the playing quizzes, having experienced them for over one and a half years prior to this study. Students knew what to expect in terms of how their performance translated into a final grade. The experience of having this same teacher essentially decide "which person played a musical selection on his or her instrument better" was novel to the students. Unconsciously or not, this may have been the students' way of "retaliating" for any perceived slights to their pride in a competitive situation known to increase the saliency of social comparison information. Finally, the standard deviation for teacher fairness in the treatment condition was 0.88, revealing students' perceptions of teacher fairness varied in the competitive learning structure.

Finally, two affective responses were found to be statistically significant in this study. Students reported enjoying the competitive chair challenges more than the playing

quizzes. While these results were significant at the .001 level, notably, the standard deviation for enjoyment was 0.95 in the control condition and 0.84 in the treatment condition. Clearly, not all students favored the competitive chair challenges. Moreover, students reported being much more nervous for the playing quizzes, with the difference in means significant at the .01 level. Again, the standard deviation for nervousness was quite high (1.25 in the control condition and 1.00 in the treatment condition). Students' ratings of nervousness widely varied for both task types.

As mentioned earlier for previous attributional results, one possible interpretation for students having reported less nervousness and more enjoyment during the treatment condition is that chair challenges were a novel event that students viewed as a fun game. In addition, the researcher observed much anticipation for the chair challenge competition in the students prior to this portion of the study. In addition, the band director on the junior high and high school level promoted chair challenges in her classes in this same school district. Students participating in the present study may have been influenced by the competitive stories of their siblings and friends in upper level band classes. Regardless, Kohn (1986) aptly expresses the careful balance educators must seek if they choose to include competition in their classrooms: "The fact that children seem to enjoy competitive games says virtually nothing about the games' educational impact. And even the children's enjoyment may not be what it appears: The substitution of a game—of whatever kind—for the usual lesson could account for students' interest."

In reference to the nervousness results, again, since students may have viewed the chair challenges as merely a fun game, they reported being less nervous. Also, since more was at stake for the playing quizzes in terms of their grade and due to the fact that

students did not have control on what would be tested in this task, they were more nervous.

ACHIEVEMENT LEVEL TRENDS

From the mean playing quiz score of the three scores collected in the control condition, researchers identified the students whose achievement was in the upper quartile and the students whose achievement was in the lowest quartile in the study sample (n= 14 for each group). The mean survey responses (based on a 5-point Likert scale) for ability, effort, luck, task difficulty, enjoyment, and nervousness are included in Table 2 below.

Table 2 – Achievement Level Trends

	Upper Achievement Quartile Control Condition	Lower Achievement Quartile Control Condition	Upper Achievement Quartile Treatment Condition	Lower Achievement Quartile Treatment Condition
Ability	4.44	3.55	4.41	3.42
Effort	4.67	4.14	4.48	4.17
Luck	2.59	2.16	2.74	2.49
Task Difficulty	2.81	3.76	2.41	2.71
Enjoyment	3.43	2.12	4.05	3.15
Nervousness	2.76	3.83	3.26	2.67
Teacher Fairness	4.71	4.19	4.31	3.72

Researchers first compared the high and low achieving students in both conditions. In the control condition, high-achieving students rated their musical ability, effort expenditure, luck, enjoyment of the task, and ratings of teacher fairness higher than low-achieving students. Low-achieving students rated the difficulty of the playing quiz task and feelings of nervousness as higher in the control condition.

In the treatment condition, high-achieving students again rated their musical ability, effort expenditure, luck, enjoyment of the task, and ratings of teacher fairness higher than the low-achieving students. However, in the treatment condition, high-achieving students rated their feelings of nervousness as higher than low-achieving students. Again, low-achieving students rated the task as more difficult than the high-achieving students in the treatment condition.

Next, researchers compared the responses of high-achieving students in the control and treatment conditions. Little change in responses was observed for ability, effort, luck, and task difficulty between the two conditions. High-achieving students rated the teacher as more fair in the control condition and reported being more nervous in the treatment condition. Despite feelings of nervousness, high-achieving students also rated their enjoyment of the task significantly higher in the treatment condition.

Finally, researchers compared the responses of students in the lowest 25% achievement category for the control and treatment conditions. Like the high-achieving students, the low-achieving students reported very similar responses for ability, effort, and luck in the two conditions. However, the low-achieving students rated the playing quiz task as more difficult than the chair challenge task. Low-achieving students reported being more nervous in the control condition than in the treatment condition. Also, they reported enjoying the chair challenges more than the playing quizzes. Finally, low-achieving students strongly indicated that the teacher was fairer in the control condition than in the treatment condition.

Discussion.

High-achieving students were placed in the highest 25 percent achievement category as a result of their top marks on the playing quizzes in the control condition. Predictably, these same students reported greater ability than their low-achieving peers in both conditions. While the ability rating of both achievement groups decreased in the treatment condition, the mean self-reported ability rating of students in the lowest 25 percent achievement category was 3.42, the lowest mean for either group in either condition.

According to Austin (1991), attributing success to high levels of ability leads to greater pride and enhanced self-esteem. Students who attribute their success to high ability are also more likely to expect success on similar tasks in the future. While the present achievement trends do not explain the degree to which participants attributed their success or failure to ability, the low ability perceptions of low-achieving students are concerning from an educational standpoint. Low-achieving students seemed particularly susceptible to the emphasis on social comparison pervasive in the competitive setting. This finding is consistent with Ames (1981) who argued "the emphasis on social comparison in competitive settings would be expected to elicit an ability-outcome covariation such that winning would be associated with perceptions of high ability and failure with perceptions of low ability" (p. 274).

High-achieving students rated their effort higher than low-achieving students for both the control and treatment conditions. Predictably, high-achieving students, who care seriously about maintaining their high grades, would exert more effort than low-achieving students. Attribution theory based motivation research has identified several important differences between learners (Asmus, 1985). High achievement individuals

tend to exhibit greater effort in achievement-related contexts. According to Austin (1991), students will decrease effort when the chances of failure are high. The "fear of failure" student will typically reduce effort in order to avoid others' perceptions that the resultant failure was due to a lack of ability (Hurley, 1996).

In the present study, low-achieving students may have reported low effort expenditure in both conditions in order to maintain their image and feelings of self-worth. High-achieving students reported more effort expenditure for the playing quizzes than the chair challenges. These students may have expended more effort in the control condition in order to maintain their high band grade or to inflate their pride following success in the competitive chair challenges.

In general, students in both achievement groups placed little emphasis on luck as affecting the outcome of either type of task. Students in the higher achievement category rated their luck higher than students in the lower achievement category for both conditions. This result was surprising, in that one would expect high-achieving students to make more internal attributions. Students in both achievement categories rated their luck higher in the treatment condition. In this way, the competitive aspect of the treatment condition seemed to elicit the external, unstable, and uncontrollable attribution of luck.

In terms of task difficulty, low-achieving students rated task difficulty higher than high-achieving students in the control condition. Students who may struggle on their instrument and tend to receive lower grades on playing quizzes may find a task that highlights their struggles difficult. Moreover, as mentioned earlier, students could choose which musical selection they performed for the chair challenges, but were assigned the

musical selection for the playing quizzes. Low-achieving students could have chosen easier selections for themselves to perform for the class in the treatment condition, but struggled with the more difficult assigned quiz selections.

Low-achieving students also rated the task as more difficult than high-achieving students in the treatment condition. Once a student is seated low in the section, it can be difficult to successfully challenge someone who is seated higher (who may, in fact, have more developed instrumental skills) in order to move up in the chair placement. Little change was observed for task difficulty between the two conditions for high-achieving students. High-achievers may have downplayed the difficulty of both tasks as a means of self-aggrandizement.

In response to the statement, "Rate how fair you think the band director was for today's task," high-achievers' ratings of teacher fairness were higher than low-achievers ratings in both conditions. Both the high-achievers and low-achievers perceived the teacher as being fairer in the control condition than in the treatment condition, and this was especially the case for the low-achieving students. High-achieving students' high teacher fairness ratings seem to reflect the perception that the teacher's assigned grades and chair placement matched their own performance expectations. Since both achievement groups were familiar with the teacher's grading scale on playing quizzes, teacher fairness scores were highest in the control condition.

Students in the lowest 25 percent achievement level indicated the lowest teacher fairness rating in the treatment condition. According to Chandler, Chiarella, and Auria (1988), students who perceive failure tend to attribute that failure to external variables that are uncontrollable. Rating the teacher as unfair in the treatment condition may have

been low-achieving students' way of placing the blame for their low performance on factors outside of their own ability in order to maintain feelings of self-worth and competence.

Some of the most interesting achievement trend findings are in reference to participants' affective responses to the treatment conditions. First, both achievement groups reported enjoying the chair challenge task more than the playing quizzes. High-achievers reported the overall highest enjoyment rating in the treatment condition. Low-achievers reported the overall lowest enjoyment rating in the control condition. Low-achievers also reported the greatest change in enjoyment between the two conditions, highly favoring the treatment condition over the control condition. In terms of nervousness, high-achievers reported more nervousness in the treatment condition, while low-achievers reported more nervousness in the control condition. The greatest change in nervousness occurred with the low-achieving students.

Not surprisingly, the students in the higher-achievement category, or those who received higher marks on the playing quizzes and assumingly performed better on the chair challenges, indicated higher enjoyment ratings than the low-achievers in both task types. High-achievers seemed to especially enjoy the public display of their musical prowess with their high chair placement in the treatment condition. Curiously, in addition to enjoyment, students in the high achievement category also reported more nervousness in the treatment condition. Seated in the top chairs in the section, high-achieving students often were challenged by students below them multiple times on any given challenge day. Having to constantly defend their chair placement would account

for their heightened nervousness on this task. As the ones with the most sought-after seats, high-achieving students had the most to lose in this condition.

Again, low-achieving students may have indicated more enjoyment in the treatment condition since they had more control over which musical selections were performed in front of their peers. Seated low in the section, there was little pressure for them to have to defend their chairs. Instead, they may have enjoyed the "spectator sport" aspects of observing the competition of their peers. In the control condition, their lack of skill may have been highlighted as they struggled through the playing quiz assignment. This explanation would also account for the increase in nervousness on the part of low-achieving students in the control condition.

PRACTICE TRENDS

Researchers examined the number of responses in each practice category to determine trend differences between the two treatment conditions. The average percentage of students who indicated each practice time category for the control and treatment conditions is reflected in Table 3 below. On the survey, students estimated how much time they had spent practicing for each task by marking an "X" next to one of the following categories: (1) 0 minutes; (2) More than 0, but less than 15 minutes; (3) More than 15, but less than 30 minutes; (4) More than 30, but less than 60 minutes (1 hour); (5) More than 60, but less than 90 minutes (1 and 1/2 hours); (6) More than 90, but less than 120 minutes (2 hours); or (7) More than 120 minutes.

Table 3 – Practice Trends

	0 min.'s	0-15 min.'s	15-30 min.'s	30-60 min.'s	60-90 min.'s	90-120 min's	> 120 min.'s	No Answer
Control Condition	22%	17%	20%	26%	9%	3%	3%	1%
Treatment Condition	32%	26%	14%	17%	7%	2%	2%	0%

For practice category 1, more students indicated that they had spent zero minutes practicing for the task in the treatment condition than in the control condition task. For the second lowest practice category, again, more students indicated they had practiced less than 15 minutes for the treatment condition than for the control condition. For all other practice categories, a greater number of students indicated that they had practiced at least 15 minutes or more for the individualistic-progress playing quiz task than for the interpersonal competition chair challenge task. Therefore, the researcher concludes that students tended to spend more time practicing in the control condition than in the treatment condition.

Finally, as indicated by Table 4 below, this trend for greater practice time in the control condition was especially true for low-achieving students. With the limitation of the ordinal nature of the practice data in consideration, the average category indicated by the lower 25% achieving students in the control condition was 2.97. The average category indicated by this same group in the treatment condition was 2.26. The average response for the upper 25% achieving students in the control condition was 3.43. The average response for this same group in the treatment condition was 3.17. Predictably, the high-achieving students, on average, practiced more for both task types than the low-achieving students.

Table 4 – Practice Trends by Achievement Level

	0 min.'s	0-15 min.'s	15-30 min.'s	30-60 min.'s	60-90 min.'s	90-120 min's	> 120 min.'s	No Answer
Low-achieving (control)	7%	27%	33%	20%	13%	0%	0%	0%
High-achieving (control)	7%	13%	27%	47%	7%	0%	0%	0%
Low-achieving (treatment)	27%	47%	0%	27%	0%	0%	0%	0%
High-achieving (treatment)	7%	27%	33%	13%	20%	0%	0%	0%

Discussion.

These practice trends support the idea that students viewed the chair challenges as a game. Knowing that the chair challenge outcomes would in no way affect their band grades, students were less inclined to spend time practicing in this treatment condition. According to Anderman and Maehr (1994), if a student studies (or in this case, practices) for a test and fails, the inference is likely to be that he or she is incompetent. One way for a student to avoid this inference is not to study. In keeping with this premise, low-achieving students in fact reported less practice time than their high-achieving peers in both conditions. Covington (1992) would contend that low-achievers engaged in less practice time as a technique or strategy to avoid failure and maintain a sense of self-worth.

Notably, students in the lower achievement category practiced the least amount of time in the treatment condition. In a competitive goal structure, the number of rewards, in this case, the top seats in the section, are restricted so that the likelihood of a student achieving success is reduced by the presence of other students (Covington & Omelich, 1984). In such a situation, again, the student's goal is often avoiding failure rather than

pursuing success. However, in an individualistic goal structure, like the playing quizzes in the control condition of this study, the likelihood of achieving success does not depend on others' poor performance. Noncompetitive conditions such as this one lead to a task-mastery orientation in which individual improvement is the basis for evaluation and the ultimate task goal. In the absence of the social comparison information prominent in the competition treatment condition, these participants, especially students in the lowest achievement category, felt more empowered to affect their own performance success through increased practice.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

PURPOSE AND PROBLEMS

The purpose of this study was to gain insight into the use of competition in a middle school band setting so that this information could be used to improve instrumental music instruction. Following were the specific questions in this study: How do interpersonal competitive learning structures compare to mastery learning structures in affecting students' achievement attributions and affect? Are students in the middle grades more motivated to practice their instruments in preparation for competitive chair challenges or individual performance assessments? Additionally, the researcher compared the attributions for success and failure, affect, and self-reported practice time of high-achieving versus low-achieving students in both conditions.

SUMMARY

The subjects in this study were sixth grade students (n=56) from two band classes in a low-to-middle-income semi-rural school district of mid-Michigan. Both classes were taught by the same band teacher (the researcher) and met four times per week for 50 minutes per class period. As part of this repeated-measures design, subjects participated in the control condition (individualistic-progress learning structure) for three weeks and subsequently in the treatment condition (interpersonal competition learning structure) for three weeks. After each task, subjects completed a survey assessing their achievement attributions, affect, and amount of practice time.

Paired samples t tests were used to determine if interpersonal competition had a significant effect on the attribution and affect means. No significant differences were found on students' ratings of musical ability, effort expenditure, or luck on the task for the two conditions. Statistically significant differences ($p<.01$) were found between the control and treatment conditions for task difficulty, teacher fairness, enjoyment, and nervousness. Students rated the playing quizzes in the control condition as being more difficult than the chair challenges in the treatment condition and the teacher as being fairer in the control than in the treatment condition. Students reported more enjoyment in the treatment condition and more nervousness in the control condition.

The researcher identified students in the upper and the lowest quartile of instrumental achievement and observed trends for their ratings of ability, effort, luck, task difficulty, teacher fairness, enjoyment, and nervousness according to achievement level. On average, high-achieving students indicated greater ability than low-achieving students in both conditions. High-achievers reported little change in ability between the two task types, while low-achievers rated their ability slightly higher in the control condition.

In a comparison of the two groups' effort, high-achievers rated their effort expenditure higher than their low-achieving peers for both conditions. While the effort rating of low-achievers changed little between the two tasks, high-achievers reported slightly higher effort in the control condition. While both achievement groups placed little importance on luck as affecting the outcome of either task, high-achievers rated luck higher than low-achievers in both task types. Ratings of luck increased slightly from the control to treatment condition for both groups.

Low-achieving students rated task difficulty as significantly greater than high-achieving students for both conditions. Both groups rated the playing quizzes in the control condition as more difficult than the chair challenges in the treatment condition. In terms of "teacher fairness," the high-achievers rated the teacher significantly fairer than the low-achievers for both task types. Both achievement groups rated the teacher significantly fairer in the control condition than in the treatment condition. In reference to affective response, high-achievers reported significantly greater enjoyment than low-achievers for both conditions. Both groups reported enjoying the chair challenges more than the playing quizzes. Additionally, low-achieving students reported being much more nervous than high-achievers in the control condition, while high-achievers reported being much more nervous than low-achievers in the treatment condition.

Finally, the researcher examined subjects' self-reported practice time, looking for trends as a function of condition and achievement level and concluded that, on average, participants spent significantly more time practicing for the playing quizzes in the control condition than for the chair challenges in the treatment condition. This trend for greater practice in the control condition was especially true for students in the lowest 25% achievement group. High-achieving students practiced more than low-achieving students for both types of task.

IMPLICATIONS FOR PRACTICE

According to the results of the present study, it is imperative that teachers consider the role that achievement level may play in affecting students' attributions. In the present study, low-achieving students rated their ability lower than their high-

achieving peers in both conditions. Notably, this finding was especially salient in the competitive condition. In addition to lower perceptions of musical ability, low-achieving students also reported less effort expenditure on average than high-achieving students in both conditions.

There are several practical steps teachers can take to promote the understanding that all students are capable and can succeed in music. First, teachers can structure their classrooms in ways that downplay the importance of ability. Classrooms can be structured around task- and group-focused goals that emphasize progress and mastery learning rather than ego-focused goals that emphasize competition among students (Vispoel & Austin, 1995). In this way, teachers should assess and grade students in relation to objective standards and not in relation to other students.

Teachers can also help low-achieving students to conceptualize ability as a collection of skills that can be improved with time and strategic effort (Vispoel & Austin, 1995). In the classroom in which this study took place, students were given the opportunity to improve their skills with multiple retesting opportunities in the context of an individualistic-progress, or mastery learning structure. Unfortunately, retesting opportunities are underutilized in today's band classrooms. Teachers can assist students in setting learning goals for themselves that are challenging, yet still achievable.

Another way that teachers can downplay the importance of ability is to avoid grouping students by ability within and between classrooms. Teachers can also be sensitive to how they word feedback to students. Excessive praise after success on easy tasks, pity following failure, and offers to help with simple tasks are examples of feedback that communicates low ability to students (Vispoel & Austin, 1995). Music

teachers can rotate seating plans (instead of rank seating order by ability) and place names in alphabetical order on concert programs to convey that all students are valued. Finally, teachers must realize that a task-mastery focus in their classroom may be negated by an overall ability-focused environment in the school building or greater community (Anderman & Maehr, 1994).

Despite the purported educational benefits of individualistic-progress learning structures, students in both achievement groups reported enjoying the chair challenges more than the playing quizzes. Moreover, low-achievers indicated significantly greater feelings of nervousness during the playing quizzes than the chair challenges. Low-achievers also rated the playing quizzes as more difficult than the chair challenges. In this way, low-achievers' affective responses seemed to be especially sensitive to the different learning structures.

These results raise several questions for educators: How can teachers increase the effort expenditure of low-achieving students, assist low-achievers with their test anxiety, and make assessment events more enjoyable? As discussed earlier, students may have experienced a greater level of control by having the opportunity to choose their chair challenge musical excerpts in the competitive condition. This opportunity was not present in the control condition. Perhaps if teachers provide a choice of musical excerpts on which to test, low-achieving students may experience less anxiety and enjoy the assessment experience more.

Despite the negative affective response elicited by the control condition, the results of this study debunked the myth that competitive music activities elicit more practice from students (Kohn, 1986). In fact, students reported a greater number of

practice minutes for the playing quizzes in the control condition than the chair challenges in the treatment condition. Again, this finding was especially true for the low-achieving students. Music educators who want to promote the adage that "practice makes perfect" should consider incorporating a mastery learning paradigm in their classrooms in which students are given multiple retesting opportunities.

SUGGESTIONS FOR FUTURE RESEARCH

The methodological approach used in the present study was a "critical incident" technique in which participants recalled a real-life achievement experience, in this case either a playing quiz or chair challenge, and reported causal attributions related to that experience on a survey. This type of approach allowed the researchers to assess subjects' beliefs about their own behavior, but was limited in that the results may only have applied to the particular critical incident that was recalled. In order to develop a more thorough and accurate understanding of students' attributional beliefs in an interpersonal competition or individualistic-progress learning situation, future researchers are encouraged to consider a variety of methodologies to increase the generalizability of their research findings.

A crucial component to any methodological approach used in attribution research is the survey instrument. In the present experimenter-designed questionnaire, researchers included items assessing subject's perceived musical ability, effort, enjoyment, nervousness, luck, task difficulty, family influence, peer influence, and teacher fairness. Future researchers may choose to expand this list to include more non-traditional

attributions (i.e., persistence, metacognition, strategy). In addition, researchers are encouraged to include four or five items representing each attribution on the survey.

Most important, researchers should ensure that the wording of each item is such that students report the degree to which they believe each attribution was responsible for their success or failure on the task. For example, to assess ability attributions, the survey might include the following Likert scale item: "I did well/poorly on the playing quiz because I have strong/weak musical skills."

As evident in this prior example, success and failure outcomes on the task should be clearly distinguished. In the control condition of the present study, subjects were asked to indicate their expected and actual grades on the playing quizzes to determine if they had succeeded or failed to meet their achievement expectations. In the treatment condition of the present study, subjects only indicated their chair placement before and after the chair challenges.

In future surveys, it might be better to ask students if they successfully attained (or maintained) their desired chair placement, if they had "won" or "lost" on their turn to chair challenge, and how many times other students had successfully challenged them. Researchers might also consider creating two separate questionnaires—one for success and one for failure outcomes. Sample size prohibited including this success/failure outcome variable in the analysis of the present study, and this is a further consideration for future research.

In addition to examining the effect of success/failure outcomes on causal attributions, future researchers are encouraged to pilot their surveys beforehand to ensure that multi-item attribution scales have satisfactory properties (Austin & Vispoel, 1998).

Researchers might consider using a standardized, pre-tested measurement device. In the context of a longitudinal study like the present one, multi-item standardized attribution scales may have to be modified in light of classroom time limitations and the potential effects of "survey fatigue."

Other future design considerations include limiting the number of retesting opportunities available in the individualistic-progress portion of the study, requiring all students to retest, and having a system in place for absent students to authentically participate in the study. Further, grading systems that employ absolute standards may elicit attributional patterns similar to ones in competitive settings (Ames, 1984). Future researchers might explore operationally-defining the individualistic-progress condition so that students are graded less on the basis of external performance criteria and more by the degree to which they self-improve. In addition, because the students experienced the control condition first and the treatment condition second, the results of this study may have been influenced by the order of the treatment. Future researchers are encouraged to randomly assign students to one of the two conditions. Finally, in lieu of students self-reporting an estimation of time spent practicing for each task, researchers might consider requiring students to monitor their practice minutes on weekly time cards.

While this study has answered several questions about the merits of competition in the music classroom, still others are left unanswered. What effect do competitive learning structures have on music students' intrinsic, long-term motivation? What effect do different types of learning structures have on student attrition rates in school music programs? How prevalent is interpersonal competition in public school music programs in this country? Are band students more likely to make internal/external, stable/unstable,

or controllable/uncontrollable achievement attributions in a competitive or mastery learning structured classroom setting? How does type of goal structure affect students' predictions of future achievement? And finally, how do students' attributions in these various learning structures change as a function of achievement level, gender, and age?

Music competition is prevalent today and beliefs about competition continue to be divided. There is a real need for more longitudinal research directly comparing competitive and non-competitive goal structures within a music context, especially in a field setting. This type of research is important to not only confirm or deny the purported merits of competition, but also potentially to develop alternatives for the music classroom that will maximize achievement and best instill intrinsic motivation to learn in all students.

APPENDICES

APPENDIX A

Survey (Control Condition)

Student Name: _____ Date: __ / __ / __ Band Hour: ___

Student Survey: Band Study on Competition

Directions: Think about how well you performed on today's playing quiz. Your performance may be due to several reasons. Read each item carefully before answering the question.

Circle the number that best represents the best answer to each question below:

1. How would you rate your overall ability to play your band instrument?

1	2	3	4	5
Poor				Excellent

2. How would you rate your musical ability in general (not just playing your band instrument, but other musical skills that you may have)?

1	2	3	4	5
Poor				Excellent

3. How hard did you try on today's playing quiz?

1	2	3	4	5
Little Effort				High Effort

4. How much did you enjoy doing today's playing quiz?

1	2	3	4	5
Very Little				Very Much

5. How much did luck play a part in influencing how you did today?

1	2	3	4	5
Very Little				Very Much

6. How well do you feel you prepared for today's playing quiz?

1	2	3	4	5
Not Very Well				Very Well

7. Estimate the number of minutes you practiced TOTAL for today's playing quiz (mark an X next to the number closest to your estimate):

___ 0 minutes
___ More than 0, but less than 15 minutes.
___ More than 15, but less than 30 minutes.
___ More than 30, but less than 60 minutes (1 hour).
___ More than 60, but less than 90 minutes (1 and ½ hours).

___ More than 90, but less than 120 minutes (2 hours).
___ More than 120 minutes.

COMPLETE REMAINING QUESTIONS ON THE BACK OF THIS SHEET.

8. How difficult do you think today's playing quiz was?

1	2	3	4	5
Low Difficulty				High Difficulty

9. How nervous were you during today's playing quiz?

1	2	3	4	5
Not Very Nervous				Very Nervous

10. Do you agree that musical ability runs in your family?

1	2	3	4	5
Highly Disagree				Highly Agree

11. Rate how encouraging you felt other students were towards you before, during, and after today's playing quiz:

1	2	3	4	5
Not Very Encouraging				Very Encouraging

12. What score would you give yourself for today's quiz? __ (out of 10 points possible)

COMPLETE THE LAST 2 QUESTIONS AFTER YOU RECEIVE YOUR GRADE

At the end of class, please give Ms. Lewis this finished survey. She will tell you the grade you received on the quiz. She will then keep this survey.

13. Your grade for today's playing quiz: __ (out of 10 points possible)

14. Rate how fair you think the band teacher was in deciding your playing quiz score:

1	2	3	4	5
Very Unfair				Very Fair

APPENDIX B

Survey (Treatment Condition)

Student Name: _____ Date: __ / __ / __ Band Hour: ___

Student Survey: Band Study on Competition

Directions: Think about how well you performed during today's chair challenges. Your performance could be due to several reasons. Read each item carefully before answering the question.

Circle the number that best represents the best answer to each question below:

1. How much did you enjoy doing today's chair challenges?

1	2	3	4	5
Very Little				Very Much

2. How much did luck play a part in influencing how you did today?

1	2	3	4	5
Very Little				Very Much

3. How well do you feel you prepared for today's chair challenges?

1	2	3	4	5
Not Very Well				Very Well

4. Estimate the number of minutes you practiced TOTAL for today's chair challenges (mark an X next to the number closest to your estimate):

___ 0 minutes
___ More than 0, but less than 15 minutes.
___ More than 15, but less than 30 minutes.
___ More than 30, but less than 60 minutes (1 hour).
___ More than 60, but less than 90 minutes (1 and ½ hours).
___ More than 90, but less than 120 minutes (2 hours).
___ More than 120 minutes.

5. How would you rate your overall ability to play your band instrument?

1	2	3	4	5
Poor				Excellent

6. How would you rate your musical ability in general (not just playing your band instrument, but other musical skills that you may have)?

1	2	3	4	5
Poor				Excellent

7. How hard did you try on today's chair challenges?

1	2	3	4	5
Little Effort				High Effort

COMPLETE REMAINING QUESTIONS ON THE BACK OF THIS SHEET.

8. How difficult do you think today's chair challenges were?

1	2	3	4	5
Low Difficulty				High Difficulty

9. How would you rate your strategy in choosing who to challenge and which song to use?

1	2	3	4	5
Poor				Excellent

10. How nervous were you during today's chair challenges?

1	2	3	4	5
Not Very Nervous				Very Nervous

11. Do you agree that musical ability runs in your family?

1	2	3	4	5
Highly Disagree				Highly Agree

12. Rate how encouraging you felt other students were towards you before, during, and after today's chair challenges:

1	2	3	4	5
Not Very Encouraging				Very Encouraging

13. Rate how fair you think the band teacher was in deciding today's challenge results:

1	2	3	4	5
Very Unfair				Very Fair

14. Which chair were you in before today's chair challenges? ___

15. Which chair were you in at the end of today's chair challenges? ___

At the end of class, please give Ms. Lewis this finished survey.

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