

Adolescents' Achievement Beliefs and Behaviors in Sport, Music, and Reading Domains

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### Abstract

Based on expectancy-value theory, youths' competence and value beliefs are significant correlates of achievement behaviors in multiple domains. Gender and activity stereotypes and parental influence represent social-contextual factors. The purposes of this study were to examine gender and activity group differences in adolescents' achievement beliefs and behaviors, and those of their parents, in reading, sport, and music.

Adolescents ( $N = 313$ ) completed measures assessing domain-specific expectancy-value constructs. First, gender by domain RM ANOVAs revealed no gender differences on sport variables, boys reported higher music participation and parental influence, and girls scored higher on reading constructs. Second, group by domain RM ANOVAs revealed that sport-only participants reported higher sport and lower music beliefs and behaviors, and music-only participants reported the opposite pattern. Results indicate that domain-specific gender stereotypes may not emerge with a selective sample and activity group should be considered in studies of adolescents' achievement motivation in multiple domains.

## TABLE OF CONTENTS

LIST OF TABLES.....	vi
LIST OF FIGURES.....	vii
CHAPTER 1: INTRODUCTION.....	1
Theories Applicable to Academic and Performance Domains.....	9
Application of Expectancy Value Theory to the Reading Domain.....	16
Application of Expectancy Value Theory to the Sport Domain.....	23
Application of Expectancy Value Theory to the Music Domain.....	32
Research Comparing Achievement Domains.....	38
Study Purposes.....	44
CHAPTER 2: METHOD.....	49
Participants.....	49
Measures.....	50
Procedure.....	58
Design and Data Analysis.....	59
CHAPTER 3: RESULTS.....	61
Scale Reliabilities and Correlations.....	61
Purpose 1: Gender Differences in Sport, Music, and Reading.....	67
Purpose 2: Activity Group Differences in Sport, Music, and Reading.....	72

CHAPTER 4: DISCUSSION.....	78
Theoretical Implications.....	85
Practical Implications.....	88
Study Limitations and Future Research Directions.....	89
Conclusion.....	91
REFERENCES.....	92
APPENDICES.....	101
A. Human Subjects Protocol.....	101
B. Coach/Director and Parent Letters.....	111
C. Script for Survey.....	114
D. Survey.....	116
E. Statistics for Follow-Up and Post-Hoc Analyses.....	129
F. Effect Size Calculations.....	139

## LIST OF TABLES

1. Perceived Competence Items.....	51
2. Attainment Value Items.....	52
3. Intrinsic Value Items.....	53
4. Perceived Cost Items.....	54
5. Participation Behavior Items.....	55
6. Perceptions of Parent Beliefs about Child's Competence Items.....	56
7. Perceptions of Parent Involvement Items.....	57
8. Perceptions of Parent Support Items.....	58
9. Correlations among All Variables for Sport.....	62
10. Correlations among All Variables for Music.....	63
11. Correlations among All Variables for Reading.....	64
12. Descriptive Statistics for Sport Variables.....	66
13. Descriptive Statistics for Music Variables.....	66
14. Descriptive Statistics for Reading Variables.....	67
15. Gender Differences for Achievement Beliefs.....	68
16. Gender Differences for Perceived Cost.....	69
17. Gender Differences for Participation Behavior.....	70
18. Gender Differences for Parent Beliefs and Behaviors.....	71
19. Activity Group Differences for Achievement Beliefs.....	73
20. Activity Group Differences for Perceived Cost.....	74
21. Activity Group Differences for Participation Behavior.....	75
22. Activity Group Differences for Parent Beliefs and Behaviors.....	76

## LIST OF FIGURES

1. Model of Expectancy-Value Theory.....	13
2. Gender Differences for Achievement Beliefs.....	68
3. Gender Differences for Perceived Cost.....	69
4. Gender Differences for Participation Behavior.....	70
5. Gender Differences for Parent Beliefs and Behaviors.....	71
6. Activity Group Differences for Achievement Beliefs.....	73
7. Activity Group Differences for Perceived Cost.....	74
8. Activity Group Differences for Participation Behavior .....	75
9. Activity Group Differences for Parent Beliefs and Behaviors.....	77



## CHAPTER 1

### INTRODUCTION

Research on antecedents and consequences of youth motivation reveals similar questions in different activity domains (Guthrie & Wigfield, 2000; Lehmann, Sloboda, & Woody, 2007; M. R. Weiss & Williams, 2004). How can a child's level of motivation be enhanced? What factors influence an adolescent to choose one activity over another? Why do certain individuals persist in an activity while others are quicker to discontinue participation? Researchers interested in both academic and performance domains have investigated these questions (Hallam, 1998; M. R. Weiss, Amorose, & Kipp, 2012; Wigfield & Guthrie, 1997). Academic and performance activities involve development of a certain skillset and necessitate instruction for youth to improve. However, they differ in terms of the amount of choice involved in activity participation. Consequently, researchers have used several theories of motivation to understand reasons for youth participation in different achievement contexts (Guthrie & Wigfield, 2000; McPherson, 2009; M. R. Weiss & Williams, 2004).

Expectancy-value theory is a framework applicable to understanding achievement motivation in a variety of domains and contexts (Eccles et al., 1983; Fredricks & Eccles, 2005; Wigfield et al., 1997). Expectancy-value theory highlights the role of perceptions of competence and task value as predictors of achievement behavior, considers gender roles and parental influence as social-contextual sources of influence, and has been supported in academic and performance domains (Baker & Wigfield, 1999; Brustad,

1993; Simpkins, Fredricks, & Eccles, 2012). Achievement behaviors can consist of activity choice, persistence in an activity, and levels of achievement or success, and are directly influenced by expectations for success and subjective task values, and indirectly influenced by significant socializers and other social-contextual factors (Eccles et al., 1983). Expectations for success, or perceptions of competence, refer to one's thoughts about their ability to perform well in a particular activity. Subjective task value is defined as the importance an individual attaches to being successful in a specific achievement domain (Eccles et al., 1983). Eccles and colleagues (1983) and Wigfield and Eccles (1992) differentiate four types of subjective task values. Attainment value is the importance an individual places on doing well in the task for self-identity confirmation. Intrinsic value is defined as enjoyment or interest obtained from participating in the activity. Utility value refers to the usefulness of the task in relation to future goals. Cost involves the perceived negative aspects of participating in the activity. These four task values are conceptually distinct but are all theoretically related to achievement behaviors.

Expectancy-value theory proposes that social-contextual factors, such as gender and activity stereotypes and significant others, influence expectations for success, subjective task value, and participation behavior in a particular achievement domain (Eccles et al., 1983; Wigfield & Eccles, 1992). Beliefs about the appropriateness of activities for female and male participants can affect perceived competence and values in certain activities, and consequently youths' motivation to engage in them. Gender and activity stereotypes are shaped, at least in part, by parents' and teachers' verbal and nonverbal communication about behavior appropriateness (Fredricks & Eccles, 2004,

2005; Fredricks, Simpkins, & Eccles, 2005). Parents are especially influential during the childhood years because they are the initial and primary socializer of their children's activity involvement. Achievement beliefs, gender and activity stereotypes, and parental beliefs and behaviors are the main constructs of expectancy-value theory examined in the present study across academic and performance domains.

Relationships specified by expectancy-value theory have been studied in a number of activity domains to explain variability in achievement behaviors. In reading, higher perceptions of competence and task values have consistently been associated with positive motivational outcomes, including attitudes and interest toward reading, increased reading achievement, and time spent reading (Baker & Scher, 2002; Baker & Wigfield, 1999; Park, 2011; Wigfield & Guthrie, 1997). Adolescents' value of the importance and enjoyment of reading were predictors of their intention to take future English courses (Eccles et al., 1983). Gender differences consistently emerge for achievement beliefs and behaviors in reading—girls report higher competence and value beliefs than boys (Eisenberg, Martin, & Fabes, 1996; Marinak & Gambrell, 2010; McKenna, Kear, & Ellsworth, 1995). Additionally, parents strongly influence children's reading motivation by being directly involved in reading with their child and conveying positive beliefs about their child's reading ability (Frome & Eccles, 1998; Guthrie & Wigfield, 2000; Klauda, 2009). While expectancy-value theory has been utilized to study achievement motivation in academic subjects, such as reading, it has also been used in voluntary activities, such as sport and music.

Eccles and Harold (1991) first examined children's beliefs and behaviors in the sport domain using expectancy-value theory. As in academic domains, perceived competence, task values, skill acquisition, and motivation are necessary for sustained involvement in sport. However, because sport is a voluntary activity and expectancy-value theory is a model of choice, relationships should be stronger for voluntary activities than for academic subjects. Accordingly, Eccles and Harold found that children's and adolescents' perceived physical competence and task values were more strongly related to sport participation than for reading and math involvement. Several studies have shown perceptions of competence and task values in sport and physical activity to be significant predictors of achievement behavior and motivational outcomes (Bois, Sarrazin, Brustad, Trouilloud, & Cury, 2002; Dempsey, Kimiecik, & Horn, 1993; Eccles, Wigfield, Harold, & Blumenfeld, 1993; Fredricks & Eccles, 2005).

As in reading, the sport domain holds traditional gender stereotypes about activity appropriateness for girls and boys. Sport has been viewed as a male-stereotyped activity; studies have found gender differences in perceptions of competence and task values favoring boys (Bois et al., 2002; Eccles et al., 1993; Fredricks & Eccles, 2005; Wigfield et al., 1997). Furthermore, parents play a major role in their children's motivation to participate in sport and physical activity through providing experiences (e.g., registering a child for a sport), interpreting experiences (e.g., expressing beliefs about their sport ability), and modeling beliefs and behaviors (see Fredricks & Eccles, 2004; Horn & Horn, 2007). Perceptions of competence, task values, gender-role beliefs, and parental

influence are features of expectancy-value theory that influence achievement motivation in sport.

Expectancy-value theory is also applicable in the music domain, another voluntary activity that is common in childhood. Studies have consistently shown a positive relationship between perceived competence and achievement behaviors, and between subjective task values and achievement behaviors (Austin, 2006; Eccles et al., 1993; Hallam, 1998; McPherson & McCormick, 2006). Children and adolescents who have higher perceptions of competence, enjoy music more, and view music as an important activity are likely to participate in music more frequently and at a more advanced level than those with lower competence and value beliefs (Hallam, 1998; Simpkins et al., 2012; Simpkins, Vest, Dawes, & Neuman, 2010).

Gender differences consistently emerge in perceptions of music competence and task values, with girls reporting more favorable beliefs and higher rates of participation in out-of-school music activities than boys (Eccles et al., 1993; Simpkins et al., 2012; Simpkins, Vest, Dawes, & Neuman, 2010; Wigfield et al., 1997). Music has been traditionally cast as a female-stereotyped domain, likely due to children's early exposure to female music experts in the form of elementary school music teachers. Similar to other domains, parents exert a strong initial influence on children's music beliefs and behaviors. Early and sustained involvement by parents is associated with higher self-perceptions, positive motivational outcomes, and achievement behaviors for their sons and daughters (Creech, 2010; Davidson, Howe, Moore, & Sloboda, 1996; Sloboda & Howe, 1991). Parents also influence their children's music-related beliefs and behaviors

by expressing confidence about their child's competence, encouragement for music involvement, and verbal and non-verbal support for music participation (Davidson et al., 1996; McPherson, 2009).

Expectancy-value theory constructs are relevant in the domains of reading, sport, and music because perceptions of competence, subjective task values, gender stereotypes, and parental influence consistently relate to domain-specific achievement behaviors. Only a few studies have examined expectancy-value constructs in multiple achievement domains (e.g., Eccles et al., 1993; Simpkins et al., 2012; Wigfield et al., 1997). Wigfield and Eccles (1992) reported different patterns of task values across school subjects, and Eccles (Eccles et al., 1993; Eccles & Harold, 1991) found that youth held differentiated perceptions of competence across achievement domains. Gender differences exist for all three domains, but strength of differences varies across domains. Eccles and Harold (1991) found greater gender variations for perceptions of ability in sport compared to academic subjects. Parent perceptions of their child's ability, parental support, and parental involvement are consistently related to children's perceived competence, and motivational outcomes in reading, sport, and music (Dai & Schader, 2002; Fredricks & Eccles, 2005; Frome & Eccles, 1998; Klauda, 2009). These similarities demonstrate the overall positive relationship between parents' and children's beliefs and behaviors across different activities. Studies that have compared multiple domains highlight these common features, yet each domain is unique and warrants in-depth consideration in studies of youth achievement motivation.

While much is known about personal and social factors related to domain-specific motivation, at least three limitations exist in the current knowledge of achievement beliefs and behaviors in academic and performance domains. First, gender differences found by Eccles and Harold (1991), and reported in other studies, may have changed over time, given dynamic changes in school-based education, sport involvement, and music participation since the late 1980s and early 1990s. Because of Title IX, the gender gap has lessened in academic subjects such as science, engineering, and math, and girls have had more opportunities for sport participation. Boys may have benefited from the introduction of music into popular culture and video games, such as Guitar Hero. A concerted effort to enhance reading literacy among all youth may have reduced gender disparities. Thus, gender differences in achievement motivation in multiple domains might be less apparent or even disappear today. An explicit study designed to compare girls and boys in reading, sport, and music may show this.

A second limitation is that research has not considered how activity participation in different performance domains is related to achievement beliefs and behaviors. Youth who are regular participants in an activity (e.g., sport, music) likely have more positive attitudes toward that activity, while non-participants can be expected to have less favorable attitudes. The activities that a child or adolescent is involved in have rarely been considered in differentiating groups of students when examining their achievement beliefs in multiple domains. In the majority of studies based on data from the Childhood and Beyond project (the collective of Eccles' long-term multidimensional study; see Eccles & Harold, 1991; Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002; Wigfield et

al., 1997), participants came from a general student population. By selecting a general population, it is likely that youth were involved in a variety of activities—some children may be involved in only one activity, other children may not be involved in any activity, or children may participate in multiple activities. Except for Simpkins, Vest, and Becnel (2010), who distinguished between current sport and music participants, dropouts, and non-participants in their examination of competence and value beliefs, this distinction has not been considered. The present study intends to close the gap on understanding activity participation differences in expectancy-value constructs by sampling youth who subscribe to being sport-only, music-only, or sport-plus-music participants.

A third limitation is that mechanisms of parental influence has not been consistent across domains. Parents' perceptions of their child's ability has been the main source of influence examined in the domains of reading and music (Frome & Eccles, 1998; Guthrie & Wigfield, 2000; McPherson, 2009). However, this is only one type of parental influence—role modeling, task value, and social support are other ways in which parents influence their child's beliefs and behaviors in various domains. Multiple mechanisms of parental influence have been examined in the sport domain (e.g., Babkes & Weiss, 1999; Fredricks & Eccles, 2005). Reading studies have shown several mechanisms of parental influence are important (Klauda, 2009), but research in the music domain has not consistently used a theoretical approach to examine multiple ways that parents influence their child's beliefs and behaviors (Dai & Schader, 2002; McPherson, 2009). It is important to assess parental influence comparably across multiple domains to determine similar or varying patterns.



Considering these limitations, research is needed to: (a) examine whether gender differences pervade in traditional stereotyped activities, (b) acknowledge different patterns of activity involvement, and (c) consider multiple mechanisms of parental influence across mandatory and voluntary achievement domains. Therefore, the purpose of the present study was to extend past research on youths' achievement motivation in reading, sport, and music. The first purpose was to examine girls' and boys' achievement beliefs and behaviors in sport, music, and reading, to determine whether gender differences persist or have changed in these domains. The second purpose was to compare activity groups (i.e., sport-only, music-only, sport-plus-music) on adolescents' achievement beliefs and behaviors in sport, music, and reading, to determine if chosen activity type is indeed a factor contributing to achievement motivation. In the following sections, I review conceptual approaches to studying motivation in different achievement domains; empirical research on expectancy-value constructs in reading, sport, and music, respectively; and conclude with study purposes and hypotheses.

### **Theories Applicable to Academic and Performance Domains**

Researchers have utilized several theories from social, educational, and developmental psychology to understand motivation in the context of sport. Among these include achievement goal, competence motivation, and self-determination theories. For the present study purposes, I utilized expectancy-value theory primarily because it is

developmentally appropriate and applicable to examine achievement beliefs and behaviors in a variety of contexts. In the following sections, I review the main concepts of each of these theories, which all share common constructs of self-perceptions, social influence, and motivated behavior in an activity. Brief summaries of the first three theories will be followed by a more comprehensive review of expectancy-value theory, since it is the framework used in the present study.

### **Achievement Goal Theory**

Achievement goal theory was initially forwarded by Nicholls (1984, 1989) although several other researchers such as Martin Maehr, Carol Dweck, and Carole Ames have contributed to this conceptual approach. According to Nicholls, individuals are motivated and feel successful when they demonstrate high ability and show lower competence beliefs when they demonstrate low ability. Nicholls contends that ability can be conceptualized in self-referenced and norm-referenced ways. Individuals hold self-referenced conceptions of ability, or task goal orientations, when they predominantly define success in terms of personal mastery, learning and effort, while individuals who predominantly hold norm-referenced conceptions of ability, or ego goal orientations, define success based on superior performance relative to others. Individuals higher in task goal orientation tend to show more adaptive behaviors, such as higher self-perceptions, more positive affect, and greater motivation (M. R. Weiss & Williams, 2004). In addition to an individual's conception of ability, achievement behavior can be influenced by perceived motivational climate. The motivational climate in sport is typically created by the coach and can be categorized as task- or ego-oriented as well—

coaches who emphasize improvement and personal goals create a higher mastery climate, whereas coaches who emphasize competition and social comparison create a higher performance climate. Achievement goal theory has demonstrated applicability in understanding youth achievement in the academic and physical activity domains (Covington, 2000; M. R. Weiss & Williams, 2004).

### **Competence Motivation Theory**

Competence motivation theory was developed by Harter (1978, 1981) and proposes that children are motivated to develop or demonstrate competence. Higher levels of perceived competence are related to greater motivation in a particular activity. In turn, a high level of competence motivation will influence an individual to partake in mastery attempts at optimally challenging activities. This means that the task is demanding but success is realistic for the individual. When an individual succeeds at a mastery attempt, their perceptions of competence and positive affect toward the activity will increase. Another aspect of the theory posits that significant socializers, such as parents, strongly influence a child's perceived competence and motivation. Socializers achieve this through their expressed beliefs and behaviors following an individual's mastery attempts. Positive feedback and reinforcement from socializers will increase the child's self-perceptions and motivation to engage in additional mastery attempts. Thus, Harter's competence motivation theory provides a framework for explaining how individual and social factors affect motivational outcomes and has been supported in the academic and physical activity domains (Bouchey & Harter, 2005; M. R. Weiss & Williams, 2004).

### **Self-Determination Theory**

According to self-determination theory (Deci & Ryan, 1985), the degree to which three fundamental psychological needs—perceived competence, autonomy, and relatedness—are satisfied is related to self-determined motivation and overall well-being. Perceived competence means that an individual believes they are capable and proficient at an activity. Perceived autonomy is the belief that an individual has freedom of choice in their actions. The need for relatedness refers to an individual's desire for secure and positive relationships with others. According to self-determination theory, social-contextual factors, such as coach or parent behaviors, have the ability to facilitate or hinder satisfaction of these psychological needs. Thus, social and environmental factors affect motivation and well-being through the mediation of the three psychological needs. Self-determination theory has been useful in explaining motivation in the academic and physical activity context (Standage & Duda, 2004; Vansteenkiste, Lens, & Deci, 2006).

### **Expectancy-Value Theory**

Eccles and colleagues' (1983) expectancy-value theory provides a sound theoretical framework to examine achievement beliefs and behaviors among youth across multiple achievement domains. This theory examines the motivational factors that influence individuals' achievement behaviors in various activities, as shown in Figure 1 (Eccles et al., 1983). Achievement behaviors can consist of activity choice, persistence in an activity, and performance level. For example, achievement behaviors include participation level and frequency in a particular sporting activity or choosing to enroll in an advanced-level math class. In the present study, achievement behaviors consist of the

number of hours and days per week adolescents participated in sport, music, and reading. Achievement behaviors are directly influenced by expectations for success and subjective task values, and indirectly influenced by significant socializers and other social-contextual factors (Eccles et al., 1983).

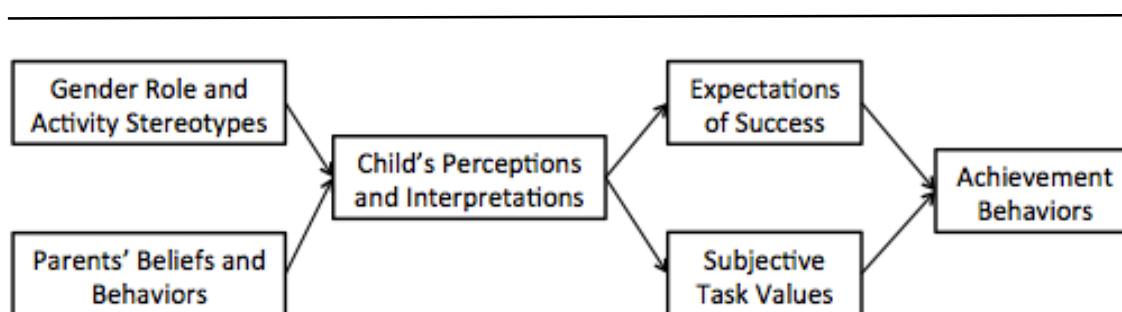


Figure 1: *Model of Expectancy-Value Theory*

Note: Simplified model of expectancy-value theory, modified to emphasize constructs examined in the present study.

Expectations for success refer to an individual's beliefs about performing well in a particular activity. A high expectation for success, in turn, leads to higher achievement behaviors. Expectations for success and perceptions of ability are interchangeable terms and, thus, in the present study, domain-specific perceived competence is used to assess this construct. Subjective task value is defined as the significance an individual attaches to being successful in a specific achievement domain (Eccles et al., 1983). Eccles and colleagues (1983) differentiate four types of subjective task values. Attainment value is the importance an individual places on doing well in the task. Intrinsic value is defined as the enjoyment or interest value obtained from participating in the activity. Utility value

refers to perceived usefulness of the task in relation to future goals. Attainment and utility values are often highly correlated. Cost involves the perceived negative aspects of participating in the activity. Research has focused primarily on attainment, interest, and utility values and has neglected perceived cost. Overall, task values have been strong indicators of achievement behaviors (e.g., Eccles & Harold, 1991; Fredricks & Eccles, 2005). In the present study, attainment value, intrinsic value, and perceived cost are assessed.

According to expectancy-value theory, social-contextual factors and significant others influence youths' achievement beliefs and behaviors. One common finding is that the salient gender-role beliefs in a culture influence expectations for success, subjective task values, and achievement behaviors (Eccles et al., 1983). For example, if an individual places a high importance on masculinity, competitiveness, and strength, they are more likely to participate in activities congruent with those characteristics (Eccles & Harold, 1991). If cultural norms and beliefs about typical gender-role behaviors are pervasive in society, an individual may subscribe to gender-role beliefs and place greater importance on activities congruent with gender stereotypes (Eccles et al., 1983; Eccles & Harold, 1991). For example, gender norms that males should partake in athletic activities would demonstrate that boys tend to value sport more than girls. If music is cast as a female stereotypical activity, then girls will tend to have higher achievement beliefs and behaviors in music. Gender-role stereotypes have been shown to affect an individual's attitudes toward the appropriateness of particular activities (Eccles et al., 1993; Fredricks

& Eccles, 2005; Marinak & Gambrell, 2010). Gender and activity stereotypes are social-contextual factors examined in the present study.

Parents are a central source of expectations for success, task values, and achievement behaviors (e.g., Eccles & Harold, 1991; Eccles et al., 1983; Fredricks & Eccles, 2004). For the most part, parents are a child's first and primary socializer of domain and activity participation and are especially influential during the early childhood years. Parents' beliefs and behaviors are strongly related to their child's beliefs and behaviors in different achievement domains (Davidson et al., 1996; Fredricks & Eccles, 2004; Klauda, 2009; M. R. Weiss, Kipp, & Bolter, 2012; Wigfield et al., 1997). Peers and other significant adults, such as teachers and coaches, can also influence children's domain-specific beliefs and behaviors. Perceptions of parents' achievement beliefs and behaviors are investigated as sources of youths' beliefs and behaviors in the present study.

In sum, predominant theoretical frameworks of motivation emphasize self-perceptions and social influences as contributors to individual achievement beliefs (perceived competence, task values) and behaviors (participation level and frequency). Expectancy-value theory highlights the role of perceptions of competence and task value as predictors of achievement behavior, and the theory considers gender roles and parental influence as social-contextual sources of influence. Expectancy-value theory was originally created to explain gender differences in math beliefs and behaviors. However, the theory has been supported in many academic and performance domains, such as sport and instrumental music (Eccles et al., 1993; Fredricks & Eccles, 2004; Frome & Eccles,

1998; Lehmann et al., 2007). Therefore, expectancy-value theory is used as the guiding framework in the present study. To demonstrate support for expectancy-value theory, the following sections are devoted to reviewing the empirical research in reading, sport, and music, respectively.

### **Research in the Reading Domain**

While academic subjects are required for students in school, individuals have varying levels of motivation and beliefs about their abilities in different subjects. As children progress through school, they are afforded some choice in advanced level classes. Expectancy-value theory was created as an attempt to explain gender differences in math achievement. Eccles and colleagues (1983) noticed that although boys and girls received equivalent math grades during elementary school, males would choose a greater number of math courses later in their education. Since its creation, expectancy-value theory has been utilized in other academic domains. Reading is one such activity for children and adolescents. As with many academic activities, reading ability requires a certain level of motivation. Expectancy-value theory has been utilized to understand individuals' beliefs and behaviors and the socio-cultural influences on reading motivation.



## **Perceptions of Competence**

In accordance with expectancy-value theory, Gambrell, Palmer, Codling, and Anders (1996) distinguish perceived competence and task values of reading as two aspects of reading motivation. Other researchers have included more aspects of reading motivation. Chapman and Tunmer (1995) conceptualized three dimensions of reading self-concept: perceived reading competence, perceived difficulty, and attitudes toward reading. Wigfield and Guthrie (1997) theorize 11 dimensions of reading motivation that fall into four categories. These categories include competence and efficacy beliefs, intrinsic goals, extrinsic goals, and social activity. The competence and efficacy category includes constructs such as self-efficacy, desire for challenge, and work avoidance (Wigfield & Guthrie, 1997). This is similar, but not identical, to expectancies for success in expectancy-value theory. The category of intrinsic goals includes curiosity, involvement, and importance, which align well with subjective task values in expectancy-value theory. However, the other two categories in Wigfield and Guthrie's (1997) framework—extrinsic goals and social activity—do not align with constructs in expectancy-value theory, as expectations for success (i.e. perceived competence) and task values are the two main determinants of achievement behavior within expectancy-value theory. In these varied conceptualizations, perceived competence is a consistent construct assessed to determine reading motivation.

High self-perceptions in reading have been frequently associated with positive motivational outcomes. These motivational outcomes include positive attitudes and interest toward reading, and increased reading achievement and participatory behaviors

(Baker & Scher, 2002; Baker & Wigfield, 1999; Chapman & Tunmer, 1995; Eccles et al., 1983; Park, 2011; Wigfield & Guthrie, 1997). For example, Baker and Wigfield (1999) found that perceived reading ability was related to higher reading achievement and activity among fifth and sixth grade children. Individuals who had higher competency and efficacious beliefs about their reading ability were more likely to read a book for fun. In addition, children who did not avoid reading performed better on measures of reading achievement, such as age appropriate vocabulary and comprehension tests. Eccles et al. (1983) also found that expectancies for success were a strong predictor of English and reading performance.

Several developmental changes occur in an individual's reading perceptions and attitudes over time. In general, young children have relatively high perceptions of competence in reading. Chapman and Tunmer (1995) found that perceived competence was very positive among children between ages five and ten. However, reading perceptions of competence decline with age (McKenna et al., 1995; Wigfield et al., 1997). Wigfield et al. (1997) found that children's competence beliefs in reading decreased over a period of three years in cohorts beginning in first, second, and fourth grade. Despite declines in perceived competence with age, the relationship between perceived reading competence and reading performance increased with age (Chapman & Tunmer, 1995). That is, stronger competence beliefs were more strongly related to reading performance in older youth.

### **Subjective Task Values**

Subjective task values are also a positive predictor of reading achievement behaviors (Baker & Scher, 2002; Baker & Wigfield, 1999; Marinak & Gambrell, 2010; Park, 2011). Eccles and colleagues (1983) found that task values predicted children's and adolescents' intentions and decisions to take additional English classes. While multiple types of value beliefs (importance, interest, utility) have a tendency to be evaluated together, Eccles and Wigfield (1995) were able to distinguish attainment, intrinsic, and utility values through factor analytic techniques. Wigfield and Eccles (1992) state that by late elementary and middle school, children are able to differentiate among the different task values.

Nonetheless, some researchers have analyzed subjective task values toward reading as a composite construct because multiple task values were highly correlated or they did not use theory to guide their work. The relatively high correlations among task value components make it difficult to assess the independent contributions of each to motivational outcomes (Wigfield & Eccles, 1992). Other researchers have effectively analyzed separate task values and found different relationships of each with motivational outcomes. Baker and Wigfield (1999) found that reading attainment value and intrinsic value were positively associated with reading activity (reading books for fun). In addition, Baker and Scher (2002) found that reading importance and enjoyment were predictors of reading motivation. Intrinsic and utility values were also related to intentions to take additional English classes among high school students (Eccles et al., 1989).

In general, children's ratings of the value, or importance, of academic tasks—especially math—decrease as they get older (Wigfield & Eccles, 1992). One notable exception is that children's attainment and utility value of English showed an overall increase from fifth to twelfth grades (Eccles et al., 1983). Eccles et al. (1989) noted that children's ratings of importance and enjoyment of English decreased during the transition from elementary to junior high school. Thus, there appears to be an overall increase in children's importance rating of English and reading, with a slight dip during the transition to junior high. However, Eccles et al. (1983) found that children's attainment and utility value of English increased from fifth to twelfth grades. For English and reading, children develop more negative competence beliefs and intrinsic values during late childhood but their perceived importance for these subjects increase through adolescence.

### **Gender**

Gender differences are consistent in children's reading ability and motivation, with girls expressing more positive beliefs and achievement behaviors. Some studies have only found gender differences in favorable beliefs toward the importance of reading. Marinak and Gambrell (2010) did not find gender differences in reading self-concept of third graders, but they did discern that girls valued reading more than boys. Other studies reveal that girls perceive themselves as more competent at reading and hold higher task values toward reading than boys (Eisenberg et al., 1996; McKenna et al., 1995; Wigfield & Guthrie, 1997). Wigfield and Guthrie (1997) found that girls reported higher self-efficacy, rated reading as more important than boys, and Baker and Wigfield (1999) found that girls scored higher on competence and value dimensions of reading motivation

than boys. McKenna and colleagues (1995) found that girls had more positive attitudes toward reading than boys for academic and recreational reading, which was attributed to gender disparities in reading ability. In sum, girls consistently report more positive attitudes toward reading across elementary and middle school.

### **Social Influences**

Parents, teachers, and peers can strongly influence children's perceived competence, task value, and reading achievement motivation (Klauda, 2009; Klauda & Wigfield, 2011; Sweet, Guthrie, & Ng, 1998). While teachers play a direct role in motivating students in the classroom and peers influence children's and adolescents' reading choices and level of engagement, parents have the earliest and most direct influence on their child's reading motivation and participation behavior.

Parents are children's first influence in reading, as they begin to learn how to read through parent instruction. There is a plethora of research that demonstrates the importance of parents in aiding preschool and early elementary school children to develop interest and skills in reading (Baker & Scher, 2002; Baker, Scher, & Mackler, 1997). Parents influence their children through conveying beliefs about the importance of reading and involving themselves with their child's reading activities. Parents who enjoyed reading were associated with children who enjoyed and reported higher reading competence (Baker & Scher, 2002). Mechanisms of parental influence, specifically involvement, among early readers included active reading with the child and encouraging the child to learn to read (Baker & Scher, 2002). These qualities of parental influence are associated with higher levels of reading motivation and participation behavior in children.

Parents continue to influence reading beliefs and behaviors throughout the later childhood and adolescent years. Parent beliefs about their child's reading ability and the importance of reading are associated with children's reading motivation and behaviors (Frome & Eccles, 1998; Guthrie & Wigfield, 2000; Klauda, 2009). Frome and Eccles (1998) found that both mothers' and fathers' perceptions of children's reading abilities were associated with children's perceptions of reading competence. Furthermore, children's perceptions of competence were more strongly associated with parent perceptions of their child's reading ability than children's objective reading grades.

Among older children, parental support of reading is also a factor positively related to motivation in reading (Klauda, 2009). Parental support includes parents reading habits, availability of books in the home, encouragement to read, and transportation to and from the library (Klauda, 2009). Studies consistently have shown the strong influence of parental beliefs and behaviors on children's motivation in reading and accompanying reading behaviors.

Expectancy-value theory has been supported and is useful to understand children's achievement beliefs and behaviors in reading. Perceptions of competence, task values, gender, and parental influence are consistently related to children's reading beliefs and behaviors. As expectancy-value theory depicts a model of choice, the theory has also been applied to voluntary activity domains such as sport and music. Research supporting expectancy-value theory in these domains is presented next.

## **Research in the Sport Domain**

The sport domain differs from academic subjects because of the voluntary nature of participation. Similar to academic domains, perceived competence, task values, skill acquisition, and motivation are necessary for sustained involvement. Expectancy-value theory has been utilized to understand individuals' beliefs and behaviors and the social-contextual influences on children's and adolescent's motivation in sport.

Eccles and Harold (1991) first examined children's beliefs and behaviors in the sport domain. They compared children's beliefs and behaviors across sport, math, and English and found gender differences in each of these domains. Overall, boys had higher perceptions of competence, task values, and participation in sport and higher perceptions of competence in math, whereas girls had higher perceptions of competence, task value, and participation in English. These findings align with the culturally driven gender stereotypes of these activities. Similarly, Eccles and Harold (1991) found that perceived competence and task value were related to activity participation for all domains. However, there were differences in the strength of the relationship between children's beliefs and activity participation—perceptions of competence and task values were the strongest predictors of participation for the sport domain. A probable reason for this finding is that sport is a voluntary activity, while math and English are required academic subjects. This study was the first to demonstrate the utility of expectancy-value theory in the sport domain. Many other studies have followed and are reviewed next.

## **Perceived Competence**

Perceptions of competence are consistently associated with motivation and behavioral outcomes in organized sport and general physical activity contexts (e.g., Bois et al., 2002, 2005; Crocker, Sabiston, Kowalski, McDonough, & Kowalski, 2006; Dempsey et al., 1993; Ebbeck & Weiss, 1998; Eccles & Harold, 1991; Sallis, Prochaska, & Taylor, 2000). Higher levels of perceived competence are associated with greater effort, persistence, and participation in sport activities (Cox & Whaley, 2004; Davison, Downs, & Birch, 2006; Fredricks et al., 2002; Simpkins, Vest, & Becnel, 2010). For example, Cox and Whaley (2004) determined that expectancies for success were the strongest predictor of effort and persistence among adolescent basketball players. In addition, Davison and colleagues (2006) found that higher levels of perceived sport competence at age nine predicted physical activity level and sport involvement at age eleven.

Similar relationships hold true for perceived competence in physical activity contexts. In a review article, Sallis and colleagues (2000) stated that perceptions of physical competence consistently show a moderate positive relationship with physical activity for children and adolescents. Their statement is supported by relevant research on perceived competence as a predictor of physical activity behaviors (Bois et al., 2005; Crocker et al., 2006; Sabiston & Crocker, 2008). For example, Crocker et al. (2006) found that physical self-perceptions predicted physical activity among adolescent females. Similarly, children's perceptions of physical competence were positively associated with participation in physical activity among French children (Bois et al.,



2005). Collectively, these studies corroborate the initial results of Eccles and Harold (1991) that high perceptions of physical competence are positively related to children's and adolescents' participation behaviors.

Several developmental changes occur in perceived physical competence over time. Both Fredricks and Eccles (2002) and Jacobs and colleagues (2002) tracked children's perceptions of sport competence between first and twelfth grade. They found that the rate of decline accelerated during the middle and high school years. Eccles, Wigfield, & Schiefele (1998) propose that the decrease in perceived competence with age may be due to children developing a more realistic view of their abilities as they grow older. They also note that changes in the social context of athletics during the middle and high school years, namely an increased emphasis on competitive sports and social comparison, may likely account for the decrease in children's perceived physical competence across the childhood and adolescent years.

### **Subjective Task Value**

Subjective task values are also positively associated with achievement motivation and behaviors (Eccles & Harold, 1991; Fredricks & Eccles, 2002; Fredricks et al., 2002; Jacobs et al., 2002; Simpkins, Vest, & Becnel, 2010). Some studies distinguish between different types of subjective task values, while others use a composite measure of value. For example, Fredricks and Eccles (2005) used a single measure that included items for attainment, utility, and intrinsic value. Despite their conceptual distinction, empirical overlap of these three task values means that relevant sport literature has not consistently assessed each value belief separately.

Intrinsic value, or enjoyment, in sport has been regularly related to continued participation in sport and physical activity (Fredricks & Eccles, 2002; Fredricks et al., 2002; Simpkins, Vest, & Becnel, 2010). Simpkins, Vest, and Becnel (2010) found that adolescents' interest in sport positively predicted their participation one year later. In a qualitative study, enjoyment of sport was often cited as a reason for continued participation (Fredricks et al., 2002). Cox and Whaley (2004) found that interest value was a positive predictor of effort and persistence in adolescent basketball players. A high level of intrinsic value is related to positive motivational outcomes in sport.

The importance of sport has sometimes been operationalized in terms of both attainment and utility value (Fredricks & Eccles, 2002), though importance is defined by attainment value and usefulness is reflective of utility value. This non-distinction may be due to participants in a sample that are unable to distinguish attainment and utility values (below fifth grade) or to a theory other than expectancy-value theory used to conceptualize the importance of sport. Fredricks and Eccles (2002) found that perceived sport importance was a positive predictor of current and future activity choice. Thus, attainment value is also positively related to motivational outcomes in sport.

The task value of perceived cost has rarely been measured in studies using expectancy-value theory. Cox and Whaley (2004) intended to measure perceived cost in sport, but the measure had low reliability and was dropped from further analyses. Participants highly involved in sport acknowledged the negative aspects of activity participation, but the benefits of sport participation outweighed the costs for individuals who continued to participate (Fredricks et al., 2002). In research utilizing the sport

commitment model, perceived cost has been consistently negatively associated with psychological and behavioral commitment to sport (e.g., Raedeke, 1997; W. M. Weiss, Weiss, & Amorose, 2010). Thus, additional research regarding perceived cost in sport needs to be conducted to determine the relationship between costs associated with an activity and achievement behaviors.

Developmental differences in children's conceptions of sport task values exist. Eccles and colleagues (1998) found that interest toward sport does not decline over childhood and adolescence, but perceived usefulness and importance decreased with age (Eccles et al., 1998). Fredricks and Eccles (2002) also found that ratings declined in sport importance over the childhood years. These developmental trends for different subjective task values highlight the importance of assessing task values independently.

### **Gender**

Traditionally, sport has been viewed as a male-stereotyped activity, as studies have found gender differences in perceptions of competence and task value (Bois et al., 2002; Eccles & Harold, 1991; Eccles et al., 1993; Fredricks & Eccles, 2005; Jacobs & Eccles, 1992; Sabiston & Crocker, 2008; Wigfield et al., 1997). In all of these studies, males reported higher perceptions of competence and subjective task values, which held true from childhood through adolescence. Fredricks and Eccles (2002) and Jacobs et al. (2002) found that gender differences for sport exist as early as first grade. However, the magnitude of the differences in boys' and girls' perceived competence and task values in sport do not become larger with age.

Other studies reported no gender differences in children's and adolescents' perceptions of competence and task value in sport (e.g., Babkes & Weiss, 1999; Cox & Whaley, 2004). This may be due to differences in the populations used in various studies. In the studies mentioned in the previous paragraph, samples consisted of a general population of students or authors did not specify participant demographics (e.g., varsity athlete; Bois et al., 2002; Eccles & Harold, 1991; Jacobs & Eccles, 1992; Sabiston & Crocker, 2008b). However, Babkes and Weiss (1999) surveyed adolescent soccer players and Cox and Whaley (2004) surveyed varsity basketball players. The difference between the two populations is that the general school students were not all involved in sports, while all of the participants in Babkes and Weiss and Cox and Whaley were sport participants. Thus, gender differences in perceptions of competence and task value may be related to participation experience in sport. When boys and girls have comparable sport experiences, gender differences may not exist.

### **Social Influences**

Parents, coaches, and peers exert a strong influence on children's beliefs and behaviors in the sport domain (see M. R. Weiss, Kipp, & Bolter, 2012). Coaches instruct, provide feedback, and create the climate surrounding participation (Horn, 2008). Peers influence each other through normative beliefs and behaviors (Smith, 2007). Parents are the focus of the following literature review because of their prominent role during childhood and adolescence.

Parental beliefs and behaviors are important determinants of children's motivation in sport. Fredricks and Eccles (2004) identified three mechanisms of parent influence—as

providers of experience, as interpreters of experience, and as role models. These mechanisms overlap and parents can influence children's thoughts, emotions, and behaviors through a variety of specific actions.

Parents provide experiences by giving their children opportunities to participate in sporting activities. This can occur by registering a child for a sport, providing transportation to and from practices and games, and by purchasing equipment needed to participate (Fredricks & Eccles, 2004, 2005). Providing these types of opportunities displays information to the child about the parent's positive value toward the activity and may influence the child's own beliefs toward the activity. Limiting opportunities to experience a sporting activity conveys negative information to the child regarding the parent's value of the activity and can influence the child's beliefs regarding the activity.

Parents also have the ability to interpret their child's sporting experiences through their expressions of beliefs about the child's competence and about the value of sport as an achievement domain. Parents do so by helping a child assess their performance and by providing feedback and reinforcement for certain behaviors. Fredricks and Eccles (2005) found that parents who have high perceptions of their child's ability in sport are associated with children who report high levels of perceived competence. Other studies have displayed a strong relationship between parent and child beliefs (Babkes & Weiss, 1999; Bois et al., 2002, 2005; Brustad, 1993; Jacobs & Eccles, 1992). Babkes and Weiss (1999) found that children who believed their parents held positive perceptions of their competence or received positive feedback about their performance also reported more positive perceptions of competence and enjoyment. Bois and colleagues (2002) found

that mothers' beliefs of their child's physical competence were related to the child's perceived physical competence. Furthermore, Jacobs and Eccles (1992) found that mothers' perceptions of their child's sport competence were related to their child's perception of their sport ability. These studies demonstrate the positive relationship between parents' perceptions of child's competence and the child's competence beliefs in sport.

Another way that parents interpret their child's sport experiences is through encouragement (Bois et al., 2002; Brustad, 1993; M. R. Weiss, Amorose, & Kipp, 2012). Brustad found that parents who enjoyed physical activity also encouraged their children to be physically active. Parental enjoyment and encouragement were associated with children's perceived competence and interest in physical activity. Collectively, these studies lend support for parents, through expressing beliefs about their child's sport competence and encouragement of physical activity involvement, as interpreters of their child's sport experiences.

Finally, parents act as role models by conveying attitudes and behaviors that their children may emulate (Fredricks & Eccles, 2004; Horn & Horn, 2007; M. R. Weiss, Kipp, & Bolter, 2012). This may include participating in physical activity or sport, sharing stories of their own past experiences, or coaching a child's team. Researchers who have narrowly defined modeling as the relationship between parent and child's physical activity levels have not demonstrated support for modeling as an important source of parental influence (Dempsey et al., 1993). Modeling is defined as more than a correlation between parent and child activity (M. R. Weiss, Amorose, & Kipp, 2012).

Using a more inclusive conceptualization of modeling, parents influence children's self-perceptions, value beliefs, and motivation toward physical activity (Bois et al., 2005; Fredricks & Eccles, 2004; Horn & Horn, 2007). For example, if a child sees a parent participating in and enjoying sport, then the child may want to imitate this behavior. Role modeling behaviors indicate to the child that the parent considers sport an appropriate and credible activity domain.

Parents play a predominant role in children's beliefs and behaviors regarding sport and physical activity. Though Fredricks and Eccles (2004) defined parental influence as three distinct mechanisms—providers of experience, interpreters of experience, and role models—in reality these mechanisms of parental influence often overlap. This is true because parents who provide sporting opportunities for their child often display positive behaviors toward their child's sport activities. Thus they are also modeling positive attitudes and behaviors regarding the importance of sport and physical activity. Through the combined influence of these mechanisms, parents exert a very strong influence on children's competence and value beliefs regarding sport.

Perceptions of competence, task values, gender, and parental influence are consistently related to children's sport beliefs and behaviors. Recently, expectancy-value theory has been used to study achievement beliefs and behaviors in music, which is a voluntary activity and performance domain similar to sport.

## **Research in the Music Domain**

Involvement in music-related activities, such as participating in an ensemble, taking lessons, or enrolling in a class, are also common childhood activities. Youths' achievement beliefs and behaviors as well as social-contextual influences on music achievement have been examined from an expectancy-value framework. Research supporting expectancy-value theory in music is reviewed next.

### **Perceived Competence**

Studies have demonstrated a positive relationship between perceived competence and achievement motivation in music (Austin, 2006; Eccles et al., 1993; Hallam, 1998; Simpkins et al., 2012). Music achievement motivation involves the desire to continue playing an instrument and improve one's skills, including music technique, sight-reading, repertoire expansion, and self-regulated practice skills. Simpkins and colleagues (2012) found children's perceived musical competence was a moderately significant predictor of participation in music activities four years later. Hallam (1998) showed that individuals who dropped out of music performance activities—taking lessons or participating in an ensemble—had lower perceived ability and attitudes toward music during the prior year than individuals who continued in music.

Similar to perceptions of competence in other domains, perceived music competence undergoes developmental changes. In general, perceptions of competence decline over the childhood and adolescent years (Eccles et al., 1993; O'Neill, 2011; Simpkins, Vest, Dawes, & Neuman, 2010; Wigfield et al., 1997). Eccles et al. (1993)



found that perceptions of competence in music were higher in first and second grades than in fourth grade. Eccles and colleagues (1993) reason that the decline in music-specific self-perceptions with age is due to an increase in realistic appraisals of their abilities in different activities. Simpkins, Vest, Dawes, and Neuman (2010) extended this research by demonstrating declines in children's perceived competence in music between first and twelfth grades. They reasoned that this decline may be because, as children grow older, music involvement is less normative, less associated with popularity, and therefore fewer children participate and develop their competence in the activity.

### **Subjective Task Value**

Subjective task value is related to an individual's level of music achievement (Eccles et al., 1993; McPherson & McCormick, 2006; Simpkins, Vest, Dawes, & Neuman, 2010; Wigfield et al., 1997). Similar to the sport domain, the literature has not consistently supported a differential relationship between each task value and achievement motivation in music, especially among children in fifth grade or lower. Young children who report that music is important, useful, and enjoyable consistently report higher levels of achievement motivation. For example, Eccles and colleagues (1993) found that intrinsic and attainment value consistently loaded on the same factor for children in first through fourth grades. Simpkins, Vest, Dawes and Neuman (2010) also used a single scale to assess children's intrinsic and attainment values in music. Interestingly, utility value and perceived cost of music have been examined less frequently than the other two subjective task values, with little explanation as to why (Eccles et al., 1993; Simpkins, Vest, Dawes, & Neuman, 2010).

Developmental trends indicate that value beliefs in music generally decline from early childhood through adolescence (Simpkins, Vest, Dawes, & Neuman, 2010; Wigfield et al., 1997). Wigfield and colleagues (1997) found that value beliefs in music decline during childhood and then become more stable through adolescence. However, other studies have shown that value beliefs declined consistently between the periods of early childhood and late adolescence (Simpkins, Vest, Dawes, & Neuman, 2010). Simpkins, Vest, Dawes and Neuman (2010) explain task value declines in music similar to perceived competence declines—music involvement is less normative and less associated with popularity in middle and high school. Understanding the nature of subjective task value is important because they are strongly related to musical achievement behaviors.

### **Gender**

Music has traditionally been conceived of as a female stereotyped activity. Although the gender ratio of professional orchestral and popular musicians favors males, an overwhelming number of elementary music teachers are female (Eccles et al., 1993). This early exposure to female music experts may create the stereotype of music being a female-oriented activity. Thus, it is consistent with this stereotype that girls report higher perceived music competence and task values than boys (Eccles et al., 1993; Simpkins, Vest, Dawes, & Neuman, 2010; Simpkins et al., 2012; Wigfield et al., 1997). These gender differences hold true for all components of task value in music (Wigfield et al., n.d.). Simpkins, Vest, Dawes, & Neuman (2010) found that by first grade, girls reported higher perceptions of competence and task value in music than boys. Boys' competence

perceptions and importance and enjoyment ratings remained lower through twelfth grade. However, girls' value beliefs declined more steeply between seventh and twelfth grade than boys (Simpkins, Vest, Dawes, & Neuman, 2010). These findings carry implications for differences in girls' and boys' interest in and motivation for involvement in music.

### **Social Influences**

Significant adults and peers make a strong impact on children's music beliefs and behaviors (Davidson et al., 1996; Davidson, Moore, Sloboda, & Howe, 1998; Lehmann et al., 2007; Moore, Burland, & Davidson, 2003). Teachers, especially early music teachers, influence youths' motivation and sustained involvement in music (Howe & Sloboda, 1991a). Furthermore, peers influence sustained motivation in music through the development of strong, positive relationships (Patrick et al., 1999). Parents' beliefs and behaviors are especially influential in developing children's competence and value beliefs and behaviors in music (Creech, 2010; Davidson et al., 1996; Howe & Sloboda, 1991b).

Parents are usually a child's first and primary socializer into musical activities. Parental attitudes and behaviors exert a strong initial influence on children's musical beliefs (e.g., how competent a child believes they are) and behaviors (e.g., how often a child practices) and continue to influence children as they age. There are a variety of parenting practices and behaviors that influence children's motivation in the musical domain. Early in a child's musical development, parental involvement in lessons and practice is a means for influencing children's persistence in music (Davidson et al., 1996; McPherson & Davidson, 2002; Sloboda & Howe, 1991). Parents who observed their child's lessons and received instructions about how to guide their child's practice from

the teacher were associated with children who demonstrated high musical ability (Davidson et al., 1996).

In addition to early involvement by parents, continued parental involvement is associated with higher levels of children's motivation in music (Creech, 2010; Davidson et al., 1996). Parents offered behavioral support to their children by attending lessons and monitoring and participating in practice at home (Creech, 2010). For example, parents of highly motivated child musicians increased their involvement in music throughout childhood and adolescence (Davidson et al., 1996). However, other studies have shown that parental involvement in practice during the adolescent years may hinder motivation, as a high level of parental involvement may be construed as pressure (Creech, 2010). The importance of continued support by parents, while allowing more opportunities for child autonomy, is crucial for sustaining musical motivation throughout childhood and adolescence. While parental involvement is a key factor in the motivation of young children, other means of parental influence become more important as a child ages.

Parents' prior musical experience is a factor that has been frequently examined in relation to children's motivation and ability in music (Sloboda & Howe, 1991). While it may be assumed that children of musically involved parents are more likely to be talented and successful musicians, this has not been supported by research findings. Howe and Sloboda (1991a) found that only 20% of talented child musicians enrolled at a specialist music school had parents who were regular musical performers or teachers. Similarly, Sloboda and Howe (1991) concluded that parental musical background and expertise does not provide an advantage to children involved in music. They found that the most

skilled young musicians had parents who were less musically active than parents of less talented musicians. Sloboda and Howe (1991) suggested that an explanation for this seemingly counterintuitive finding is that children of less musically active parents are more driven to seek specialized training, and be noticed and perceived as unique by significant others. Meanwhile, children of musically active parents view music as normal activity and may not seek out exceptional resources for skill development or have an exceptionally high level of internal motivation (Sloboda & Howe, 1991). While parental involvement in music is related to motivation in children, parents do not need to have a musical background to foster motivation in their children.

Another parenting practice that affects children's motivation in music is providing opportunities or materials (Creech, 2010). For example, parents can register their child for music lessons or buy instruments, concert tickets, music, or recordings (Creech, 2010; McPherson, 2009). These resources demonstrate to the child that the parent has a vested interest in their musical development. Parents' appreciation of their child's involvement in music is a way of encouraging them to continue participation. Parents also demonstrate support for their children's music accomplishments. Children who are considered advanced musicians generally have parents who hold high competence beliefs of their children (Dai & Schader, 2002). In addition, when parents hold high competence beliefs, the child will report greater music competence (McPherson, 2009). Parents also show support for their children in music through praise and encouragement (Dai & Schader, 2002; Davidson et al., 1996; McPherson & Davidson, 2002). Sloboda and Howe (1991) found that highly successful young musicians have parents who are supportive and

encouraging. This variety of parenting practices display the profound and continued influence that parents have on their children's motivation in music.

Expectancy-value theory constructs have demonstrated relevance in the domains of reading, sport, and music. Perceptions of competence and subjective task value consistently influence achievement behaviors in these domains. In addition, each domain has a consistent gender stereotype that affects children's achievement beliefs and behaviors. Finally, parents display a prominent role in influencing their children's achievement beliefs and behaviors in the domains of reading, sport, and music. However, studies in each domain studied individually only tell part of the story regarding correlates of children's achievement beliefs and behaviors. In the next section, I describe findings of studies that have simultaneously collected data from multiple achievement domains.

### **Research Comparing Achievement Domains**

Some research studies have examined expectancy-value constructs in multiple achievement domains (Eccles et al., 1993; Simpkins et al., 2012; Wigfield et al., 1997). Findings have revealed similarities and differences in relationships among perceived competence, task values, and achievement behaviors across reading, sport, and music. First, children and adolescents have specific perceptions of competence and subjective task values in each domain. In addition, gender differences exist within and between different activities. Finally, there are common features in mechanisms of parental

influence for each domain. The following section will review these features in studies that have examined multiple achievement domains.

### **Domain Differences**

Domain-specific perceived competence and task values emerge in studies examining multiple domains (Eccles et al., 1998; Martin, 2008; Wigfield et al., 1997). Eccles and Harold (1991) found different patterns of domain-specific perceived competence and value beliefs in sport, math, and reading among children as young as first grade. Wigfield et al. (1997) note the importance in measuring constructs for each domain separately, as perceptions of competence and task value in each domain are distinct among children. Rather than a measure of general, or global, perceived competence or task value, these constructs vary by domain and should be measured accordingly.

Eccles and Harold (1991) and Eccles and colleagues (1993) found support for differentiation of perceptions of competence across achievement domains. Similarly, Wigfield and Eccles (1992) reported different patterns in the mean level of task values across school subjects. These findings support distinct levels of achievement beliefs in early childhood in the domains of sport, music, and reading (Eccles et al., 1993; Wigfield et al., n.d.). Thus, individuals at a very young age have the capability to distinguish their abilities in different domains.

In each domain, perceptions of competence and task values tend to decrease between early childhood and adolescence, though there are some notable exceptions to the decrease in these achievement beliefs. The developmental trajectories of competence

and value beliefs are also slightly different in reading, sport, and music. Wigfield and colleagues (1997) note sharp declines in perceived usefulness and importance of music and sport during the elementary school years, but a more gradual decrease in the usefulness and importance of reading. Intrinsic value declined for both reading and music, but not for sport (Eccles et al., 1998). These domain differences are noteworthy, because children continue to enjoy sport over time even though the perceived importance of sport success shows a decrease. These findings continue to highlight the importance of measuring competence and value beliefs separately for each domain.

### **Gender within Domain Differences**

Gender differences exist for all three domains in a general school-aged population. However, strength of gender differences varies across domains. Eccles and Harold (1991) found that gender differences were more apparent for perceptions of ability in sport as compared to academic subjects. Boys had higher ability perceptions, attainment value, intrinsic value, utility value, and free time activity in sport. Eccles and Harold also determined that perceptions of competence and task values mediated the relationship between gender and free time activity. This indicates that there is an indirect relationship between gender and free time sport participation through perceptions of ability and task values (Eccles & Harold, 1991). Eccles and Harold also found a stronger relationship among perceived competence, value beliefs, and free time participation in reading for girls than boys. However, they did not determine if competence and value beliefs were mediators of the relationship between gender and reading involvement. Gender differences in achievement beliefs and behaviors in different domains reinforce



the constructs of expectancy-value theory through the link between perceived competence, task values, and activity participation.

The rate of decline in specific competence and value beliefs for reading, sport, and music are different for girls and boys between early childhood and adolescence (Eccles et al., 1993, 1998; Jacobs et al., 2002; Wigfield et al., 1997). Jacobs and colleagues (2002) tracked competence and value beliefs of males and females in language arts and sport between grades one through twelve. They found that males and females had similar perceptions of language arts competence in first grade, but boys' competence beliefs decreased dramatically between first and sixth grade and girls' competence beliefs declined more slowly. Girls' competence beliefs remained higher than those of boys during middle and high school, accounting for gender differences in perceptions of competence in language arts. Jacobs and colleagues (2002) found that boys reported higher perceptions of sport competence in first grade than girls. However, there were no gender differences in the downward trajectories of perceived competence in sport; boys had higher perceptions of competence in first grade that were sustained over the childhood and adolescent years.

Jacobs and colleagues (2002) also examined gender differences in the trajectories of task values, operationalized as a single measure of importance, enjoyment, and usefulness value for each domain. They found gender differences in value trajectories for language arts and sport. Girls initially had higher language arts values, but their beliefs declined more rapidly than boys between first and sixth grade. Thus the gender gap initially decreased during late elementary school, but then increased during high school

as girls' value beliefs increased and boys' values of language arts remained consistent during that time. In sports, girls' value beliefs decreased at a faster rate than boys between first and sixth grade, but boys' value beliefs declined more rapidly during the middle and high school years. Girls' sport value beliefs remained stable during middle and high school. Jacobs and colleagues highlight that, although competence and value beliefs in language arts and sport decline between first and twelfth grade, male and female beliefs show different rates of decline over that time.

Gender differences in perceived reading, sport, and music competence and value beliefs occurs in studies that examined a single domain (Fredricks & Eccles, 2005; McKenna et al., 1995) and studies that assessed multiple domains (Eccles et al., 1993; Simpkins et al., 2012; Simpkins, Vest, Dawes, & Neuman, 2010; Wigfield et al., 1997). However, the population used in each study should be noted, as different populations may be more likely to report gender differences in achievement beliefs and behaviors in a domain. In reading, girls consistently report more favorable competence and value beliefs and reading motivation (Marinak & Gambrell, 2010; McKenna et al., 1995; Wigfield & Guthrie, 1997). Due to the experience of reading as a required academic subject, it can be concluded that gender differences are present across the general population, as most, if not all, students have experience in reading. Researchers have highlighted the problems associated with lower motivation for reading among boys (Eisenberg et al., 1996; Marinak & Gambrell, 2010; McKenna et al., 1995).

Sport and music, two voluntary activities, may present a different pattern of gender differences based on the level of experience individuals have in the activity. In

sport and music, gender differences were apparent in heterogeneous populations, where some participants had experience in these voluntary activities, while others did not (Eccles et al., 1993; Wigfield et al., 1997). This makes it difficult to distinguish whether gender differences in perceived competence and subjective task values are based on gender or experience in an activity. Recall that Babkes and Weiss (1999) and Cox and Whaley (2004) did not find gender differences in perceptions of sport competence among a population of youth sport participants. It is likely that in voluntary activities, males and females who have experience in a domain (i.e., sport or music) do not display gender differences in motivation beliefs and behaviors because of their common experience in the activity.

### **Parental Influence in Different Domains**

Across the domains of reading, sport, and music, parent perceptions of their child's ability are consistently related to children's perceived competence and behavior (Dai & Schader, 2002; Fredricks & Eccles, 2005; Frome & Eccles, 1998). In addition, parental support and involvement in each achievement activity is positively related to children's motivational outcomes (Fredricks & Eccles, 2005; Klauda, 2009; Simpkins et al., 2012; Simpkins, Vest, Dawes, & Neuman, 2010; Wigfield et al., 1997). For example, parents who purchased more sports related equipment had children who reported higher competence and value beliefs in sport (Fredricks & Eccles, 2005). This demonstrates the overall positive relationship between parental beliefs and behaviors and children's beliefs and behaviors across different activities.

There are some notable differences in parental influence in the domains of sport, music, and reading. Namely, Simpkins and colleagues (2012) found a stronger link between mothers' beliefs and behaviors and children's beliefs and behaviors in the domains of sport and music than in the reading domain. This difference was attributed to the view of sport and music as voluntary domains, while reading is viewed as a required school subject and achievement domain. Interestingly, Simpkins and colleagues (2012) also found that mothers' beliefs and behaviors were consistently higher in reading than in other domains. Specifically, perception of their child's ability and degree of encouragement were higher in reading than in sport. In addition, their value beliefs and modeling behaviors were higher in reading than both sport and music. This may also contribute to the weaker link between mothers' reading beliefs/behaviors and children's reading beliefs and behaviors. Despite domain differences in the strength of parental influence, an overall positive relationship exists between parent beliefs and behaviors and children's achievement beliefs and behaviors in sport, music, and reading.

### **Study Purposes**

Expectancy-value theory is an appropriate theoretical framework for examining factors that influence children's and adolescents' achievement beliefs and behaviors in reading, sport, and music. The constructs emphasized by this theory—perceived competence, subjective task values, gender, and parental influence—are applicable to

each domain. The present study is designed to contribute to the knowledge base of theory and research on adolescent achievement motivation.

At least three limitations exist in the current knowledge of children's and adolescents' achievement beliefs and behaviors in multiple domains. First, gender differences found by Eccles and Harold (1991), and reported in other studies, may have changed over time, given dynamic changes in school-based education, sport involvement, and music participation since that time. Because of Title IX, the gender gap has lessened in academic subjects such as science, engineering, and math, and girls have had more opportunities for sport participation. Boys and men have benefited from the introduction of music into popular culture and video games, such as Guitar Hero. A concerted effort to enhance reading literacy among all youth may have reduced gender disparities in reading. Thus, gender differences in achievement motivation in multiple domains might be less evident or even disappear today. An explicit study designed to compare girls and boys in reading, sport, and music may show this.

A second limitation is that research has not considered how activity participation in different performance domains is related to achievement beliefs and behaviors. Youth who are regular participants in an activity (e.g., sport, music) likely have more positive attitudes toward that activity, while non-participants can be expected to have less favorable attitudes. The activities that a child is involved in have been scarcely factored into differentiating groups of students when examining their achievement beliefs in multiple domains. In the majority of studies based on data from the Childhood and Beyond project (the collective of Eccles' long-term multidimensional study; see Eccles &

Harold, 1991; Eccles et al., 1993; Jacobs et al., 2002; Wigfield et al., 1997), participants came from a general student population. By selecting a general population, it is likely that children differed in their activity participation patterns—some children may be involved in only one activity, other children may not be involved in any activity, or children may participate in multiple activities. Except for Simpkins, Vest, and Becnel (2010), who distinguished between current sport and music participants, dropouts, and non-participants in their examination of sport and music beliefs, this distinction has not been considered. The present study intends to close the gap on understanding activity participation differences in expectancy-value constructs by sampling youth who subscribe to being sport-only, music-only, or sport-plus-music participants.

A third limitation is that research on mechanisms of parental influence has not been consistent across domains. Parents' perception of their child's ability has been the main source of influence examined in the domains of reading and music (Frome & Eccles, 1998; Guthrie & Wigfield, 2000; McPherson, 2009). However, this is only one type of parental influence—role modeling, task value, and social support are other ways in which parents influence their child's beliefs and behaviors in various domains. Multiple mechanisms of parental influence have been examined in the sport domain (e.g., Babkes & Weiss, 1999; Fredricks & Eccles, 2005). Reading studies have shown multiple mechanisms of parental influence are important (Klauda, 2009), but research in the music domain has not consistently used a theoretical approach to examine multiple ways that parents influence their child's beliefs and behaviors (Dai & Schader, 2002; McPherson,

2009). It is important to assess parental influence comparably across multiple domains to determine similar or varying patterns.

Considering these limitations, research is needed to contribute to the theoretical and empirical knowledge base on achievement motivation in multiple domains. Specifically, research is needed to: (a) assess gender differences given societal change, (b) acknowledge youths' involvement in different activities, and (c) determine how varied mechanisms of parental influence relate to adolescents' achievement beliefs and behaviors. Therefore, the purpose of the present study was to extend past research on youths' achievement beliefs and behaviors in academic (reading) and performance (sport and music) domains. The first purpose was to examine girls' and boys' achievement beliefs and behaviors in sport, music, and reading to determine whether gender differences persist in these domains. It is hypothesized that there will be no gender differences in sport- or music-related perceptions of competence, subjective task values, participation behavior, and parental influence. This is due to decline in gender disparities in sport as a result of Title IX, and in music as a result of popular culture trends. Girls will be expected to report higher achievement beliefs and behaviors in reading because boys have consistently demonstrated lower reading motivation and participation in previous research (Baker & Wigfield, 1999; Marinak & Gambrell, 2010; Wigfield & Guthrie, 1997).

The second purpose was to compare activity groups (i.e., sport-only, music-only, sport-plus-music) on adolescents' achievement motivation in sport, music, and reading, to determine if chosen activity type is indeed a contributing factor. It is hypothesized that

participation should be an influential factor distinguishing domain-specific achievement beliefs and behaviors. Individuals who are involved in sport-only or sport-plus-music will have higher perceived competence, subjective task values, participation behavior, and parental influence in sport than those who participate in music-only. Youth who participate in music-only or sport-plus-music will have higher achievement beliefs and behaviors in music compared to those who participate in sport-only. Group differences in reading are exploratory and no hypotheses are forwarded.



## CHAPTER 2

### METHOD

#### Participants

Participants were 313 adolescents (188 female, 125 male), ages 11 to 18 years ( $M = 14.98$ ,  $SD = 1.74$ ), attending sport or music summer camps or programs. Of this total, 150 adolescents (105 female, 45 male) were involved in soccer or softball and 163 (83 female, 80 male) were involved in orchestra or band programs. Adolescents involved in sport and music were purposefully chosen because they are likely to have experience in reading, music, and sport, and parents are important socializers of their children's involvement in all these domains. Of the total sample, 85 adolescents were currently involved only in sporting activities (58 female, 27 male), 87 only in music activities (44 female, 43 male), and 141 were participating in both sport and music activities (86 female, 55 male).

Sport-only participants had been involved in organized sport for about 6 years ( $M = 5.97$ ,  $SD = 2.35$ ). Music-only participants had been involved in organized music for about 5 years ( $M = 4.94$ ,  $SD = 1.81$ ). Sport-plus-music participants had been involved in organized sport for about 5 years ( $M = 4.91$ ,  $SD = 2.09$ ) and organized music for just under 5 years ( $M = 4.62$ ,  $SD = 1.84$ ). The majority of participants identified themselves as White (74.4%), with others identifying as Asian (13.8%), Multiracial (8.7%), Other (1.6%), African American (1.0%), and Hispanic (0.6%).

## Measures

Finding appropriate expectancy-value measures for three distinct domains presented a challenge. I searched the literature for suitable measures that could be used in multiple domains. I began my search for valid and developmentally appropriate measures in the sport domain because constructs have been frequently studied with youth and adolescents. I subsequently adapted these measures for reading and music so that items for all domains would be parallel. In the following sections, I describe the measures adapted for all domains, psychometric data, and specific items and response format for each measure. Expectancy-value constructs included perceived competence, attainment value, intrinsic value, perceived cost, participation behavior, and perceptions of parent beliefs and behaviors.

**Perceived competence.** Beliefs about one's ability were assessed with four items used by Babkes and Weiss (1999) for perceptions of parent beliefs about children's competency in sport (see Table 1). Items were adapted to assess adolescents' perceived competence to create parallel items for self-beliefs and perception of parent beliefs. Babkes and Weiss (1999) demonstrated adequate scale reliability ( $\alpha = .89$ ) with nine to 12 year-olds. Participants rated items on a five-point scale, with value labels indicating, "not at all true," "not true," "sort of true," "pretty true," and "very true." An average of the four items was calculated.

**Attainment value.** Attainment value refers to the importance of performing well in an activity and was assessed with two items adapted from Fredricks and Eccles (2005) and one item developed by the researcher. Fredricks and Eccles (2005) demonstrated

adequate reliability for the two items ( $\alpha = .85$ ) with youth and adolescents in sport. A third item was added to maximize adequate reliability. Participants rated items on a five-point scale, with value labels indicating, “not at all true,” “not true,” “sort of true,” “pretty true,” and “very true” or “not at all important,” “not important,” “sort of important,” “pretty important,” and “very important.” An average of the three items was calculated. Table 2 contains the items for this subscale.

Table 1

*Perceived Competence Items*

## Sport

1. I'm good at sports.
2. Sports come easily to me.
3. I'm better at sports than most kids my age.
4. I'm a good athlete.

## Music

1. I'm good at playing a musical instrument.
2. Playing a musical instrument comes easily to me.
3. I'm better at playing an instrument than most kids my age.
4. I'm a good musician.

## Reading

1. I'm good at reading.
  2. Reading books comes easily to me.
  3. I'm better at reading than most kids my age.
  4. I'm a good reader.
-

Table 2

*Attainment Value Items*


---

Sport	Adapted from:
1. For me, being good at sports is...	Fredricks and Eccles
2. How important is it for you to be good at sports?	Fredricks and Eccles
3. Doing well at sports is something important to me.	Phillips
Music	
1. For me, being good at playing a musical instrument is...	Fredricks and Eccles
2. How important is it for you to be good at a musical instrument?	Fredricks and Eccles
3. Doing well at playing an instrument is something important to me.	Phillips
Reading	
1. For me, being good at reading is...	Fredricks and Eccles
2. How important is it for you to be good at reading?	Fredricks and Eccles
3. Reading well is something important to me.	Phillips

---

**Intrinsic value.** Intrinsic value refers to enjoyment derived from activity participation and was assessed with three items adapted from a measure of sport enjoyment (Babkes & Weiss, 1999). Participants rated items on a five-point scale, with value labels indicating, “not at all true,” “not true,” “sort of true,” “pretty true,” and “very true.” Babkes and Weiss (1999) demonstrated adequate reliability ( $\alpha = .81$ ) with youth and adolescents in the sport domain. An average of the three items was calculated. Table 3 contains the items for this subscale.

Table 3

*Intrinsic Value Items*

## Sport

1. I like playing sports.
2. I enjoy playing sports.
3. Playing sports is fun.

## Music

1. I like playing musical instruments.
2. I enjoy playing musical instruments.
3. Playing an instrument is fun.

## Reading

1. I like reading.
2. I enjoy reading.
3. Reading is fun.

---

**Perceived cost.** Perceived cost refers to the negative aspects of participation in an activity, such as the unpleasant things or downsides of an activity. This was assessed with three items adapted from studies in youth sport (Raedeke, 1997; W. M. Weiss & Weiss, 2003). Participants rated items on a five-point scale, with value labels indicating, “not at all true, ”not true,” “sort of true,” “pretty true,” and “very true.” Previous studies have demonstrated adequate reliability ( $\alpha = .79, .81$ ) with youth and adolescents (Raedeke, 1997; W. M. Weiss & Weiss, 2003). An average of the three items was calculated. Table 4 contains the items for this subscale.

Table 4

*Perceived Cost Items*

---

**Sport**

1. There are unpleasant things associated with playing sports.
2. There are negative things associated with playing sports.
3. There are “downsides” to playing sports.

**Music**

1. There are unpleasant things associated with playing an instrument.
2. There are negative things associated with playing an instrument.
3. There are “downsides” to playing an instrument.

**Reading**

1. There are unpleasant things associated with reading.
  2. There are negative things associated with reading books.
  3. There are “downsides” to reading books.
- 

**Participation behavior.** Adolescents indicated the number of hours and number of days in the past week they participated in each activity. Number of hours was indicated on a 7-point scale, including “0,” “1-2,” “3-4,” “5-6,” “7-8,” “9-10,” and “more than 10” hours, while number of days was indicated on an 8-point scale ranging from “0” to “7.” An average of the two items was calculated. Table 5 contains the items for this subscale.

Table 5

*Participation Behavior Items*

---

**Sport**

1. How many hours did you participate in sport activities last week (team practices, games, individual practice)?
2. How many days last week did you participate in sport activities for 30 minutes or more?

**Music**

1. How many hours did you participate in music activities last week (lessons, rehearsals, performances, individual practice)?
2. How many days last week did you participate in music activities for 30 minutes or more?

**Reading**

1. How many hours did you read books last week?
  2. How many days last week did you read books for 30 minutes or more?
- 

**Perceptions of parent beliefs and behaviors.** Subscales included (a) perceptions of parent beliefs about child's competency, (b) perceptions of parent involvement in child's activity, and (c) perceptions of parent support of child's participation. All measures have been used in previous studies with youth and adolescents and demonstrated adequate reliability (Babkes & Weiss, 1999).

***Perceptions of parent beliefs about child's competence.*** Four of the six items from Babkes and Weiss (1999) were adapted for all domains. Only four of the six items were used for each of the three domains to keep the length of the survey manageable. Participants rated items on a five-point scale, with value labels indicating, "not at all true," "not true," "sort of true," "pretty true," and "very true." An average of the four items was calculated. Table 6 contains the items in this subscale.

Table 6

*Perceptions of Parent Beliefs about Child's Competence Items*

---

**Sport**

1. My parents think that I'm good at sports.
2. My parents think that sports come easily to me.
3. My parents think I'm better at sports than most kids my age.
4. My parents think that I'm a good athlete.

**Music**

1. My parents think that I'm good at playing a musical instrument.
2. My parents think that playing a musical instrument comes easily to me.
3. My parents think I'm better at playing an instrument than most kids my age.
4. My parents think that I'm a good musician.

**Reading**

1. My parents think that I'm good at reading.
  2. My parents think that reading comes easily to me.
  3. My parents think that I'm better at reading than most kids my age.
  4. My parents think that I'm a good reader.
- 

***Perceptions of parent involvement.*** Involvement items included transporting, helping, and participating with the child. Four items came from Babkes and Weiss (1999). Because there are no reading performances or competitions, I adapted the sport items to reading (e.g., “My parents and I read books together,” “My parents take me to the library or store to get books”). Participants rated items on a five-point scale, with value labels indicating, “not at all true,” “not true,” “sort of true,” “pretty true,” and “very true.” An average of the four items was calculated. Table 7 contains the items in this subscale.



Table 7

*Perceptions of Parent Involvement Items*

---

**Sport**

1. My parents give me advice on how I can play sports better.
2. My parents attend my sporting events.
3. My parents take me to or from practices and games.
4. My parents practice sport skills with me.

**Music**

1. My parents give me advice on how I can play my instrument better.
2. My parents attend my music events.
3. My parents take me to or from music lessons and rehearsals.
4. My parents practice music skills with me.

**Reading**

1. My parents give me advice about reading.
  2. My parents and I read books together.
  3. My parents take me to the library or store to get books
  4. My parents help me with reading.
- 

***Perceptions of parent support.*** Parent support included encouragement, reinforcement, and expressed positive affect. Four items were adapted from Babkes and Weiss (1999). Because reading is not a performance activity, I adapted items from sport (e.g., “My parents are pleased when I finish reading a book,” “My parents encourage me to read many books”). Items were answered on a five-point scale with value labels indicating, “not at all true,” “not true,” “sort of true,” “pretty true,” and “very true.” An average of the four items was calculated. Table 8 contains the items in this subscale.

Table 8

*Perceptions of Parent Support Items*

---

**Sport**

1. My parents are proud of me when I play sports well.
2. My parents are pleased when I play sports well.
3. My parents congratulate me after good sport performances.
4. My parents encourage me to do well at sports.

**Music**

1. My parents are proud of me when I play my instrument well.
2. My parents are pleased when I play my instrument well.
3. My parents congratulate me after good musical performances.
4. My parents encourage me to do well at music.

**Reading**

1. My parents are proud of me when I finish a book.
  2. My parents are pleased when I finish reading a book.
  3. My parents congratulate me after I read a book.
  4. My parents encourage me to read many books.
- 

**Demographic variables.** At the end of the survey, participants were asked to indicate their gender, age, grade, ethnicity, and participation history (i.e., years involved and sport/instrument played) in sport and music activities.

**Procedure**

Approval to conduct the study was granted by the university's institutional review board (see Appendix A). To recruit participants, I sent emails and called directors of summer sport and music programs and provided them with information about the purpose of the study (see Appendix B). Once permission was obtained from program directors to administer a questionnaire to their participants, I sent letters and consent forms electronically to parents of potential participants prior to the beginning of the program.

Researchers administered the survey either before program activities began or during a break in the daily schedule in a location away from coaches, directors, and other adults. Upon arrival at the data collection site, an assistant and I arranged tables and chairs so participants would be spaced far enough apart and not distract one another. We placed a blank survey and pencil at each space to direct participants where to sit. When participants arrived, we collected signed parent consent forms and instructed them to sit at a chair with a survey and pencil. Only participants with parental consent and who assented themselves completed the survey. I provided precise of verbal instructions to assist participants with how to complete the survey and assured them that their answers would remain confidential (see Appendix C). I also assured youth that there were no right or wrong answers and to raise their hand if they had any questions while completing the survey. Participants completed surveys in 15 to 20 minutes. A copy of the full survey can be seen in Appendix D.

### **Design and Data Analysis**

A group difference design was used to address study purposes. This included gender, activity group, and domain as independent variables and perceptions of competence, attainment value, intrinsic value, perceived cost, participation behavior, parent perceptions of child's competence, parental support, and parental involvement as dependent variables. Prior to conducting main analyses, I assessed reliabilities for all scales. Data screening revealed a small number of random missing data points. I substituted the harmonic mean for each missing value because there was no discernable pattern in missing data.

The first purpose was to assess gender differences in adolescents' achievement beliefs and behaviors (perceived competence, attainment value, intrinsic value, perceived cost, participation behavior, and parental involvement) in sport, music, and reading domains. A 2 x 3 (gender by domain) repeated measures multivariate analysis of variance (RM MANOVA) was intended to address this purpose. Appropriate follow-up and post-hoc analyses were conducted to determine gender differences on each dependent variable. Practical significance, or effect size, was determined using Cohen's *d*—calculated by subtracting means for girls and boys and dividing by the pooled standard deviation—and interpreted as small ( $\geq .20$ ), medium ( $\geq .50$ ), or large ( $\geq .80$ ) (Cohen, 1992).

The second purpose was to determine if differences exist among activity groups (sport-only, music-only, sport-plus-music) on adolescents' expectancy-value constructs (perceived competence, attainment value, intrinsic value, perceived cost, participation behavior, perceptions of parental influence) in sport, music, and reading domains. A 3 x 3 (activity group by domain) repeated measures MANOVA was intended to address this purpose. Appropriate follow-up and post-hoc analyses were conducted to determine which groups differed and on which dependent variables. Cohen's *d* was used to assess effect size by calculating mean differences between groups and dividing by the pooled standard deviation. Values were interpreted as small ( $\geq .20$ ), medium ( $\geq .50$ ), or large ( $\geq .80$ ) (Cohen, 1992).

## CHAPTER 3

### RESULTS

#### Scale Reliabilities and Correlations

All scales were first examined for internal consistency reliability using Cronbach's alpha. As displayed on the diagonal of Tables 9-11, the majority of scales achieved adequate to good reliability ( $\geq .70$ ). The parental reading involvement scale fell below the recommended value ( $\alpha = .66$ ) and was removed from subsequent analyses. The reading involvement items may not have fit as well due to the mandatory nature of reading, and parents may provide advice and practice skills more frequently with adolescents in voluntary domains (sport and music).

For sport, most variables were moderately to strongly related, in particular perceived competence with attainment value, intrinsic value, participation behavior, and perceptions of parent competence beliefs (see Table 9). Perceptions of parent competence beliefs, parent support, and parent involvement were strongly related. Perceived cost was negatively and moderately related to other variables. In music, most variables were also moderately to strongly related (see Table 10). Similar to sport, perceived competence was strongly related to attainment value, intrinsic value, participation behavior, and perceptions of parent competence beliefs, and all parent measures were strongly related. Perceived cost showed a weak relationship to other variables. For reading, most variables were moderately related and perceived competence was strongly related to intrinsic value and perceptions of parent competence beliefs (see Table 11).

Table 9

*Correlations among All Variables for Sport (N = 313)*

	1.	2.	3.	4.	5.	6.	7.	8.
1. Perceived Competence	.93							
2. Attainment Value	.77	.96						
3. Intrinsic Value	.79	.76	.95					
4. Perceived Cost	-.20	-.20	-.21	.88				
5. Participation Behavior	.67	.67	.65	-.22	.91			
6. Perception of Parent Competence Beliefs	.88	.71	.71	-.20	.61	.94		
7. Perception of Parent Support	.63	.64	.65	-.17	.49	.73	.89	
8. Perception of Parent Involvement	.59	.57	.57	-.23	.45	.66	.78	.79
<i>M</i>	3.47	3.48	4.32	3.05	4.27	3.53	4.32	3.73
<i>SD</i>	1.02	1.18	0.94	0.98	2.09	1.06	0.82	0.96
Range	1-5	1-5	1-5	1-5	1-7.5	1-5	1-5	1-5

Alpha coefficients are reported on the diagonal

Note:  $r \geq |.11|$  significant,  $p < .05$ .

Table 10

*Correlations among All Variables for Music (N = 313)*

	1.	2.	3.	4.	5.	6.	7.	8.
1. Perceived Competence	.94							
2. Attainment Value	.78	.96						
3. Intrinsic Value	.78	.85	.96					
4. Perceived Cost	.04	.00	-.08	.92				
5. Participation Behavior	.63	.64	.63	-.04	.88			
6. Perception of Parent Competence Beliefs	.87	.74	.71	.06	.58	.93		
7. Perception of Parent Support	.67	.69	.67	.08	.46	.78	.94	
8. Perception of Parent Involvement	.42	.45	.42	.05	.27	.51	.71	.71
<i>M</i>	3.35	3.36	3.80	2.77	3.29	3.52	4.15	3.14
<i>SD</i>	1.14	1.20	1.19	1.06	2.06	1.12	1.06	0.94
Range	1-5	1-5	1-5	1-5	1-7.5	1-5	1-5	1-5

Alpha coefficients are reported on the diagonal

Note:  $r \geq |.11|$  significant,  $p < .05$ .

Table 11  
*Correlations among All Variables for Reading (N = 313)*

	1.	2.	3.	4.	5.	6.	7.	8.
1. Perceived Competence	.93							
2. Attainment Value	.55	.94						
3. Intrinsic Value	.74	.62	.97					
4. Perceived Cost	-.33	-.31	-.43	.91				
5. Participation Behavior	.50	.48	.67	-.37	.87			
6. Perception of Parent Competence Beliefs	.86	.53	.63	-.28	.48	.94		
7. Perception of Parent Support	.07	.22	.10	-.01	.11	.21	.88	
8. Perception of Parent Involvement	.08	.26	.18	-.02	.15	.14	.60	.66
<i>M</i>	3.85	3.88	3.74	2.42	3.51	3.76	3.32	2.52
<i>SD</i>	0.99	1.01	1.14	1.07	1.80	1.01	1.08	0.80
Range	1-5	1-5	1-5	1-5	1-7.5	1-5	1-5	1-5

Alpha coefficients are reported on the diagonal

Note:  $r \geq |.11|$  significant,  $p < .05$ .

Due to the high correlations among perceived competence, attainment value, and intrinsic value within each domain, and high correlations between measures of parent beliefs and behaviors in sport and music, concerns about multicollinearity required some form of resolution. Tabachnick and Fidell (2007) propose two options for addressing problems of multicollinearity: (a) use only one of the correlated variables for analyses, or (b) create a composite variable if it is conceptually logical to do so. Thus, I created a



composite variable of *achievement beliefs*, consisting of domain-specific perceived competence, attainment value, and intrinsic value, and I also created a composite variable, *parent beliefs and behaviors*, consisting of domain-specific perceptions of parent competence beliefs, parent support, and parent involvement. Although correlations among respective variables were comparatively lower for reading, composite variables were created for reading to be consistent across domains. These composite variables achieved good alpha reliabilities with one exception. Two of the 12 items on the parent beliefs and behaviors scale for music (“My parents give me advice on how I can play my instrument better” and “My parents practice music skills with me”) showed poor item reliability—low inter-item correlations, item-total correlations, and  $R^2$  values. Once these items were deleted, the scale achieved an alpha of .95. Alpha reliabilities and descriptive statistics for achievement beliefs, perceived cost, participation behavior, and parent beliefs and behaviors in each of the three domains can be seen in Tables 12, 13, and 14. These four variables were used in the main analyses to address the purposes of the study.

Table 12

*Descriptive Statistics for Sport Variables*

Variable	1.	2.	3.	4.
1. Achievement Beliefs	.96			
2. Perceived Cost	-.22	.87		
3. Participation Behavior	.72	-.22	.91	
4. Parent Beliefs and Behaviors	.81	-.22	.58	.94
<i>M</i>	3.79	3.05	4.27	3.86
<i>SD</i>	0.96	0.97	2.08	0.85
Range	1-5	1-5	1-7.5	1-5

Alpha coefficients are reported on the diagonal

Note:  $r \geq |.11|$  significant,  $p < .05$

Table 13

*Descriptive Statistics for Music Variables*

Variable	1.	2.	3.	4.
1. Achievement Beliefs	.97			
2. Perceived Cost	-.01	.92		
3. Participation Behavior	.68	-.04	.88	
4. Parent Beliefs and Behaviors	.80	.09	.53	.95
<i>M</i>	3.49	2.77	3.29	3.85
<i>SD</i>	1.09	1.06	2.06	1.01
Range	1-5	1-5	1-7.5	1-5

Alpha coefficients are reported on the diagonal

Note:  $r \geq |.11|$  significant,  $p < .05$

Table 14  
*Descriptive Statistics for Reading Variables*

Variable	1.	2.	3.	4.
1. Achievement Beliefs	.95			
2. Perceived Cost	-.41	.91		
3. Participation Behavior	.63	-.37	.87	
4. Parent Beliefs and Behaviors	.58	-.18	.37	.84
<i>M</i>	3.82	2.42	3.51	3.54
<i>SD</i>	0.91	1.07	1.80	0.81
Range	1-5	1-5	1-7.5	1-5

Alpha coefficients are reported on the diagonal

Note:  $r \geq |.11|$  significant,  $p < .05$ .

### **Purpose 1: Gender Differences in Sport, Music, and Reading**

Because achievement beliefs were highly correlated with participation behavior and parent beliefs and behaviors (see Tables 12-14), a 2 x 3 (gender by domain) repeated measures analysis of variance (RM ANOVA) was conducted for each dependent variable separately. A more stringent  $p$ -value was used through a Bonferroni adjustment ( $.05 \div 4 = .0125$ ). If a significant interaction emerged, simple effects (follow-up ANOVAs) and post-hoc analyses [Student-Newman-Keuls (SNK) and paired t-test] determined the nature of the interaction. Effect sizes were determined using Cohen's  $d$  ( $\geq .20 = \text{small}$ ,  $\geq .50 = \text{moderate}$ ,  $\geq .80 = \text{large}$ ).

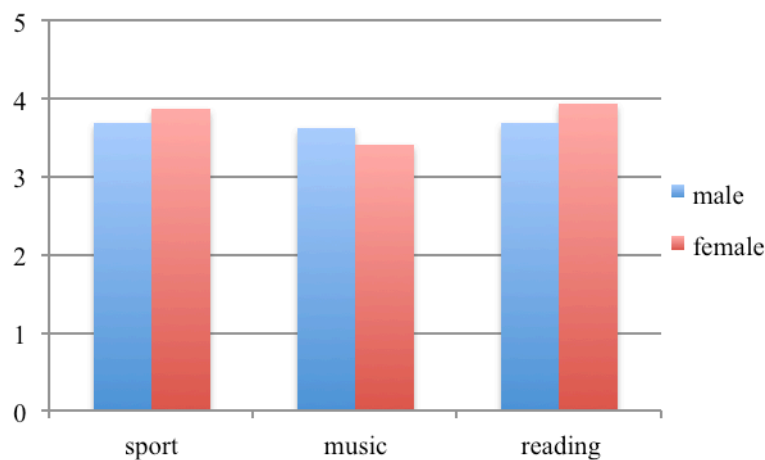
**Achievement Beliefs.** A significant interaction emerged, Wilks'  $\lambda = .97$ ,  $F(2,310) = 5.3$ ,  $p = .006$ . There were no gender differences in sport or music, but females expressed greater confidence in and values toward reading than males ( $d = 0.27$ ). Girls

and boys reported relatively high achievement beliefs for all three domains. In addition, females reported lower perceptions of competence and task values in music than for sport and reading ( $d = 0.44, 0.55$ ), while males reported similar achievement beliefs for all three domains. Table 15 and Figure 2 display findings by gender for all three domains.

Table 15

*Gender Differences for Achievement Beliefs*

Domain	Male	Female
Sport	3.68 (0.91)	3.87 (0.99)
Music	3.61 (1.06)	3.41 (1.11)
Reading	3.69 (0.92)	3.93 (0.89)

Figure 2: *Gender Differences for Achievement Beliefs*

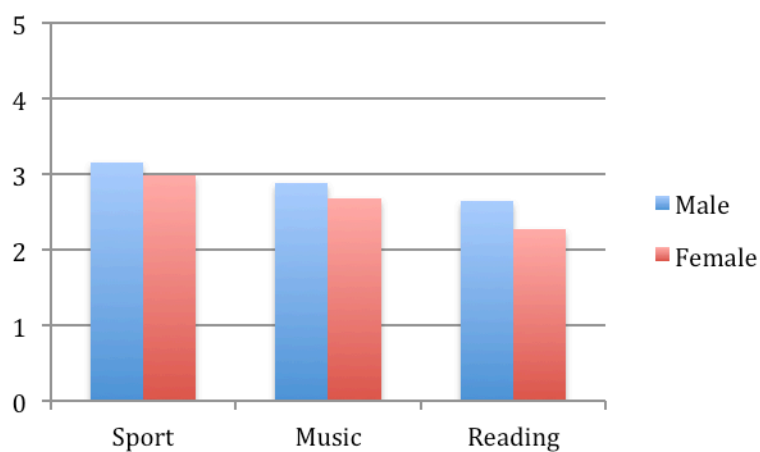
**Perceived Cost.** Significant main effects emerged for gender and domain (Gender:  $F(1,311) = 7.8, p = .006$ ; Domain: Wilks'  $\lambda = .80, F(2,310) = 39.4, p < .001$ ). Males reported more unpleasant experiences when participating in each achievement domain than did females ( $d = 0.32$ ). Boys rated costs above or near the scale midpoint for

sport and music, while girls rated costs near the midpoint for sport and below the midpoint for music. Both girls and boys reported low costs for reading and more negatives for sport than for music and reading ( $d = 0.28, 0.62$ ). Table 16 and Figure 3 display results for perceived cost.

Table 16

*Gender Differences for Perceived Cost*

Domain	Male	Female
Sport	3.16 (1.00)	2.98 (0.96)
Music	2.89 (1.08)	2.68 (1.04)
Reading	2.65 (1.16)	2.27 (0.99)

Figure 6: *Gender Differences for Perceived Cost*

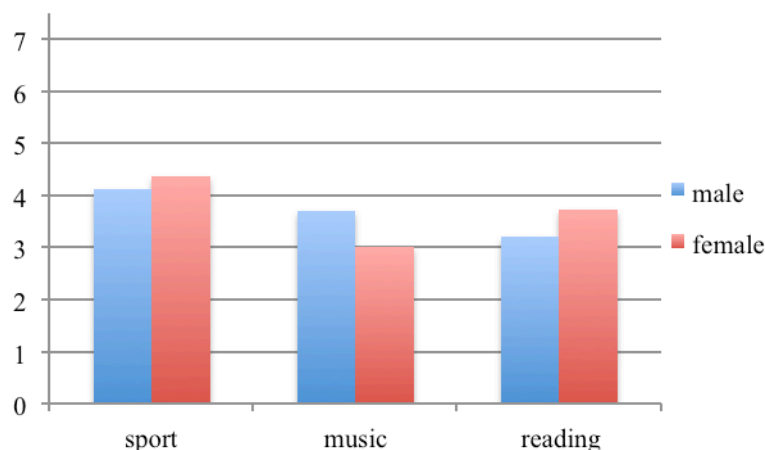
**Participation Behavior.** There was a significant gender by domain interaction, Wilks'  $\lambda = .94$ ,  $F(2,310) = 9.4$ ,  $p < .001$ . Boys and girls did not differ for sport, but gender differences were present in music and reading. Males reported greater time participating in music than females ( $d = 0.33$ ), and females read more books than males

( $d = 0.31$ ). Boys and girls participated at or just below the midpoint in all three domains. Comparing domains, males spent fewer hours reading books than time spent in sport and music ( $d = 0.47, 0.25$ ). Females were more involved in sport compared to reading and music ( $d = 0.32, 0.67$ ). Table 17 and Figure 4 display findings by gender for all three domains.

Table 17

*Gender Differences for Participation Behavior*

Domain	Male	Female
Sport	4.11 (2.09)	4.37 (2.08)
Music	3.69 (2.13)	3.02 (1.97)
Reading	3.20 (1.75)	3.72 (1.81)

Figure 4: *Gender Differences for Participation Behavior*

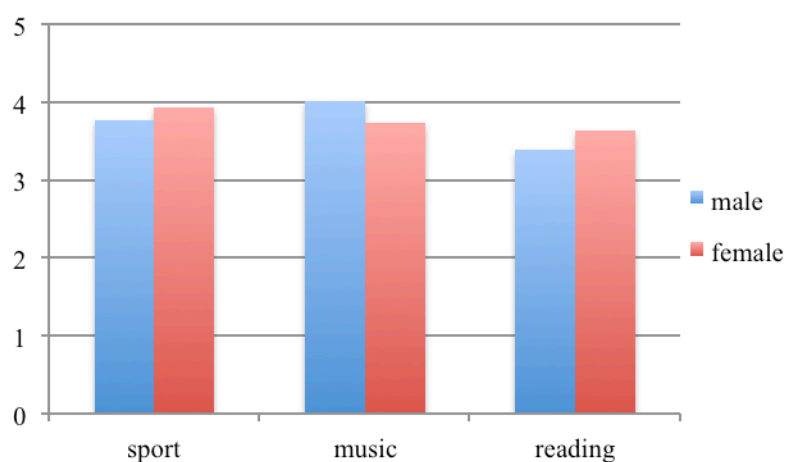
**Parent Beliefs and Behaviors.** A significant gender by domain interaction emerged, Wilks'  $\lambda = .94$ ,  $F(2,310) = 9.2$ ,  $p < .001$ . Perceptions of parent beliefs and behaviors in sport were similar for males and females, but gender differences emerged for

music and reading. In music, males reported that their parents had more confidence in their ability and were more involved and supportive than females ( $d = 0.27$ ); for reading, females expressed more favorable parental influence than males ( $d = 0.30$ ). Girls and boys reported relatively high perceptions of parent beliefs and behaviors for all three domains. Males reported greater parental influence in music than sport and reading ( $d = 0.30, 0.71$ ), while females reported that parents were more supportive in sport than reading ( $d = 0.33$ ). Table 18 and Figure 5 display results for parent beliefs and behaviors.

Table 18

*Gender Differences for Parent Beliefs and Behaviors*

Domain	Male	Female
Sport	3.77 (0.73)	3.92 (0.92)
Music	4.02 (0.93)	3.74 (1.05)
Reading	3.40 (0.83)	3.64 (0.79)

Figure 5: *Gender Differences for Parent Beliefs and Behaviors*

## **Purpose 2: Activity Group Differences in Sport, Music, and Reading**

Because achievement beliefs were highly correlated with participation behavior and parent beliefs and behaviors (see Tables 12-14), a 3 x 3 (activity group by domain) RM ANOVA was conducted for each dependent variable separately. A more stringent  $p$ -value was used through a Bonferroni adjustment ( $.05 \div 4 = .0125$ ). If a significant interaction emerged, simple effects (follow-up ANOVAs) and post-hoc analyses [Student-Newman-Keuls (SNK) and paired t-test] determined the nature of the interaction. Effect sizes were determined using Cohen's  $d$  ( $\geq .20 = \text{small}$ ,  $\geq .50 = \text{moderate}$ ,  $\geq .80 = \text{large}$ ).

**Achievement Beliefs.** There was a significant interaction, Wilks'  $\lambda = .30$ ,  $F(4,618) = 127.6$ ,  $p < .001$ . Activity groups differed in perceptions of competence and value beliefs for all three domains. In sport, the sport-only group reported higher achievement beliefs than sport-plus-music and music-only groups ( $d = 0.95, 2.99$ ). Similarly, music-only participants expressed greater confidence in and values toward music than sport-plus-music and sport-only groups ( $d = 2.21, 2.98$ ). For reading, the sport-plus-music and music-only groups reported similar achievement beliefs and these were higher than the sport-only group ( $d = 0.53, 0.50$ ). Table 19 and Figure 6 display findings by activity group for all three domains.

There were also domain differences for sport-only and music-only groups. Sport-only participants reported more favorable competence and value beliefs for sport than reading and music ( $d = 1.58, 3.93$ ). The music-only group reported higher perceptions of

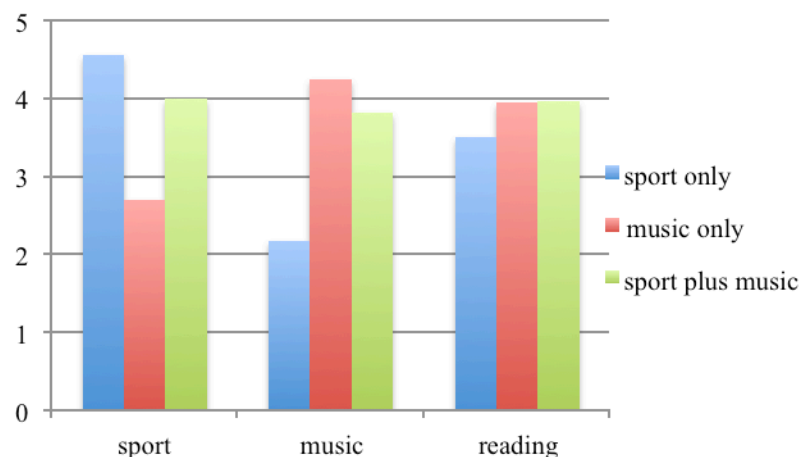


competence and task values in music than reading and sport ( $d = 0.41, 2.18$ ). Adolescents in sport-plus-music reported relatively high achievement beliefs for all three domains.

Table 19

*Activity Group Differences for Achievement Beliefs*

Domain	Sport-only	Music-only	Sport-plus-music
Sport	4.55 (0.35)	2.70 (0.81)	4.00 (0.68)
Music	2.17 (0.79)	4.25 (0.60)	3.82 (0.73)
Reading	3.50 (0.89)	3.94 (0.88)	3.96 (0.89)

Figure 6: *Activity Group Differences for Achievement Beliefs*

**Perceived Cost.** There was a significant group by domain interaction, Wilks'  $\lambda = .95$ ,  $F(4,618) = 4.2$ ,  $p = .002$ . Sport-only participants reported lower costs for sport than music-only and sport-plus-music groups ( $d = 0.49, 0.35$ ). Music-only and sport-plus-music participants reported more negative aspects associated with sport compared to music ( $d = 0.40, 0.18$ ) and reading ( $d = 1.01, 0.56$ ). Most participants rated

costs below or just above the midpoint in all three domains. Table 20 and Figure 7 display results for perceived cost.

Table 20

*Activity Group Differences for Perceived Cost*

Domain	Sport-only	Music-only	Sport-plus-music
Sport	2.78 (0.89)	3.23 (0.97)	3.11 (1.00)
Music	2.64 (0.99)	2.67 (0.99)	2.89 (1.09)
Reading	2.47 (0.93)	2.24 (0.99)	2.50 (1.19)

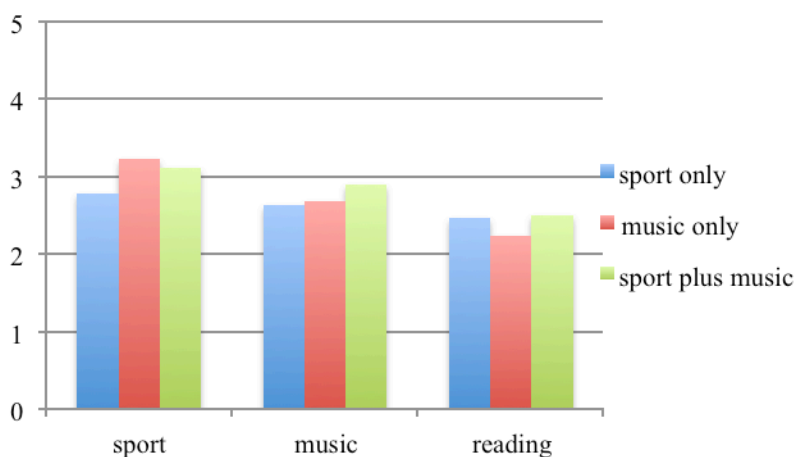


Figure 7: *Activity Group Differences for Perceived Cost*

**Participation Behavior.** There was a significant interaction, Wilks'  $\lambda = .45$ ,  $F(4,618) = 75.1$ ,  $p < .001$ . The sport-only group spent more time participating in sport than sport-plus-music and music-only groups ( $d = 0.61$ , 2.42). Similarly, music-only participants spend more hours playing an instrument than sport-plus-music and sport-only groups ( $d = 0.64$ , 2.57). Sport-plus-music and music-only groups read books more often

than sport-only participants ( $d = 0.60, 0.52$ ). Table 21 and Figure 8 display findings by activity group for all three domains.

All three groups varied in the amount of time spent in reading, music, and sport. The sport-only group reported higher amounts of participation in sport than reading and music ( $d = 1.82, 3.62$ ), and similarly the music-only group participated more often in music than reading and sport ( $d = 0.49, 1.62$ ). Sport-plus-music participants spent more time playing sports during the week than they played a musical instrument or read books ( $d = 0.58, 0.49$ ).

Table 21

*Activity Group Differences for Participation Behavior*

Domain	Sport-only	Music-only	Sport-plus-music
Sport	5.69 (1.51)	2.25 (1.35)	4.65 (1.82)
Music	1.31 (.83)	4.73 (1.69)	3.59 (1.87)
Reading	2.80 (1.68)	3.73 (1.93)	3.81 (1.68)

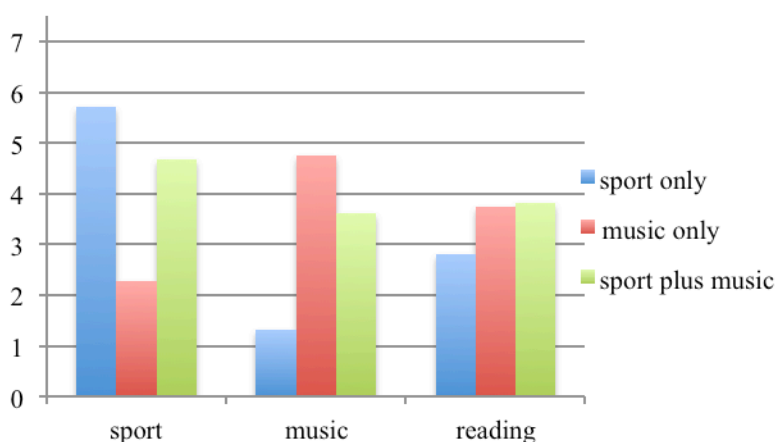


Figure 8: *Activity Group Differences for Participation Behavior*

**Parent Beliefs and Behaviors.** A significant interaction emerged, Wilks'  $\lambda = .38$ ,  $F(4,618) = 95.9$ ,  $p < .001$ . The sport-only group reported more positive parental influence in sport ( $d = 0.79, 2.25$ ) and less support for music ( $d = 1.84, 1.82$ ) than sport-plus-music and music-only groups. No activity group differences were found for reading. Table 22 and Figure 9 display the results for parent beliefs and behaviors.

Domain differences revealed that the sport-only group reported higher levels of parental influence for sport than for reading and music ( $d = 1.37, 2.07$ ). Similarly, music-only group reported that parents displayed higher competence beliefs, involvement, and support in music than reading and sport ( $d = 1.91, 1.92$ ). Sport-plus-music participants reported higher levels of parent beliefs and behaviors in music than sport and reading ( $d = 0.37, 0.82$ ).

Table 22

*Activity Group Differences for Parent Beliefs and Behaviors*

Domain	Sport-only	Music-only	Sport-plus-music
Sport	4.47 (.40)	3.04 (.80)	4.00 (.68)
Music	2.73 (1.12)	4.32 (.50)	4.23 (.58)
Reading	3.50 (.93)	3.39 (.69)	3.66 (.80)

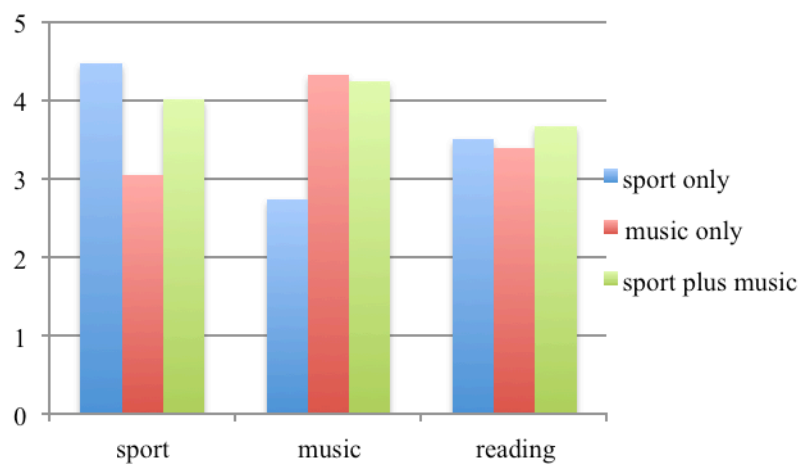


Figure 9: Activity Group Differences for Parent Beliefs and Behaviors

## CHAPTER 4

### DISCUSSION

Using expectancy-value theory, the purpose of the present study was to extend past research on adolescents' achievement beliefs and behaviors in academic (reading) and performance (sport and music) domains. The majority of results supported hypotheses stemming from expectancy-value theory. Gender and activity group each have a unique relationship with adolescents' competence and value beliefs and participation behavior in sport, music, and reading. While differences in boys' and girls' ability beliefs, values, and participation in these activities have been frequently examined with a cohort sample spanning the late 1980s and 1990s (Eccles & Harold, 1991; Eccles et al., 1983; Jacobs et al., 2002; Wigfield et al., 1997), the present study sought to examine current gender patterns. In addition, few studies have acknowledged activity group participation as a factor influencing expectancy-value constructs (Simpkins, Vest, & Becnel, 2010). Thus, findings in the present study extend the knowledge base by examining current gender and activity group patterns as factors that relate to competence and value beliefs, participation behavior, and parental influence in academic and performance domains.

The first purpose was to determine whether gender stereotypes of activities continue to exist in achievement beliefs and behaviors in sport, music, and reading. Consistent with hypotheses, no gender differences were found in adolescents' competence and value beliefs, participation behavior, and parental influence in the sport

domain. These results are contrary to those of Eccles and colleagues' research, where males reported higher values on all sport variables than females (Eccles & Harold, 1991; Eccles et al., 1993; Fredricks & Eccles, 2005; Wigfield et al., 1997). Fredricks and Eccles (2005) found that parents held higher perceptions of their son's ability and value of sport, were more encouraging, spent more time, and bought more sporting equipment than daughter's parents. Brustad (1993) found that parents encouraged their sons to be more physically active, which was related to higher perceptions of physical competence than girls. However, these studies utilized a general, school-based population, while the present study consisted of participants who were highly involved in sport or music activities. Findings are consistent with research examining gender differences using a selective sample where no gender differences emerged in sport-related competence and value beliefs in samples of youth soccer and adolescent basketball players (Babkes & Weiss, 1999; Cox & Whaley, 2004). This suggests that gender differences may be apparent in school-based but not sport-specific populations.

Findings extend knowledge on gender variations in sport achievement motivation since the Childhood and Beyond studies (Eccles & Harold, 1991; Simpkins, Vest, Dawes, & Neuman, 2010; Wigfield et al., 1997). Findings acknowledge that implementation of Title IX is probably an explanation for reduced gender disparities in the sport domain. Changes in social norms over the past decade, with the growing visibility of women in sport, may have produced non-significant findings with the select sample. Females now have more opportunities in sport and many parents may be less gender-stereotyped than previously in their activity expectations and preferences for daughters and sons (e.g.,

Bois et al., 2002; Kimiecik & Horn, 1998). Still, sport-involved girls and boys characterized much of the sample. Future research investigating diverse populations of girls and boys is needed to test the notion that progress based on Title IX generalizes to other samples.

For the music domain, males and females reported similar levels of perceived competence and attainment and intrinsic values. However, males played musical instruments more often and reported that parents held more positive beliefs for music activities than did females. Findings for competence and value beliefs partially support hypotheses, while those for music involvement and parental support are contrary to other research, where females have reported higher competence and task values than males (Eccles et al., 1993; Simpkins et al., 2012; Simpkins, Vest, Dawes, & Neuman, 2010; Wigfield et al., 1997). Eccles et al. (1993) found that first through fourth grade girls reported higher competence and value beliefs than boys for instrumental music. Simpkins et al. (2012) found that gender differences in fourth grade for music competence and value beliefs, favoring girls, remained consistent through twelfth grade, and mothers held higher ability beliefs, viewed music as more important, and provided more encouragement for their daughters than for their sons. A notable distinction, and potential explanation for findings in the present study, is that past studies utilized a general, school-based population, while the present study consisted of participants who were highly involved in music activities. It should also be noted that the effect sizes were small for participation behavior and parental influence ( $d = 0.33, 0.27$ ). While gender differences were statistically significant, actual differences were small.



Findings indicate that music may no longer be considered a female-stereotyped domain. The pattern of findings (non-significant differences, small effect sizes for variables that have significant differences) may imply that boys have benefited from popular culture trends in music, such as music-based video games and television shows. Recent social developments in music, noted by the growing visibility of male role models in popular music, may also contribute to reduction of traditional gender roles in music.

In the reading domain, consistent with hypotheses, females reported more positive competence and value beliefs, lower perceived costs, greater time spent reading, and more positive parental influence than males. These results are consistent with many studies showing that female students report greater achievement beliefs and behaviors in reading (Eccles & Harold, 1991; Marinak & Gambrell, 2010; Wigfield & Guthrie, 1997). Wigfield and Guthrie (1997) found that fourth and fifth grade girls reported greater competence and value beliefs in reading than boys. Jacobs and colleagues (2002) reported that females held higher competence and value beliefs through twelfth grade. Research has also demonstrated that parents hold more favorable beliefs about their daughter's reading abilities than that of their son's (Frome & Eccles, 1998; Klauda, 2009). It should be noted that, again, effect sizes for all four expectancy-value constructs were small ( $d = 0.27-0.33$ ), indicating low practical significance. While results corroborate that females held higher competence and value beliefs, and engaged in reading activities more frequently than boys, the small effect sizes suggest that the gap between girls and boys is decreasing, when considering the sample for this study. Gender differences in all reading constructs in favor of females demonstrate a positive

association between parent beliefs and behaviors and children's beliefs and behaviors that is predicted by expectancy-value theory.

The second purpose of this study was to compare adolescents who voluntarily chose certain performance activities on achievement beliefs and behaviors in sport, music, and reading. Research examining achievement motivation in multiple domains has primarily used a general school-based population (Jacobs et al., 2002; Simpkins et al., 2012; Wigfield et al., 1997). The present study tested expectancy-value hypotheses with participants who self-selected into sport, music, or both activities. Findings revealed that girls and boys in the sport-only group displayed the most positive beliefs about their competence and value for sport, fewest unpleasant aspects of sport participation, greatest amount of time spent doing sport, and most positive parent beliefs and behaviors in sport. These differences were greatest in comparison to the music-only group, where effect sizes were very large. A comparable pattern of findings for group differences emerged in the music domain, with music-only teenagers showing the largest differences to sport-only participants. Individuals in the music-only group displayed higher competence beliefs, saw music as more important and enjoyable, participated in music more frequently, and had parents who were supportive, involved, and confident in their music abilities. The sport-plus-music group recorded values in between those of sport-only and music-only participants on most variables.

These findings imply more than just the obvious. They suggest that individuals choose to remain involved in activities in which they are confident, find it important and enjoyable, see fewer costs, and are supported by their parents for engaging in the activity,

which align with expectancy-value theoretical notions. These findings are consistent with study hypotheses and Simpkins, Vest, Dawes, and Neuman (2010), who found that individuals who continued to be involved in a performance activity between first and eleventh grades held higher perceptions of competence in the activity, reported higher value beliefs, and participated in the domain more frequently than non-participants. The premise of expectancy-value theory holds true in explaining activity group differences in self- and parent- beliefs and behaviors in the sport and music domains.

Activity group differences for reading were exploratory and results are noteworthy. The sport-only group reported lower competence and value beliefs and time spent in reading than music-only and sport-plus-music groups. Effect sizes were in the moderate range ( $d > .50$ ), indicating practical as well as statistical significance. The low amount of reading for sport-only adolescents might be explained by their large time allocation to sport ( $M = 5.69$ ), in comparison to sport-plus-music participants ( $M = 4.65$ ). However, music-only participants reported more time involvement in music ( $M = 4.73$ ) than the sport-plus-music group ( $M = 3.59$ ) but still read as frequently ( $M = 3.73, 3.81$ , respectively). There are a variety of sport camps during the summer months (when data were collected), so sport-only participants may have spent their summer hours participating more frequently in sporting activities than reading books. The reason for lower time spent reading and lower perceived competence and task values with sport-only teenagers is an important topic for future research.

In the reading domain, no group differences in perceived costs or parental influence emerged. Regardless of their involvement in sport, music, or both activities,

adolescents reported fewer negative aspects and less parental support associated with reading than with the other two activities. Involvement in sport and music may require more of a time commitment by parents and children than reading activities. Individuals can read on their own time and may not have out-of-school organized reading sessions, such as book clubs. This may explain why individuals reported fewer downsides and lower parental influence associated with reading. Lower parental influence in reading is contrary to Simpkins et al. (2012), who found that mothers reported higher competence beliefs for their child, were more encouraging, rated reading as more important, and modeled reading behaviors more than comparable beliefs and behaviors in sport and music. This discrepancy in findings may be due to the selective population in the present study. Parents who have children who are highly involved in sport and/or music may provide more support for their children in voluntary compared to academic domains.

Hypotheses were partially supported for purpose one—gender differences in expectancy-value constructs in sport, music, and reading. Female and male adolescents reported similar perceived competence, task values, participation behavior, and parental influence in sport. Contrary to hypotheses, males reported higher participation and parental influence in music than females, but actual differences were small. Consistent with hypotheses, females reported greater achievement beliefs, hours spent reading, and more favorable parental influence than males. However, effect sizes were also small for these differences. Activity group also emerged as a social-contextual factor strongly related to competence beliefs, task values, participation behavior, and parental influence. Individuals who identified as sport-only, music-only, or sport-plus-music demonstrated

consistent trends in favor of domain-specific achievement beliefs and behaviors and parental influence in sport and music. These differences were strong in both statistical and practical terms.

### **Theoretical Implications**

The present study findings partially support and extend expectancy-value theory. Primarily, findings support the notion of domain specificity when examining expectancy-value constructs. Adolescents hold distinct beliefs about their ability in and value toward academic and performance domains. Expectancy-value constructs have been shown to be distinct in different domains among children and adolescents (Eccles & Harold, 1991; Wigfield & Eccles, 1992; Wigfield et al., 1997). The present findings support distinct levels of competence beliefs, task values, and parental influence in the domains of sport, music, and reading.

While findings related to domain specificity are consistent with previous studies, traditional gender stereotypes specified in expectancy-value theory and suggested in empirical research did not emerge. Specifically, lack of gender differences in sport and findings favorable for boys in music were contrary to past research (Brustad, 1993; Eccles & Harold, 1991; Fredricks & Eccles, 2005; Simpkins, Vest, Dawes, & Neuman, 2010). This may indicate that gender stereotypes in these activities have changed due to legislation, popular trends, and/or societal change, or it could be due perhaps to the select samples used in the present study. Practical significance was small for music findings, supporting that boys and girls are more alike than different. Thus, when examining

children's and adolescents' beliefs and behaviors in a specific domain, it is important to consider how trends in society may influence gender and activity stereotypes.

Consistent with expectancy-value theory, perceptions of competence and task values were strongly related to participation behavior in sport, music, and reading. This association is consistent for sport (Cox & Whaley, 2004; Davison et al., 2006), music (Hallam, 1998; Simpkins et al., 2012), and reading domains (Baker & Wigfield, 1999; Wigfield & Guthrie, 1997). In the present study, strong relationships between achievement beliefs and participation behavior in each domain support theory and research that expectations for success and subjective task values are strongly related to participation behaviors. In fact, the relationships between these constructs were strongest for the performance domains (sport and music) in comparison to reading. This supports the notion of expectancy-value theory as a model of choice—relationships among perceptions of competence, task values, and participation behaviors were stronger in voluntary domains compared to academic domains.

The present study demonstrated it is important to consider the activities that an adolescent participates in when examining domain-specific beliefs and behaviors. Different groups of participants (sport-only, music-only, and sport-plus-music) held unique conceptions of their abilities, expressed distinct values, and participated at different frequencies in domains they either were or were not participants in. These findings support the reciprocal relationships espoused by expectancy-value theory, that expectations for success and task values positively influence behavior in a domain and, in turn, successful participation has a positive influence on domain-specific expectations for

success and task values. In future studies utilizing expectancy-value theory, activity patterns are an important factor to consider because adolescents who are highly involved in an activity are likely to be confident in their ability, see that activity as important and enjoyable, and receive parental support regarding their involvement. This concept supports the premise of expectancy-value theory, that social-contextual factors—in this case the self-selected activity—should be related to adolescents' achievement beliefs and behaviors.

Another implication for expectancy-value theory relates to the subjective task value of perceived cost. Eccles et al. (1983, 1993; Wigfield et al., 1997) specify four value types—attainment, utility, intrinsic, and cost. However, most research has neglected to consider perceived costs in studies testing hypotheses stemming from expectancy-value theory. Perceived cost is important to include in tests of expectancy-value theory because the negative aspects of an activity may be a prominent factor in children's and adolescents' persistence. For example, in the present study, perceived cost in sport and reading had a moderate negative relationship to participation behavior in those domains. Studies examining predictors of sport commitment (defined as the desire and resolve to continue participation) have also found that perceived costs were a negative predictor of psychological and behavioral commitment to an activity (Raedeke, 1997; W. M. Weiss & Weiss, 2003, 2007; W. M. Weiss et al., 2010). In fact, W. M. Weiss and Weiss (2007) found that cognitions about the downsides of activity participation were the strongest predictor of adolescents' commitment to gymnastics. Individuals who reported more negative aspects to gymnastics participation were least

committed to the sport. Thus, perceived cost is an important aspect of task values to consider when examining motivation in an achievement domain.

### **Practical Implications**

Findings indicate that adolescent girls and boys choose and continue to participate in activities at which they feel confident, find important to their identity, experience enjoyment, see few downsides to their participation, and perceive parents as supportive and encouraging of their activity endeavors. Common reasons that children and adolescents discontinue participation in performance activities are low perceptions of competence, lack of enjoyment in the activity, and low support from their parents (e.g., Slater & Tiggemann, 2010; W. M. Weiss & Weiss, 2006). Thus, parents and coaches can motivate children and adolescents in sport, music, and reading by enhancing perceptions of competence and enjoyment, minimizing negative aspects, and providing social support and a positive climate (see M. R. Weiss, Amorose, & Kipp, 2012).

Findings also demonstrated that adolescent boys have lower achievement beliefs, participate less often, view lower parental influence, and perceive more negative aspects about reading than girls. Thus, the gender gap in reading prevailed in the present study, although these results should be viewed with some caution due to small effect sizes. Efforts to encourage greater reading among boys remains a concern, and parents and teachers might address this issue by engaging in ways to enhance boys' confidence and enjoyment in reading, such as finding literature that fits with their interests.



### **Study Limitations and Future Research Directions**

The present study extended the knowledge base on achievement motivation in different domains. Results demonstrated unique patterns of gender and activity group differences in beliefs and behaviors related to sport, music, and reading. Nevertheless, some limitations should be noted. First, measurement of expectancy-value constructs was structured in a way to make items parallel across domains. This required adapting items from the sport domain to music and reading. While this adaptation of measures worked well for sport and music items, perhaps because they are both performance domains, problems arose with some of the items developed for reading constructs. For example, as there are no reading competitions or practices, items that related to parents attending music and sporting events and transporting kids to practices and lessons needed alteration. These items were changed to reading with the child and taking the child to the library or bookstore. These reading items did not hold the same meaning as they did for sport and music. As a result the parental reading involvement subscale did not achieve adequate reliability and was deleted from analyses. This finding implies that increased attention to assessment is needed for studies comparing multiple domains.

Second, mechanisms of parental influence were highly correlated and collapsed into a composite construct to determine gender and activity group differences. This suggests that parental competence beliefs, social support, and involvement were strongly related for this sample and could not be investigated individually. This finding is perhaps not surprising, because parents who are supportive are also likely to be involved in their child's activity and believe their child exhibits ability to be successful. Fredricks and

Eccles (2005) resolved the issue of highly-related parent variables by creating a composite variable of positive parental influence. They found that a greater number of parent promotive factors was associated with more positive child outcomes. In future research regarding parental influence in multiple domains, a similar concept of promotive factors, or cumulative influence, may be beneficial to account for the many ways that parents influence their children. Assessing relevant and collective forms of parental influence based on the context or domain of interest is a goal of future research.

Third, adolescents in this sample reported relatively high levels of achievement beliefs, perceived costs, participation behavior, and parent beliefs and behaviors in sport, music, and reading. This was likely a byproduct of the specific population and age of participants selected in the present study. Adolescents have had time to sample different activities and those who self-select participating in a voluntary activity are likely to perceive themselves as competent at the activity, see the activity as important and interesting, and view few negatives. Future research might examine a wider range of ability or skill levels to achieve greater variability among expectancy-value constructs.

Fourth, the study design was cross-sectional so it is unclear how expectancy-value constructs in multiple domains were developed or how they change over time. A longitudinal study or one in which multiple time points are assessed can help determine how expectancy-value constructs change over time in sport, music, and reading, especially given present study findings for unique patterns of gender and group differences in each domain.

**Conclusion**

The present study demonstrates that gender and activity type are important factors to consider in studies comparing motivational constructs in multiple achievement domains. For the specific sample in this study, the gender gap in reading competence and participation behavior still exists, to a certain degree, favoring girls. While no gender differences emerged in sport, boys participated more frequently and reported favorable parental influence in music, albeit small. Findings in the performance (sport and music) domains confirmed the notions of expectancy-value theory, that children and adolescents who receive positive parental support, feel confident in an activity, view the activity as important and enjoyable, and see few negative aspects are likely to sustain involvement in that performance domain. Youth who enroll and persist in an activity are likely to reap the developmental benefits of participation, such as leadership, teamwork, and a positive sense of identity. Positive achievement beliefs, such as perceived competence and task values, and participation behaviors are essential to ensure that adolescents continue involvement in voluntary performance and elective academic domains.

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*Appendix A*

Human Subjects Protocol

## UNIVERSITY OF MINNESOTA

*Twin Cities Campus**Human Research Protection Program  
Office of the Vice President for Research**D528 Mayo Memorial Building  
420 Delaware Street S.E.  
MMC 820  
Minneapolis, MN 55455  
Office: 612-626-5654  
Fax: 612-626-6061  
E-mail: [irb@umn.edu](mailto:irb@umn.edu) or [ibc@umn.edu](mailto:ibc@umn.edu)  
Website: <http://research.umn.edu/subjects/>*

04/11/2012

Alison C Phillips

RE: "Experiences in Sport, Music, and School"  
IRB Code Number: **1203P11561**

Dear Ms. Phillips:

The referenced study was reviewed by expedited review procedures and approved on April 10, 2012. If you have applied for a grant, this date is required for certification purposes as well as the Assurance of Compliance number which is FWA00000312 (Fairview Health Systems Research FWA00000325, Gillette Children's Specialty Healthcare FWA 00004003). Approval for the study will expire one year from that date. A report form will be sent out two months before the expiration date.

Institutional Review Board (IRB) approval of this study includes the consent form, assent form, letter to participants, and letter to program directors, all received March 19, 2012.

The IRB would like to stress that subjects who go through the consent process are considered enrolled participants and are counted toward the total number of subjects, even if they have no further participation in the study. Please keep this in mind when calculating the number of subjects you request. This study is currently approved for 400 subjects. If you desire an increase in the number of approved subjects, you will need to make a formal request to the IRB.

The code number above is assigned to your research. That number and the title of your study must be used in all communication with the IRB office.

As the Principal Investigator of this project, you are required by federal regulations to inform the IRB of any proposed changes in your research that will affect human subjects. Changes should not be initiated until written IRB approval is received. Unanticipated problems and adverse events should be reported to the IRB as they occur. Research projects are subject to continuing review and renewal. If you have any questions, call the IRB office at 612-626-5654.

On behalf of the IRB, I wish you success with your research.

Sincerely,



Christina Dobrovolny, CIP  
Research Compliance Supervisor  
CD/ks

CC: Maureen Weiss

University of Minnesota Mail - 1203P11561 - PI Phillips - IRB - RECD Change in Protocol



Alison Phillips <phil0792@umn.edu>

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**1203P11561 - PI Phillips - IRB - RECD Change in Protocol**

1 message

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irb@umn.edu <irb@umn.edu>  
To: phil0792@umn.edu

Mon, Jun 11, 2012 at 12:15 PM

TO : [mrweiss@umn.edu](mailto:mrweiss@umn.edu), [phil0792@umn.edu](mailto:phil0792@umn.edu),

The IRB has received your change in protocol for the study listed below:

**Study Number:** 1203P11561

**Principal Investigator:** Alison Phillips

**Expiration Date:** 04/09/2013

**Title(s):**

Experiences in Sport, Music, and School

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You may follow the progress of the review of your study in the Track Documents section at eResearch Central at <http://eresearch.umn.edu/>

We will notify you via email when your change in protocol is approved.

If you have any questions, please call the IRB office at 612-626-5654.



UNIVERSITY OF MINNESOTA

**Change In Protocol Request**Route this form to:  
See instructions below.

Rev: Aug 2011

**Instructions:**

Use this form when submitting change requests on IRB protocols. This form is for use when the changes are initiated by the PI. Do not use this form to respond when changes are requested by the IRB. Please do not use this form when responding to changes requested in a stipulation letter.

Submit this form to the Human Research Protection Program:

**U.S. Mail Address:** or  
Human Research Protection Program  
MMC 820  
420 Delaware St. SE  
Minneapolis, MN 55455-0392

**Electronic Submission:**  
Submit to: [irb@umn.edu](mailto:irb@umn.edu)  
PI must submit request using  
University of Minnesota e-mail  
Account.

**The UMN IRB reviewed and APPROVED this submission including all attachments listed on this form by expedited review.**

8:48 am, Jun 14, 2012

By perke001

**IRB Protocol Information**

IRB Study Number:	<b>1203P11561</b>
Principal Investigator:	<b>Alison C Phillips</b>
Primary Study Title:	Experiences in Sport, Music, and School
Date of this Submission	Today: 6/6/2012, original submission: 3/19/2012
Study Includes	<input type="checkbox"/> Drug(s) / Biologic(s) <input type="checkbox"/> Device(s)

**Indicate the type of change :**

- Protocol Amendment:            Version            , Dated  
 Revised Investigator Brochure: Version            , Dated  
 Recruitment Changes/Advertisements  
 Notice of Closure to Accrual  
 Change(s) to Study Procedures  
 Other: Revise questionnaire items

- 1. Briefly summarize the change(s). For protocol amendments, do not say "See summary of changes provided with amendment." Rather, summarize the nature of the significant revisions.**

The items of the questionnaire have been revised. The same constructs are utilized and questions are similar, but have been shortened and modified.

- 2. Describe the rationale for the change(s):**

The items on the questionnaire were shortened and modified in order to decrease the amount of time needed to complete the survey and to ensure appropriate wording for children and adolescents.

- 3. In your opinion as principal investigator, how will these changes affect the overall risk to subjects in this study?**

These changes will not affect the overall risk to subjects in the study. The risk remains minimal.

- 4. Do the changes to the study prompt changes to the consent form(s)?**

No.  Yes.    If yes:

- Attach a copy of the revised consent form(s) with changes tracked or highlighted as well as a clean copy.

- Confirm whether currently enrolled subjects will notified of the changes and how they will be notified (i.e. subjects will be re-consented with the updated form once approved, subjects will be provided with an information sheet, subjects will be told of changes at next study visit, etc.).

There are no currently enrolled subjects to date. Notification of study subjects does not apply.

**5. List and attach all documents included with this request, including version dates:**

Revised questionnaire, June 7, 2012.

Alison C. Phillips  
Principal Investigator's Signature

6/7/2012  
Date

University of Minnesota Mail - 1203P11561 - PI Phillips - IRB - APVD Continuing Review



Alison Phillips <phil0792@umn.edu>

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**1203P11561 - PI Phillips - IRB - APVD Continuing Review**

1 message

irb@umn.edu <irb@umn.edu>

Sat, Apr 13, 2013 at 11:17 PM

To: phil0792@umn.edu

TO : mrweiss@umn.edu, phil0792@umn.edu,

The IRB: Human Subjects Committee renewed its approval of the referenced study listed below:

**Study Number:** 1203P11561

**Principal Investigator:** Alison Phillips

**Expiration Date:** 04/11/2014

**Approval Date:** 04/12/2013

**Title(s):**

Experiences in Sport, Music, and School

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This e-mail confirmation is your official University of Minnesota HRPP notification of continuing review approval. You will not receive a hard copy or letter. This secure electronic notification between password protected authentications has been deemed by the University of Minnesota to constitute a legal signature.

You may go to the View Completed section of <http://eresearch.umn.edu/> to view or print your continuing review submission.

For grant certification purposes you will need this date and the Assurance of Compliance number, which is FWA00000312 (Fairview Health Systems Research FWA00000325, Gillette Childrens Specialty Healthcare FWA00004003). Approval will expire one year from that date. You will receive a report form two months before the expiration date.

In the event that you submitted a consent document with the continuing review form, it has also been reviewed and approved. If you provided a summary of subjects' experience to include non-UPIRTSO events, these are hereby acknowledged.

**Informed Consent Agreement: Parents' Form**  
**University of Minnesota**  
**Project Title: Experiences in Sport, Music, and Academics**

Your child is invited to be in a research study about his/her experiences in a variety of common activities during adolescence. Your child was selected because they are enrolled in a summer program permitted to partake in this study. We ask that you read this form and ask any questions you may have before agreeing for your child to be in the study. This study is being conducted by researchers in the School of Kinesiology at the University of Minnesota.

**Background Information:**

The purpose of this study is to understand the factors that influence adolescents' involvement in a variety of activities.

**Procedures:**

During a break in the summer program, your child will respond to items in a questionnaire about their participation in sport, music, and academics. Your child will spend about 30-45 minutes completing the questionnaire.

**Risks and Benefits of Being in the Study:**

There are no direct risks to your child for completing the questions. There may be a minor risk of discomfort caused by sharing personal thoughts and experiences about participating in sport, music, or academics. There are no direct benefits to your child for participating in this study. The study should help us understand how to improve the experiences of children involved in sport, music, and academics.

**Compensation:**

Your child will receive no compensation for participating in the study.

**Confidentiality:**

The information that your child gives in the study will be handled anonymously and confidentially. Your child's identity will not appear on the questionnaire and there will be no link between your child's name and his/her completed questionnaire. Your child's name will not be used in any report. Only the primary researchers will have access to your child's answers and data.

**Voluntary Nature of the Study:**

Your child's participation in this study is completely voluntary. Your decision whether or not to participate will not affect your or your child's current or future relations with the University of Minnesota. If you decide to allow your child to participate, they are free to not answer any question or withdraw at any time with out affecting those relationships.

**Right to withdraw from the study:**

Your child may stop answering questions at any time. There is no penalty for doing so. Your child will be told to give their blank survey to Alison who will dispose of it immediately. You may also withdraw your permission at any time by contacting Alison Phillips or Dr. Maureen Weiss (phone numbers are below).

**How to withdraw from the study:**

If your child wants to discontinue completing the questionnaire they should stop writing and sit quietly until the remainder of the students have finished. There is no penalty for withdrawing from the study.

**Contacts and Questions:**

The researchers conducting this study are Alison Phillips and Dr. Maureen Weiss. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact the researchers:

Alison C. Phillips, School of Kinesiology  
210 Cooke Hall, 1900 University Ave S.E.  
Minneapolis, MN 55455  
Telephone: (847) 899-3618  
Email: phil0792@umn.edu

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Minneapolis, MN 55455  
Telephone: (612) 625-4155  
Email: mrweiss@umn.edu

**You will be given a copy of this information to keep for your records.**

**Statement of Consent:**

I have read the above information. I have asked questions and received answers. I consent for my child to participate in the study.

**Your child's name:** \_\_\_\_\_

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Investigator:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Assent Agreement: Students' Form**  
**University of Minnesota**  
**Project Title: Experiences in Sport, Music, and School**

We are inviting you to participate in this study because we are trying to learn about teenagers' experiences in different activities. We are interested in your thoughts and feelings about your participation in sport, music, and school. We hope to gain a better understanding of why adolescents participate in these activities.

If you agree to be in this study, we will ask you to fill out a survey. You will answer questions about your experiences in sport, music, and school. The survey should take about 20 - 30 minutes to complete.

If you change your mind during the study and do not want to continue, you can stop at any time. Being in this study is your choice, and no one will be upset with you if you don't want to do it.

You can ask any questions that you may have about this study. If you have a question later that you didn't think of now, you can ask us later.

Signing here means that you have read this paper and that you are willing to be in this study. If you don't want to be in this study, don't sign. Remember, being in this study is your decision, and no one will be upset with you if you don't sign or even if you change your mind later.

Print Name \_\_\_\_\_

Signature \_\_\_\_\_ Date: \_\_\_\_\_

Signature of person explaining study \_\_\_\_\_ Date: \_\_\_\_\_

*Appendix B*

Coach/Director, and Parent Letters

*Letter to Program Directors*

Dear Program Director,

My name is Alison Phillips. I am a graduate student in the School of Kinesiology at the University of Minnesota studying with Dr. Maureen R. Weiss as my advisor. I am writing to seek your cooperation for having participants in your summer program participate in my thesis study.

As a former college athlete and musician, I am interested in the experiences of adolescent athletes and musicians. The goal of my project is to understand adolescents' thoughts and feelings about their experiences in sport, music, and school.

I am requesting that experienced athletes and musicians, who are 11 to 18 years-old complete a questionnaire before or after one scheduled activity during your summer program, whichever is more convenient for you, your staff, and the participants. I am aware of the many time demands and activities that take place during a summer activity program. So, I want to ensure that your program participants' involvement is as brief as possible. Your participants will need about 30-45 minutes to complete the questionnaire. No names will be used on the questionnaires to ensure anonymity and confidentiality of each participant's responses. Results from the questionnaire will be reported for the entire sample, no for specific programs or individuals.

Your cooperation in this project is sincerely appreciated. I will be calling you soon to answer any questions you might have and to find out if you are interested in participating in this study. If you wish to contact me first or my advisor, please feel free to do so. Thank you for your consideration.

Sincerely,

Alison C. Phillips  
Graduate Student  
(847) 899-3618  
[phil0792@umn.edu](mailto:phil0792@umn.edu)

Maureen R. Weiss, Ph.D.  
Professor, School of Kinesiology  
(612) 625-4155  
[mrweiss@umn.edu](mailto:mrweiss@umn.edu)



*Parent Letter*

July 1, 2012

Dear Parents,

My name is Alison Phillips. I am a graduate student in the School of Kinesiology at the University of Minnesota studying with Dr. Maureen R. Weiss as my advisor. I am writing to seek your cooperation for my thesis study. The coordinator of the summer program has permitted me to conduct my thesis research study with your child's soccer camp.

I am interested in the experiences of adolescents in a variety of academic and extracurricular activities. The goal of my project is to understand children's thoughts and feelings about their experiences in common activities in adolescence, namely sport, music, and academics.

To address these topics, I am requesting your permission for your son or daughter to complete a questionnaire during a break in the summer soccer camp. I am aware of the many time demands that your child has during this summer camp. So, I want to ensure that your child's involvement is as brief as possible. Your child will need about 30 minutes to complete the questionnaire. **No names will be used on the questionnaire, ensuring anonymity and confidentiality of your child's responses.**

Your cooperation in this project is sincerely appreciated. The information gathered through this project will help parents, teachers, and coaches understand the factors that influence adolescents' participation in a variety of activities.

**Enclosed with this letter is a parent consent form. Please read and sign on page 2 if you allow your child to take part in the study. I will be at check-in on July 8 to collect parent permission forms and answer any questions. If your child will be carpooling, you may have her or him bring this form to the check-in table if you will not be coming.** If you have any questions or wish to contact my advisor or me, please feel free to do so. Thank you for your consideration.

Sincerely,

Alison C. Phillips  
Graduate Student  
(847) 899-3618  
phil0792@umn.edu

Maureen R. Weiss, Ph.D.  
Professor, School of Kinesiology  
(612) 625-4155  
mrweiss@umn.edu

*Appendix C*

Script for Survey

## Alison Phillips Thesis Sport/Music Data Collection Script

- Hi, my name is Alison and this is Amanda and Hayley. We are graduate students at the University of Minnesota. We study the benefits of extracurricular activities for kids and teenagers.
- I was here last week and gave you a form for your parents to sign. Go ahead and hang onto that and you'll hand it in when you are finished with the survey. If you forgot it at home, I have extras that you can take back and have your parents mail it to me. Let me know when you are done with the questionnaire.
- Tonight, we're going to take about 20 to 30 minutes at most to fill out a questionnaire about your thoughts and feelings about different extracurricular activities, like music or sport.
- A survey is about giving your opinions. It is not a test because there are no right and wrong answers. We are interested in your thoughts and feelings only. Because kids and teenagers are so different from one another, we expect to get a wide range of answers. So please be honest with your responses.
- Okay, let's go ahead and get started. We're going to pass out the surveys and pencils. Please don't open the survey yet. Hold on until everyone has a survey and we'll get started together.

~~~~Hand out surveys and pencils~~~~

- Now that everyone has a survey, please turn to page 2. This page is about giving your permission to do the survey. There are **3 key points**: (1) the purpose is to understand your thoughts and feelings about extracurricular activities, (b) the survey will take between 20 and 30 minutes, and (c) your responses will remain confidential, meaning nobody else except us will see your answers. **Print your first and last name**; sign your name, and write today's date [June 19, 2012]. 6/19/12
- Now turn to page 3. The instructions say we are interested in your opinions about participating in music and playing an instrument and that you should circle the response that best fits your opinion ... I want you to read the questions and circle the words that best describe how you feel.
- **If you have a question at any time, just raise your hand** and one of us will come around to help you. You can continue with the entire survey on your own. Make sure you read the directions when you get to a new section.

## During Survey Prompts

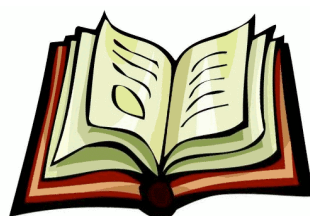
- [Students should go ahead to the next section after reading, "Please continue with the survey on the next page." **As you see them near the end of one page or turn the page, remind them that they should read the instructions for each section**, "When you get to a new section in the survey, be sure to read the instructions carefully first and then respond to the items."]
- When students finish their survey, ask them to back and make sure they completed all the items in the survey before raising their hand.
- When you are finished with the questionnaire, please raise your hand and one of us will come up to you and collect your questionnaire and parent form.

*Appendix D*

Survey



# UNIVERSITY OF MINNESOTA SURVEY



2012



**Assent Agreement: Students' Form**  
**University of Minnesota**  
**Project Title: Experiences in Sport, Music, and School**

We are inviting you to participate in this study because we are trying to learn about teenagers' experiences in different activities. We are interested in your thoughts and feelings about your participation in sport, music, and school. We hope to gain a better understanding of why adolescents participate in these activities.

If you agree to be in this study, we will ask you to fill out a survey. You will answer questions about your experiences in sport, music, and school. The survey should take about 20 - 30 minutes to complete.

If you change your mind during the study and do not want to continue, you can stop at any time. Being in this study is your choice, and no one will be upset with you if you don't want to do it.

You can ask any questions that you may have about this study. If you have a question later that you didn't think of now, you can ask us later.

Signing here means that you have read this paper and that you are willing to be in this study. If you don't want to be in this study, don't sign. Remember, being in this study is your decision, and no one will be upset with you if you don't sign or even if you change your mind later.

Print Name \_\_\_\_\_

Signature \_\_\_\_\_

Date: \_\_\_\_\_

Signature of person explaining study \_\_\_\_\_

Date: \_\_\_\_\_



We are interested in your opinions about participating in **sports and physical activities**. Circle the response that best represents your opinion. Please answer as honestly as possible.

1. I'm good at sports.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

2. For me, being good at sports is...

|                      |               |                   |                  |                |
|----------------------|---------------|-------------------|------------------|----------------|
| Not at all important | Not important | Sort of important | Pretty important | Very important |
|----------------------|---------------|-------------------|------------------|----------------|

3. I like playing sports.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

4. There are unpleasant things associated with playing sports.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

5. Sports come easily to me.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

6. How important is it for you to be good at sports?

|                      |               |                   |                  |                |
|----------------------|---------------|-------------------|------------------|----------------|
| Not at all important | Not important | Sort of important | Pretty Important | Very Important |
|----------------------|---------------|-------------------|------------------|----------------|

7. I enjoy playing sports.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

8. I miss out on other things because of participating in sports.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

9. I'm better at sports than most kids my age.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE



10. Doing well at sports is something important to me.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

11. Playing sports is fun.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

12. There are negative things associated with being on a sports team.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

13. I'm a good athlete.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

14. There are "downsides" to playing sports.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

15. How many hours did you participate in sport activities last week (team practices, games, individual practice)?

|   |     |     |     |     |      |              |
|---|-----|-----|-----|-----|------|--------------|
| 0 | 1-2 | 3-4 | 5-6 | 7-8 | 9-10 | More than 10 |
|---|-----|-----|-----|-----|------|--------------|



16. How many days last week did you participate in sport activities for 30 minutes or more?

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|

17. My parents think that I'm good at sports.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

18. My parents are proud of me when I play sports well.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

19. My parents give me advice on how I can play sports better.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE





20. My parents think that sports come easily to me.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

21. My parents are pleased when I play sports well.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

22. My parents attend my sporting events.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

23. My parents think I'm better at sports than most kids my age.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

24. My parents congratulate me after good sport performances.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

25. My parents take me to or from practices and games.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

26. My parents think that I'm a good athlete.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

27. My parents encourage me to do well at sports.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

28. My parents practice sport skills with me.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|



We are interested in your opinions about participating in **music and playing an instrument**. Circle the response that best represents your opinion. Please answer as honestly as possible.

1. I'm good at playing a musical instrument.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE



2. For me, being good at playing a musical instrument is...

|                      |               |                   |                  |                |
|----------------------|---------------|-------------------|------------------|----------------|
| Not at all important | Not important | Sort of important | Pretty important | Very important |
|----------------------|---------------|-------------------|------------------|----------------|

3. I like playing musical instruments.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

4. There are unpleasant things associated with playing an instrument.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

5. Playing a musical instrument comes easily to me.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

6. How important is it for you to be good at a musical instrument?

|                      |               |                   |                  |                |
|----------------------|---------------|-------------------|------------------|----------------|
| Not at all important | Not important | Sort of important | Pretty Important | Very Important |
|----------------------|---------------|-------------------|------------------|----------------|

7. I enjoy playing a musical instrument.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|



8. I miss out on other things because of participating in music.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

9. I'm better at playing an instrument than most kids my age.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

10. Doing well at playing an instrument is something important to me.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

11. Playing an instrument is fun.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE



12. There are negative things associated with playing an instrument.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

13. I'm a good musician.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

14. There are "downsides" to playing an instrument.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

15. How many hours did you participate in music activities last week (lessons, rehearsals, performances, individual practice)?

|   |     |     |     |     |      |              |
|---|-----|-----|-----|-----|------|--------------|
| 0 | 1-2 | 3-4 | 5-6 | 7-8 | 9-10 | More than 10 |
|---|-----|-----|-----|-----|------|--------------|

16. How many days last week did you participate in music activities for 30 minutes or more?

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|



17. My parents think that I'm good at playing a musical instrument.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

18. My parents are proud of me when I play my instrument well.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

19. My parents give me advice on how I can play my instrument better.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

20. My parents think that playing a musical instrument comes easily to me.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

21. My parents are pleased when I play my instrument well.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE



22. My parents attend my music events.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

23. My parents think I'm better at playing an instrument than most kids my age.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

24. My parents congratulate me after good musical performances.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

25. My parents take me to or from music lessons and rehearsals.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

26. My parents think that I'm a good musician.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

27. My parents encourage me to do well at music.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

28. My parents practice music skills with me.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|



We are interested in your opinions about **reading books**. Circle the response that best represents your opinion. Please answer as honestly as possible.

1. I'm good at reading.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

2. For me, being good at reading is...

|                      |               |                   |                  |                |
|----------------------|---------------|-------------------|------------------|----------------|
| Not at all important | Not important | Sort of important | Pretty important | Very important |
|----------------------|---------------|-------------------|------------------|----------------|

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE



3. I like reading.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

4. There are unpleasant things associated with reading.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

5. Reading books comes easily to me.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

6. How important is it for you to be good at reading?

|                      |               |                   |                  |                |
|----------------------|---------------|-------------------|------------------|----------------|
| Not at all important | Not important | Sort of important | Pretty Important | Very Important |
|----------------------|---------------|-------------------|------------------|----------------|



7. I enjoy reading.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

8. I miss out on other things because of reading books.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

9. I'm better at reading than most kids my age.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

10. Reading well is something important to me.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

11. Reading is fun.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

12. There are negative things associated with reading books.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE



13. I'm a good reader.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

14. There are "downsides" to reading books.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

15. How many hours did you spend reading books last week?

|   |     |     |     |     |      |              |
|---|-----|-----|-----|-----|------|--------------|
| 0 | 1-2 | 3-4 | 5-6 | 7-8 | 9-10 | More than 10 |
|---|-----|-----|-----|-----|------|--------------|

16. How many days last week did you read books for 30 minutes or more?

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|

17. My parents think that I'm good at reading.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

18. My parents are proud of me when I finish reading a book.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

19. My parents give me advice about reading.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|



20. My parents think that reading comes easily to me.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

21. My parents are pleased when I finish reading a book.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

22. My parents and I read books together.

|                 |          |              |             |           |
|-----------------|----------|--------------|-------------|-----------|
| Not at all true | Not true | Sort of true | Pretty true | Very true |
|-----------------|----------|--------------|-------------|-----------|

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE



23. My parents think I'm better at reading than most kids my age.

Not at all true      Not true      Sort of true      Pretty true      Very true

24. My parents congratulate me after I read a book.

Not at all true      Not true      Sort of true      Pretty true      Very true

25. My parents take me to the library or store to get books.

Not at all true      Not true      Sort of true      Pretty true      Very true

26. My parents think that I'm a good reader.

Not at all true      Not true      Sort of true      Pretty true      Very true

27. My parents encourage me to read many books.

Not at all true      Not true      Sort of true      Pretty true      Very true

28. My parents help me with reading.

Not at all true      Not true      Sort of true      Pretty true      Very true



### Tell Us About You

1. Gender:      Male      Female

2. How old are you? \_\_\_\_\_ years

3. When is your birthday? \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

4. What grade are you going into next year? \_\_\_\_\_

5. Next year, will you be attending:

Elementary school      Middle School      Junior High School      High School      College

6. How do you describe yourself? (circle all that apply)

African-American

White

Native American

Asian

Hispanic/Latino

Other \_\_\_\_\_

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE



7. What activity are you involved in at this summer program? Sport Music

8. Do you currently participate or have you participated on organized sports teams (with coaches and scheduled practices)?

Yes No

9. If you circled **YES to #8**, list the sports you have played, how many years you played, and if you currently participate.

| Name of Sport | Number of Years Played | Current (YES or NO) |
|---------------|------------------------|---------------------|
|               |                        |                     |
|               |                        |                     |
|               |                        |                     |
|               |                        |                     |

10. Do you currently participate or have you ever participated in organized music activities (either private lessons or in an ensemble with a director and scheduled rehearsals)?

Yes No

11. If you circled **YES to #10**, list the instruments you have played, how many years you played, and if you currently participate.

| Name of Instrument | Number of Years Played | Current (YES or NO) |
|--------------------|------------------------|---------------------|
|                    |                        |                     |
|                    |                        |                     |
|                    |                        |                     |
|                    |                        |                     |

12. What is your favorite sport? \_\_\_\_\_

13. What is your favorite musical instrument? \_\_\_\_\_

14. What is your favorite book? \_\_\_\_\_

- **PLEASE GO BACK AND CHECK THAT YOU COMPLETED ALL PAGES AND ITEMS.**
- **THEN, RAISE YOUR HAND AND ONE OF US WILL COME AROUND TO COLLECT.**

**THANK YOU SO MUCH FOR YOUR HELP!**





## Appendix E

### Statistics for Follow-Up and Post-Hoc Analyses

## **Purpose 1: Gender by Domain Follow Up and Post Hoc Analyses**

### **Achievement Beliefs**

*Gender difference within domain, sport:*

$$F(1,311) = 2.8, p = .093$$

*Gender difference within domain, music:*

$$F(1,311) = 2.6, p = .107$$

*Gender difference within domain, reading:*

$$F(1,311) = 5.3, p = .022$$

*Domain differences within gender, male:*

$$\text{Wilks' } \lambda = .996, F(2,123) = .227, p = .797$$

*Domain differences within gender, female:*

$$\text{Wilks' } \lambda = .830, F(2,186) = 19.0, p < .001$$

*Paired t-tests:*

$$\text{Sport} - \text{Music: } t(187) = 3.4, p = .001$$

$$\text{Sport} - \text{Reading: } t(187) = -.6, p = .579$$

$$\text{Music} - \text{Reading: } t(187) = -6.2, p < .001$$

### **Perceived Cost**

*Domain main effect:*

$$\text{Wilks' } \lambda = .781, F(2,311) = 43.7, p < .001$$

*Paired t-tests:*

$$\text{Sport} - \text{Music: } t(312) = 4.9, p < .001$$

$$\text{Sport} - \text{Reading: } t(312) = 9.3, p < .001$$

$$\text{Music} - \text{Reading: } t(312) = 5.3, p < .001$$

*Gender main effect:*

$$F(1,311) = 7.8, p = .006$$

### **Participation Behavior**

*Gender difference within domain, sport:*

$$F(1,311) = 1.1, p = .285$$

*Gender difference within domain, music:*

$$F(1,311) = 8.2, p = .004$$

*Gender difference within domain, reading:*

$$F(1,311) = 6.2, p = .014$$

*Domain differences within gender, male:*

$$\text{Wilks' } \lambda = .873, F(2,123) = 8.9, p < .001$$

*Paired t-tests:*

$$\text{Sport} - \text{Music}: t(124) = 1.3, p = .186$$

$$\text{Sport} - \text{Reading}: t(124) = 3.9, p < .001$$

$$\text{Music} - \text{Reading}: t(124) = 2.1, p = .037$$

*Domain differences within gender, female:*

$$\text{Wilks' } \lambda = .850, F(2,186) = 16.3, p < .001$$

*Paired t-tests:*

$$\text{Sport} - \text{Music}: t(187) = 5.5, p < .001$$

$$\text{Sport} - \text{Reading}: t(187) = 3.1, p = .002$$

$$\text{Music} - \text{Reading}: t(187) = -4.3, p < .001$$

### **Parent Beliefs and Behaviors**

*Gender difference within domain, sport:*

$$F(1,311) = 2.5, p = .117$$

*Gender difference within domain, music:*

$$F(1,311) = 5.6, p = .018$$

*Gender difference within domain, reading:*

$$F(1,311) = 6.9, p = .009$$

*Domain differences within gender, male:*

$$\text{Wilks' } \lambda = .657, F(2,123) = 32.2, p < .001$$

*Paired t-tests:*

$$\text{Sport} - \text{Music}: t(124) = -2.2, p = .031$$

$$\text{Sport} - \text{Reading}: t(124) = 4.5, p < .001$$

$$\text{Music} - \text{Reading}: t(124) = 7.2, p < .001$$

*Domain differences within gender, female:*

$$\text{Wilks' } \lambda = .921, F(2,186) = 7.9, p < .001$$

*Paired t-tests:*

Sport – Music:  $t(187) = 1.6, p = .109$

Sport – Reading:  $t(187) = 3.8, p < .001$

Music – Reading:  $t(187) = 1.2, p = .217$

## **Purpose 2: Activity Group by Domain Follow Up and Post Hoc Analyses**

### **Achievement Beliefs**

*Group differences within domain, sport:*

$F(2,310) = 188.7, p < .001$

| Student-Newman-Keuls |     |        |        |        |
|----------------------|-----|--------|--------|--------|
| group                | N   | Subset |        |        |
|                      |     | 1      | 2      | 3      |
| Music Only           | 87  | 2.7023 |        |        |
| Sport Plus Music     | 141 |        | 4.0021 |        |
| Sport Only           | 85  |        |        | 4.5541 |
| Sig.                 |     | 1.000  | 1.000  | 1.000  |

*Group differences within domain, music:*

$F(2,310) = 210.0, p < .001$

| Student-Newman-Keuls |     |        |        |        |
|----------------------|-----|--------|--------|--------|
| group                | N   | Subset |        |        |
|                      |     | 1      | 2      | 3      |
| Sport Only           | 85  | 2.1651 |        |        |
| Sport Plus Music     | 141 |        | 3.8210 |        |
| Music Only           | 87  |        |        | 4.2464 |
| Sig.                 |     | 1.000  | 1.000  | 1.000  |

*Group differences within domain, reading:*

$$F(2,310) = 8.2, p < .001$$

| Student-Newman-Keuls |     |        |        |
|----------------------|-----|--------|--------|
| group                | N   | Subset |        |
|                      |     | 1      | 2      |
| Sport Only           | 85  | 3.4965 |        |
| Music Only           | 87  |        | 3.9379 |
| Sport Plus Music     | 141 |        | 3.9631 |
| Sig.                 |     | 1.000  | .842   |

*Domain differences within group, sport-only:*

$$\text{Wilks' } \lambda = .124, F(2,83) = 293.7, p < .001$$

*Paired t-tests:*

$$\text{Sport} - \text{Music}: t(84) = 24.4, p < .001$$

$$\text{Sport} - \text{Reading}: t(84) = 10.4, p < .001$$

$$\text{Music} - \text{Reading}: t(84) = -12.4, p < .001$$

*Domain differences within group, music-only:*

$$\text{Wilks' } \lambda = .282, F(2,85) = 108.2, p < .001$$

*Paired t-tests:*

$$\text{Sport} - \text{Music}: t(86) = -14.5, p < .001$$

$$\text{Sport} - \text{Reading}: t(86) = -8.4, p < .001$$

$$\text{Music} - \text{Reading}: t(86) = 3.1, p < .001$$

*Domain differences within group, sport-plus-music:*

$$\text{Wilks' } \lambda = .965, F(2,139) = 2.5, p = .085$$

**Perceived Cost**

*Group differences within domain, sport:*

$$F(2,310) = 5.2, p = .006$$

| Student-Newman-Keuls |     |        |        |
|----------------------|-----|--------|--------|
| group                | N   | Subset |        |
|                      |     | 1      | 2      |
| Sport Only           | 85  | 2.7765 |        |
| Sport Plus Music     | 141 |        | 3.1135 |
| Music Only           | 87  |        | 3.2299 |
| Sig.                 |     | 1.000  | .398   |

*Group differences within domain, music:*

$$F(2,310) = 2.0, p = .139$$

*Group differences within domain, reading:*

$$F(2,310) = 1.7, p = .185$$

*Domain differences within group, sport-only:*

$$\text{Wilks' } \lambda = .939, F(2,83) = 2.7, p = .075$$

*Domain differences within group, music-only:*

$$\text{Wilks' } \lambda = .560, F(2,85) = 33.4, p < .001$$

*Paired t-tests:*

$$\text{Sport} - \text{Music}: t(86) = 5.7, p < .001$$

$$\text{Sport} - \text{Reading}: t(86) = 8.2, p < .001$$

$$\text{Music} - \text{Reading}: t(86) = 4.4, p < .001$$

*Domain differences within group, sport-plus-music:*

$$\text{Wilks' } \lambda = .787, F(2,139) = 18.8, p < .001$$

*Paired t-tests:*

$$\text{Sport} - \text{Music}: t(140) = 2.7, p = .008$$

$$\text{Sport} - \text{Reading}: t(140) = 6.1, p < .001$$

$$\text{Music} - \text{Reading}: t(140) = 3.8, p < .001$$

### Participation Behavior

*Group differences within domain, sport:*

$$F(2,310) = 104.2, p < .001$$

| Student-Newman-Keuls |     |        |        |        |
|----------------------|-----|--------|--------|--------|
| group                | N   | Subset |        |        |
|                      |     | 1      | 2      | 3      |
| Music Only           | 87  | 2.2529 |        |        |
| Sport Plus Music     | 141 |        | 4.6525 |        |
| Sport Only           | 85  |        |        | 5.6882 |
| Sig.                 |     | 1.000  | 1.000  | 1.000  |

*Group differences within domain, music:*

$$F(2,310) = 103.2, p < .001$$

| Student-Newman-Keuls |     |        |        |        |
|----------------------|-----|--------|--------|--------|
| group                | N   | Subset |        |        |
|                      |     | 1      | 2      | 3      |
| Sport Only           | 85  | 1.3059 |        |        |
| Sport Plus Music     | 141 |        | 3.5922 |        |
| Music Only           | 87  |        |        | 4.7299 |
| Sig.                 |     | 1.000  | 1.000  | 1.000  |

*Group differences within domain, reading:*

$$F(2,310) = 9.7, p < .001$$

| Student-Newman-Keuls |     |        |        |
|----------------------|-----|--------|--------|
| group                | N   | Subset |        |
|                      |     | 1      | 2      |
| Sport Only           | 85  | 2.8000 |        |
| Music Only           | 87  |        | 3.7299 |
| Sport Plus Music     | 141 |        | 3.8050 |

|      |  |       |      |
|------|--|-------|------|
| Sig. |  | 1.000 | .763 |
|------|--|-------|------|

*Domain differences within group, sport-only:*

Wilks'  $\lambda = .128$ ,  $F(2,83) = 283.2$ ,  $p < .001$

*Paired t-tests:*

Sport – Music:  $t(84) = 23.5$ ,  $p < .001$

Sport – Reading:  $t(84) = 11.6$ ,  $p < .001$

Music – Reading:  $t(84) = -7.8$ ,  $p < .001$

*Domain differences within group, music-only:*

Wilks'  $\lambda = .413$ ,  $F(2,85) = 60.3$ ,  $p < .001$

*Paired t-tests:*

Sport – Music:  $t(86) = -10.8$ ,  $p < .001$

Sport – Reading:  $t(86) = -6.0$ ,  $p < .001$

Music – Reading:  $t(86) = 3.7$ ,  $p < .001$

*Domain differences within group, sport-plus-music:*

Wilks'  $\lambda = .846$ ,  $F(2,139) = 12.7$ ,  $p < .001$

*Paired t-tests:*

Sport – Music:  $t(140) = 4.5$ ,  $p < .001$

Sport – Reading:  $t(140) = 4.5$ ,  $p < .001$

Music – Reading:  $t(140) = -1.1$ ,  $p = .281$

**Parent Beliefs and Behaviors**

*Group differences within domain, sport:*

$F(2,310) = 107.8$ ,  $p < .001$

| Student-Newman-Keuls |     |        |        |        |
|----------------------|-----|--------|--------|--------|
| group                | N   | Subset |        |        |
|                      |     | 1      | 2      | 3      |
| Music Only           | 87  | 3.0412 |        |        |
| Sport Plus Music     | 141 |        | 4.0035 |        |
| Sport Only           | 85  |        |        | 4.4667 |



|      |  |       |       |       |
|------|--|-------|-------|-------|
| Sig. |  | 1.000 | 1.000 | 1.000 |
|------|--|-------|-------|-------|

*Group differences within domain, music:*

$$F(2,310) = 128.9, p < .001$$

| Student-Newman-Keuls |     |        |        |
|----------------------|-----|--------|--------|
| group                | N   | Subset |        |
|                      |     | 1      | 2      |
| Sport Only           | 85  | 2.7353 |        |
| Sport Plus Music     | 141 |        | 4.2340 |
| Music Only           | 87  |        | 4.3184 |
| Sig.                 |     | 1.000  | .431   |

*Group differences within domain, reading:*

$$F(2,310) = 3.2, p = .044$$

| Student-Newman-Keuls |     |        |
|----------------------|-----|--------|
| group                | N   | Subset |
|                      |     | 1      |
| Music Only           | 87  | 3.3922 |
| Sport Only           | 85  | 3.4971 |
| Sport Plus Music     | 141 | 3.6611 |
| Sig.                 |     | .052   |

*Domain differences within group, sport-only:*

$$\text{Wilks' } \lambda = .306, F(2,83) = 94.1, p < .001$$

*Paired t-tests:*

$$\text{Sport} - \text{Music}: t(84) = 13.1, p < .001$$

$$\text{Sport} - \text{Reading}: t(84) = 10.0, p < .001$$

$$\text{Music} - \text{Reading}: t(84) = -6.3, p < .001$$

*Domain differences within group, music-only:*

Wilks'  $\lambda = .226$ ,  $F(2,85) = 145.9$ ,  $p < .001$

*Paired t-tests:*

Sport – Music:  $t(86) = -13.6$ ,  $p < .001$

Sport – Reading:  $t(86) = -3.4$ ,  $p = .001$

Music – Reading:  $t(86) = 13.4$ ,  $p < .001$

*Domain differences within group, sport-plus-music:*

Wilks'  $\lambda = .659$ ,  $F(2,139) = 35.9$ ,  $p < .001$

*Paired t-tests:*

Sport – Music:  $t(140) = -3.9$ ,  $p < .001$

Sport – Reading:  $t(140) = 5.1$ ,  $p < .001$

Music – Reading:  $t(140) = 8.5$ ,  $p < .001$

*Appendix F*

## Effect Size Calculations

$$\text{Cohen's } d = \frac{M_1 - M_2}{\sqrt{\frac{(n_1 - 1)SD_1^2 + (n_2 - 1)SD_2^2}{n_1 + n_2}}}$$

### Purpose 1: Gender Differences

#### Sample sizes for groups:

**Male: n = 125**

**Female: n = 188**

#### Achievement Beliefs

##### *Sport: Male vs. Female*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.678  | 0.911 | 3.865  | 0.992 | -0.195      |

##### *Music: Male vs. Female*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.618  | 1.061 | 3.408  | 1.109 | 0.193       |

##### *Reading: Male vs. Female*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.686  | 0.922 | 3.925  | 0.888 | -0.266      |

##### *Female: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.865  | 0.992 | 3.408  | 1.109 | 0.436       |

##### *Female: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.865  | 0.992 | 3.925  | 0.888 | -0.063      |

*Female: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.408  | 1.109 | 3.925  | 0.888 | -0.551      |

*Male: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.678  | 0.911 | 3.618  | 1.062 | 0.062       |

*Male: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.678  | 0.911 | 3.686  | 0.922 | -0.008      |

*Male: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.618  | 1.062 | 3.686  | 0.922 | -0.069      |

**Perceived Cost***Average of Three Domains: Male vs. Female*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.901  | 0.845 | 2.645  | 0.762 | 0.322       |

*Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.054  | 0.979 | 2.768  | 1.060 | 0.281       |

*Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.054  | 0.979 | 2.421  | 1.075 | 0.617       |

*Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.768  | 1.060 | 2.421  | 1.075 | 0.326       |

**Participation Behavior***Sport: Male vs. Female*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.122  | 2.089 | 4.369  | 2.082 | -0.124      |

*Music: Male vs. Female*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.692  | 2.132 | 3.019  | 1.966 | 0.332       |

*Reading: Male vs. Female*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.204  | 1.752 | 3.752  | 1.808 | -0.308      |

*Female: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.370  | 2.083 | 3.019  | 1.966 | 0.669       |

*Female: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.370  | 2.083 | 3.752  | 1.808 | 0.318       |

*Female: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.019  | 1.966 | 3.752  | 1.808 | -0.389      |

*Male: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.112  | 2.089 | 3.692  | 2.132 | 0.200       |

*Male: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.112  | 2.089 | 3.204  | 1.752 | 0.473       |

*Male: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.692  | 2.132 | 3.204  | 1.752 | 0.251       |

**Parent Beliefs and Behaviors***Sport: Male vs. Female*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.769  | 0.734 | 3.923  | 0.916 | -0.182      |

*Music: Male vs. Female*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.016  | 0.929 | 3.740  | 1.054 | 0.275       |

*Reading: Male vs. Female*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.396  | 0.828 | 3.639  | 0.789 | -0.303      |

*Female: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.923  | 0.916 | 3.740  | 1.054 | 0.186       |

*Female: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.923  | 0.916 | 3.639  | 0.789 | 0.333       |

*Female: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.740  | 1.054 | 3.639  | 0.789 | 0.109       |

*Male: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.769  | 0.734 | 4.016  | 0.929 | -0.296      |

*Male: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.769  | 0.734 | 3.396  | 0.828 | 0.479       |

*Male: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.016  | 0.929 | 3.396  | 0.828 | 0.708       |

**Purpose 2: Activity Group Differences****Sample sizes for groups:****Sport-Only: n = 87****Music-Only: n = 85****Sport-Plus-Music: n = 141**



**Achievement Beliefs***Sport: Sport-Only vs. Music-Only*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.554  | 0.352 | 2.702  | 0.805 | 2.986       |

*Sport: Sport-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.554  | 0.352 | 4.002  | 0.678 | 0.960       |

*Sport: Music-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.702  | 0.805 | 4.002  | 0.678 | 1.791       |

*Music: Sport-Only vs. Music-Only*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.165  | 0.790 | 4.246  | 0.604 | 2.981       |

*Music: Sport-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.165  | 0.790 | 3.821  | 0.729 | -2.210      |

*Music: Music-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.246  | 0.604 | 3.821  | 0.729 | 0.624       |

*Reading: Sport-Only vs. Music-Only*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.497  | 0.888 | 3.938  | 0.876 | 0.503       |

*Reading: Sport-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.497  | 0.888 | 3.963  | 0.895 | 0.525       |

*Reading: Music-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.938  | 0.876 | 3.963  | 0.895 | 0.029       |

*Sport-Only: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.554  | 0.352 | 2.165  | 0.790 | 3.929       |

*Sport-Only: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.554  | 0.352 | 3.497  | 0.888 | 1.576       |

*Sport-Only: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.165  | 0.790 | 3.497  | 0.888 | -1.594      |

*Music-Only: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.702  | 0.805 | 4.246  | 0.604 | -2.182      |

*Music-Only: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.702  | 0.805 | 3.938  | 0.876 | -1.477      |

*Music-Only: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.246  | 0.604 | 3.938  | 0.876 | 0.412       |

*Sport-Plus-Music: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.002  | 0.678 | 3.821  | 0.729 | 0.258       |

*Sport-Plus-Music: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.002  | 0.678 | 3.963  | 0.895 | 0.049       |

*Sport-Plus-Music: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.821  | 0.729 | 3.963  | 0.895 | -0.175      |

**Perceived Cost***Sport: Sport-Only vs. Music-Only*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.777  | 0.890 | 3.230  | 0.974 | 0.489       |

*Sport: Sport-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.777  | 0.890 | 3.114  | 1.004 | -.352       |

*Sport: Music-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.230  | 0.974 | 3.114  | 1.004 | 0.118       |

*Music: Sport-Only vs. Music-Only*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.643  | 0.985 | 2.678  | 1.068 | 0.034       |

*Music: Sport-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.643  | 0.985 | 2.898  | 1.090 | -0.244      |

*Music: Music-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.678  | 1.068 | 2.898  | 1.090 | -0.204      |

*Reading: Sport-Only vs. Music-Only*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.475  | 0.932 | 2.241  | 0.994 | 0.243       |

*Reading: Sport-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.475  | 0.932 | 2.499  | 1.191 | -0.022      |

*Reading: Music-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.241  | 0.994 | 2.499  | 1.191 | -0.231      |

*Sport-Only: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.777  | 0.890 | 2.643  | 0.985 | 0.143       |

*Sport-Only: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.777  | 0.890 | 2.475  | 0.932 | 0.333       |

*Sport-Only: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.643  | 0.985 | 2.475  | 0.932 | 0.177       |

*Music-Only: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.230  | 0.974 | 2.678  | 1.068 | 0.402       |

*Music-Only: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.230  | 0.974 | 2.241  | 0.994 | 1.010       |

*Music-Only: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.678  | 1.068 | 2.241  | 0.994 | 0.426       |

*Sport-Plus-Music: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.114  | 1.004 | 2.898  | 1.090 | 0.178       |

*Sport-Plus-Music: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.114  | 1.004 | 2.499  | 1.191 | 0.560       |

*Sport-Plus-Music: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.898  | 1.090 | 2.499  | 1.191 | 0.351       |

**Participation Behavior***Sport: Sport-Only vs. Music-Only*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 5.688  | 1.508 | 2.253  | 1.351 | 2.415       |

*Sport: Sport-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 5.688  | 1.508 | 4.653  | 1.819 | 0.609       |

*Sport: Music-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.253  | 1.351 | 4.653  | 1.819 | -1.455      |

*Music: Sport-Only vs. Music-Only*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 1.306  | 0.828 | 4.730  | 1.694 | -2.574      |

*Music: Sport-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 1.306  | 0.828 | 3.592  | 1.848 | -1.485      |

*Music: Music-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.730  | 1.694 | 3.592  | 1.848 | 0.638       |

*Reading: Sport-Only vs. Music-Only*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.800  | 1.678 | 3.730  | 1.933 | -0.516      |

*Reading: Sport-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.800  | 1.678 | 3.805  | 1.677 | -0.602      |

*Reading: Music-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.730  | 1.933 | 3.805  | 1.677 | -0.042      |

*Sport-Only: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 5.688  | 1.508 | 1.306  | 0.828 | 3.624       |

*Sport-Only: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 5.688  | 1.508 | 2.800  | 1.678 | 1.821       |

*Sport-Only: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 1.306  | 0.828 | 2.800  | 1.678 | -1.136      |

*Music-Only: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.253  | 1.351 | 4.730  | 1.694 | -1.626      |

*Music-Only: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.253  | 1.351 | 3.730  | 1.933 | -0.891      |

*Music-Only: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.730  | 1.694 | 3.730  | 1.933 | 0.490       |

*Sport-Plus-Music: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.653  | 1.819 | 3.592  | 1.848 | 0.580       |

*Sport-Plus-Music: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.653  | 1.819 | 3.805  | 1.677 | 0.486       |

*Sport-Plus-Music: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.592  | 1.848 | 3.805  | 1.677 | -0.121      |

**Parent Beliefs and Behaviors***Sport: Sport-Only vs. Music-Only*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.467  | 0.401 | 3.041  | 0.803 | 2.253       |

*Sport: Sport-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.467  | 0.401 | 4.004  | 0.677 | 0.790       |



*Sport: Music-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.041  | 0.803 | 4.004  | 0.677 | -1.329      |

*Music: Sport-Only vs. Music-Only*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.735  | 1.123 | 4.318  | 0.497 | -1.841      |

*Music: Sport-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.735  | 1.123 | 4.234  | 0.584 | -1.817      |

*Music: Music-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.318  | 0.497 | 4.234  | 0.584 | 0.153       |

*Reading: Sport-Only vs. Music-Only*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.497  | 0.926 | 3.392  | 0.691 | 0.129       |

*Reading: Sport-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.497  | 0.926 | 3.661  | 0.796 | -0.194      |

*Reading: Music-Only vs. Sport-Plus-Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.392  | 0.691 | 3.661  | 0.796 | -0.356      |

*Sport-Only: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.467  | 0.401 | 2.735  | 1.123 | 2.065       |

*Sport-Only: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.467  | 0.401 | 3.497  | 0.926 | 1.367       |

*Sport-Only: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 2.735  | 1.123 | 3.497  | 0.926 | -0.744      |

*Music-Only: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.041  | 0.803 | 4.318  | 0.497 | -1.924      |

*Music-Only: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 3.041  | 0.803 | 3.392  | 0.691 | -0.471      |

*Music-Only: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.318  | 0.497 | 3.392  | 0.691 | 1.912       |

*Sport-Plus-Music: Sport vs. Music*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.004  | 0.677 | 4.234  | 0.584 | -0.366      |

*Sport-Plus-Music: Sport vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.004  | 0.677 | 3.661  | 0.796 | 0.465       |

*Sport-Plus-Music: Music vs. Reading*

| Mean 1 | SD 1  | Mean 2 | SD 2  | Effect Size |
|--------|-------|--------|-------|-------------|
| 4.234  | 0.584 | 3.661  | 0.796 | 0.823       |