CONGRUENCY BETWEEN EXPECTATIONS OF HIGH SCHOOL COACH AND ATHLETE OFF-SEASON ACTIVITIES: IS SPORT DIVERSIFICATION A REALISTIC OPTION?

by Justin Samuel DiSanti

The purpose of this study was to explore interscholastic coaches’ and athletes’ perceptions of attendance-expectancy for scheduled off-season activities for athletes competing on male and female basketball teams, as well as how those expectations were related to their views of specialization in high school sports and athlete perception of burnout. Additionally, this study examined the level of congruency between coach and athlete perceptions regarding attendance expectations for team off-season activities, and compared these perceptions and their corresponding implications to recommendations for optimized talent development by Cote’s Developmental Model of Sport Participation (Cote, Lidor, & Hackfort, 2009). Participants were separated into coach and athlete groups and completed a detailed measure of their perceptions of activity attendance during the eight-month off-season. Results indicated that coaches were likely to report off-season activities as more voluntary than the athlete participants, illuminating the incongruent nature of off-season activity perceptions between these two groups.
CONGRUENCY BETWEEN EXPECTATIONS OF HIGH SCHOOL COACH AND ATHLETE OFF-SEASON ACTIVITIES: IS SPORT DIVERSIFICATION A REALISTIC OPTION?
A Thesis

Submitted to the
Faculty of Miami University
in partial fulfillment of
the requirements for the degree of
Master of Science
Department of Kinesiology and Health
by
Justin DiSanti
Miami University
Oxford, OH
2015

Advisor _________________________________
Melissa A. Chase, PhD
Reader _________________________________
Robin S. Vealey, PhD
Reader _________________________________
Thelma S. Horn, PhD
# Table of Contents

<table>
<thead>
<tr>
<th>Chapter One: Introduction</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is Talent?</td>
<td>1</td>
</tr>
<tr>
<td>Talent Development</td>
<td>2</td>
</tr>
<tr>
<td>Contemporary Considerations for Developing Talent in Youth Sport</td>
<td>3</td>
</tr>
<tr>
<td>Specialization vs. Diversification</td>
<td>3</td>
</tr>
<tr>
<td>Physical Overuse Injuries</td>
<td>6</td>
</tr>
<tr>
<td>Burnout</td>
<td>8</td>
</tr>
<tr>
<td>Coach Impact</td>
<td>10</td>
</tr>
<tr>
<td>High School Sport</td>
<td>11</td>
</tr>
<tr>
<td>Models of Talent Development</td>
<td>14</td>
</tr>
<tr>
<td>Theory of Deliberate Practice</td>
<td>14</td>
</tr>
<tr>
<td>Bloom’s Study of Expert Performers</td>
<td>15</td>
</tr>
<tr>
<td>Long-Term Athletic Developmental Model (LTAD)</td>
<td>16</td>
</tr>
<tr>
<td>Cote’s Developmental Model of Sport Participation</td>
<td>19</td>
</tr>
<tr>
<td>Contemporary Talent Development Practice</td>
<td>21</td>
</tr>
<tr>
<td>Gaps in Talent Development Literature</td>
<td>22</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter Two: Method</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>24</td>
</tr>
<tr>
<td>Participants</td>
<td>24</td>
</tr>
<tr>
<td>Research Design</td>
<td>25</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>25</td>
</tr>
<tr>
<td>Demographic &amp; Sport Background Questionnaire</td>
<td>25</td>
</tr>
<tr>
<td>Basketball Off-Season Activity Survey</td>
<td>26</td>
</tr>
<tr>
<td>Basketball Specialization Questionnaire</td>
<td>27</td>
</tr>
<tr>
<td>Athlete Burnout Questionnaire</td>
<td>27</td>
</tr>
<tr>
<td>Procedures</td>
<td>28</td>
</tr>
<tr>
<td>Proposed Analysis &amp; Practical Implications</td>
<td>30</td>
</tr>
<tr>
<td>Hypotheses</td>
<td>30</td>
</tr>
</tbody>
</table>
Chapter Three: Results

Descriptive Findings

Basketball Off-Season Activity Survey
Basketball Specialization Questionnaire
Athlete Burnout Questionnaire
Coach and Athlete Perceptions of Off-Season Activities
Athlete Perceptions of Off-Season Activities and Burnout
Athlete Perceptions of Burnout and Sport Specialization
Participant Perceptions of Sport Specialization and Off-Season Activities
Exploratory Analysis

Off-Season Activity Perceptions and Basketball Experience
Off-Season Activity Perceptions and School Size

Chapter Four: Discussion

Perceptions of Attendance-Expectancies for Off-Season Activities
Perceptions of Sport Specialization
Athlete Burnout
Implications for Cote’s Developmental Model of Sport Participation
Assumptions
Limitations

Conclusions & Further Research

References

Appendix A: Initial Contact E-mail (Coach Participants)
Appendix B: Initial Contact E-mail/Script (Used to Recruit Athlete Participants)
Appendix C: Research Description for Participants (Coaches)
Appendix D: Research Description for Participants (Athletes)
Appendix E: Informed Consent Form – Coach
Appendix F: Informed Consent Form – Location
Appendix G: Informed Consent Form – Athlete
Appendix H: Participation Assent Form
Appendix I: Coaches Demographic and Sport Background Questionnaire
Appendix J: Athlete Demographic and Sport Background Questionnaire 74
Appendix K: Basketball Off-Season Activity Survey 76
Appendix L: Basketball Specialization Questionnaire (Coaches) 79
Appendix M: Basketball Specialization Questionnaire (Athletes) 81
Appendix N: Athlete Burnout Questionnaire 83
Appendix O: Debriefing Form 85
List of Tables

Table 1: Frequency of Off-Season Activities in the 7-Month High School Basketball Off-Season 41
Table 2: Monthly Attendance Expectancies by Month & Activity 42
Table 3: Attendance Expectancy by Activity 43
Table 4: Basketball Specialization Questionnaire Results 44
Table 5: Athlete Burnout Questionnaire Descriptive Results 45
Table 6: T-test for Equality of Monthly Activity Means between Coach and Athlete Participants 47
Table 7: Monthly Attendance Expectancies for Combined Off-Season Activities 47
List of Figures

Figure 1: Monthly Attendance Perceived Expectancies for Combined Off-Season Activities
CHAPTER ONE
INTRODUCTION

“Hello, this is Coach Mike Krzyzewski from Duke University and I was wondering, do you have a few spare minutes for me to talk to you about joining our basketball program next year?” Regardless of their favorite sport, team, or coach, many young athletes imagine this scenario of receiving a scholarship offer, or even going on to be drafted into professional sports. The public visibility of collegiate and professional sport teams creates the highest mark for young athletes to shoot for, but the reality of the matter is that only a miniscule percentage of youth sport participants will ever reach this elite level of performance. However, this harsh realism is not an ideal attitude for youth sport coaches, parents, and practitioners to adopt because it would most likely squash much of the enthusiasm, passion, and innocence that helps makes youth sport such a prevalent aspect of young people’s lives. The question then becomes, how should youth sport programs aim to structure their athletes’ experiences in order to maximize their chances for reaching these top performance levels, while still providing enjoyment and holistic personal development for the athletes who will never reach the podium in the above scenario? To answer this question, the field of sport psychology has gathered knowledge and created recommendations for the most optimal environment to develop talent in youth athletes. This chapter will begin with broad overviews of the concepts of talent and talent development, before detailing contemporary considerations of talent development such as specialization vs. diversification, athlete burnout, and the coach’s impact on development. This will lead to discussion of the current models and recommendations for talent development. While these talent development models have provided solid frameworks for developing elite athletes, this study may illuminate the flawed nature of their seemingly universal application to high school athletes.

What is Talent?

Whenever tuning into a sport game or match, it does not usually take very long to observe an athlete displaying elite levels of performance. Whether showing the strength to outmuscle an opponent, the body control to make a shot while being fouled, or the speed to break away from the last defender, there are countless easily-identifiable examples of athletic prowess. However, these “consistent superior performances over an extended period of time” that are indicators of athletic “expertise” are often mislabeled as displays of “talent” (Vealey & Chase, in
Rather than the observable end products that spectators typically associate with superior performance, talent instead refers to “innate or inborn abilities” or “raw ingredients” that an athlete possesses such as exceptional upper body strength, foot speed, or hand eye coordination (Cobley, Schorer, & Baker, 2012). These abilities or qualities can be “identified at an earlier time,” but used to predict expertise in their future development (Vealey & Chase, in press). Howe, Davidson, and Sloboda (1998) broke down this concept further into five characteristics of talent: 1) Talent is based on genetic structures and therefore partly innate; 2) Its full effects may not be fully evident at an early age, but there will be some early indications, allowing trained people to identify the presence of talent before mature performance has been demonstrated; 3) Early indications of talent can be used for predictive purposes regarding which athletes are most likely to excel; 4) Only a minority of children possess a high-degree of talent; and 5) Talent is domain-specific (e.g., specific domains of sport or types of sport). While talent may manifest itself as expert performance via rigorous training, sufficient opportunity, and facilitative instruction, athletic talent is only a piece of the puzzle that results in expert-level performance (Vealey & Chase, in press). Possessing a high degree of talent may grant an athlete an early leg-up on their peers, but it is how they holistically develop this natural level of ability that is most critical to their future athletic success.

**Talent Development**

It should come as no surprise that bridging the gap between early signs of athletic talent and the development of athletic expertise has become a highly popular avenue of study in the field of sport psychology, especially in relation to youth sport. Athletic excellence is accompanied by a wealth of personal, social, and potentially economic benefits; therefore, parents, coaches, practitioners, and athletes alike yearn to harness their full abilities to maximize their performance outcomes (Matz, 2014). This overarching concept has been conceptualized in an area of study known as “talent development,” which “refers to providing the most appropriate environment for athletes to stimulate their learning and performance” (Vealey & Chase, in press).

Talent development, at its most basic level, is seen as the facilitation of athletic growth through the combination of innate abilities and learned skills (Davids & Baker, 2007). Metaphorically, a person’s inborn abilities are seen as their talent “hardware,” and provide a natural leg up in associated activities (e.g., long limbs, high ratio of fast-twitch muscle fibers,
20/20 vision). The type of training, instruction, and developmental practices they receive are their “software,” and help athletes develop their brains to handle sport-specific skills and tasks that are critical to success in their sport (Epstein, 2013; Williams & Ward, 2003). The consensus of talent development researchers is that both of these pieces are vital to reaching athletic expertise, though unsurprisingly athletes who possess more favorable biological advantages may experience greater effects from training in what is known as the “multiplier effect” (Ceci, Barnett, & Kanaya, 2003).

A traditional assertion of youth sport programs is that the quest to develop athletic talent results in positive personal, social, and psychological outcomes, and this notion makes sport participation intuitively appealing for players, coaches, and parents alike (Gould & Carson, 2008). A review of literature associated with youth sport programs shows that studies have tended to validate this claim through empirical and descriptive support (i.e., Fraser-Thomas, Cote, & Deakin, 2005; Gould & Carson, 2008). However, furthering the field’s understanding of the multitude of specific contexts, characteristics, and other mediating factors that guide positive athletic and personal development remains vital to ensuring developmentally-appropriate experiences for youth athletes (Camire, 2014).

**Contemporary Considerations for Developing Talent in Youth Sport**

A nearly universal belief of advocates of youth sport is that participation in these programs serves as an inherently positive source in shaping these young persons’ lives. However, research has shown that while this may be the case, this participation must be diligently planned and structured in order to increase the likelihood of this positive experience (Gould & Carson, 2008). An indisputable element of athletics is the variation that exists not just within the athletes at each level of competition, but within leagues, schools, and individual teams as well (Vealey & Chase, in press). Each athlete possesses different passions, goals, and abilities that shape their sport experiences. Due to this diversity in the population of youth athletes, those who are responsible for shaping their sport experiences should consider several important aspects to increase their athletes’ chances of receiving a positive impact through participating.

**Specialization vs. Diversification**

A core consideration in tailoring youth athletes’ experiences to their talent levels and motivations for participation is knowing how – and when – athletes should begin to limit the amount of sports they play. Specialization is defined as “an investment in a single sport through
systematic training and competition, typically including year-round participation in that sport, to pursue proficiency and enjoyment in a ‘signature’ activity” (Vealey & Chase, in press). The opposite of specialization is deemed “diversification,” meaning that their involvement in sports is spread across multiple activities.

The notion of early specialization for youth athletes who are aiming for the highest level of sport is intuitively appealing. How can a player be the best if they aren’t doing as much practicing as they can, especially when others are? Youth athletes may participate on local club teams, travel teams, interscholastic competitions, and off-season training programs all for just one sport, creating a year-round demand for training and participation (Matz, 2014). This strenuous agenda may lead to maximal time on the playing field, but is this participation a precursor to a long, enjoyable sporting experience? Even more importantly, do coaches and administrators at the top levels of sport embrace participating in this fashion?

Interestingly enough, several top coaches and administrators advise against early sport specialization. In an interview found in ESPN Magazine, Pittsburgh Pirates General Manager Neal Huntington stated "In our minds, it’s a huge positive for a high school player to be a multisport athlete. They tend to be more athletic, better leaders and better teammates. Single-sport athletes tend to have a higher burnout rate and/or appear to have lost some of the passion for the game because it was all they knew before it became their profession.” University of North Carolina soccer coach Anson Dorrance, who is a seven-time winner of national coach of the year, echoes this message: “We want the kid that wants to beat you in everything – even tiddlywinks.” (Matz, 2014). While each team or coach is entitled to their own philosophy about specializing athletes, these quotations succinctly sum up the recommendations of the sport psychology literature and the trending viewpoint of practitioners in terms of specialization vs. diversification. (Cote, et al., 2009).

As mentioned previously, each athlete should be treated on a case-by-case basis in terms of determining when the proper time to specialize in their sport. However, a general guideline can be a useful place to start with this decision, and youth sport researchers and professional organizations typically recommend that athletes diversify their sport participation until at least 12 years of age (American Academy of Pediatrics, 2000; National Association for Sport & Physical Education, 2010). Others recommend an even longer period of protected diversification, such as age 15 (Wiersma, 2000) or through high school (Vealey & Chase, in press). Benefits of early
diversification over specialization include developing a variety of fundamental motor skills that can be applied to multiple sports and activities, providing more sport options by increasing overall athleticism, helping the athlete rest and recharge in the off-season, and reducing the prevalence of overuse injuries (Vealey & Chase, in press; Matz, 2014). These benefits provided by early sport generalization should make this practice the clear norm for young athletes, which begs the question of why so many athletes still choose to specialize early.

One of the major causes of early specialization is the perception by parents, coaches, and the athletes themselves that focusing on one sport will allow them to either get ahead of, or at least keep up with their peers (Malina, 2010). An encouraging finding of multiple research works is that for many elite athletes, their developmental experiences involved early diversification and the sampling of multiple sports at an early age (Cote, et al., 2003; Gulbin, Oldenziel, Weissensteiner, & Gagne, 2010; MacNamara, Button, & Collins, 2010; Soberlak & Cote, 2003). These findings were even replicated in a survey of over 4,000 Olympic athletes, who on average didn’t begin participating in their sport until around age 12 (Gullich, 2007, as cited in Vaeyens, Gullich, Warr, & Philippaerts, 2009). Other research has shown that even after increasing the emphasis on their sport during their specializing years, elite athletes often maintained their involvement in other sporting activities for enjoyment and cross training during the off-season (Cote, et al., 2003). From reviewing the literature it becomes clear that early specialization is not required to become an elite athlete; however, every athlete is different and this makes the determination of when to specialize very challenging. What is important, however, is that the athlete is given the proper leeway to assimilate their sporting experience to their personal characteristics such as their goals, motivations, passions, and personality (Vealey & Chase, in press).

Another important consideration in determining the right time to specialize is taking into account the characteristics of the actual sport. Each sport presents its own set of demands and level of complexity, and this has been a factor when researching specialization in elite performers. Sports that require more body coordination, technical know-how, and sport-specific movements (i.e., ice hockey, hitting a baseball, gymnastics) require more training time to master than sports with more basic movements (i.e., track and field, wrestling, cycling, and rowing) (Hodges & Starkes, 1996; MacNamara, et al., 2010). Athletes competing in the former category are more likely to experience benefits from early sport specialization, while the sports requiring a
broader, more basic skill set are best developed through sport generalization (Cote & Lidor, 2013). Additionally, the age at which athletes reach their performance peak may vary between sports (Matz, 2014). For example, it is entirely normal to see a 16 year-old competing in Olympic figure skating or gymnastics due to their decreased body fat percentage and increased flexibility; however, these same characteristics would put a 16 year-old Olympic ice hockey player at great risk and allowing them to compete would be a completely impractical idea. Athletes who compete in sports skewed toward younger peak performance will logically benefit from early specialization due to this accelerated time clock (Balyi & Hamilton, 2004; Vaeyens et al., 2009). However, even in cases where early specialization is recommended, athletes must be careful to balance their sport participation with other parts of their young lives.

When athletes engage in a patterns of sport specialization that are incongruent with their levels of motivation, passion, and commitment, they will almost inevitably experience a negative impact on their holistic development. As the previous review of literature implies, these patterns of involvement tend to be skewed much more towards excessive than insufficient participation. One such pattern is that of exclusive specialization, in which athletes sacrifice the time and effort necessary to compete in other sports and extracurricular activities in order to zero-in on competing and training year-round in a single sport. This exclusivity may result in “overspecialization,” meaning that the athlete trains and competes year-round to focus on reaching expert level of performance, to the point where they “sacrifice their psychological development and wellbeing as well as participation in most all other activities typical of kids their age” (Vealey & Chase, in press). Even athletes with exceptional passion and commitment to their sport are likely to be harmed by the practice of overspecialization, physically as well as psychologically.

**Physical Overuse Injuries**

One easily observable negative outcome of overspecialization for youth athletes is the heightened prevalence of physical overuse injuries in narrowly-specializing athletes (Vealey & Chase, in press). This growing problem in youth sport is the logical outcome of taxing the same muscles, joints, and bones repetitively throughout the training progress, which leads to a longitudinal wearing down of these body parts and the heightened risk of injury (Matz, 2014). The estimated prevalence of competitive athletes who will suffer an overuse injury during their career ranges from 45-55%; however, these estimations may actually be too low because they
only account for injuries that lead to time lost in competition or training, leaving out instances in which athletes push through the injury while continuing to compete (DiFiori et al., 2014). The prevalence of overuse injuries has consistently been shown to rise in accordance with heightened training volumes, and the trend for increasingly earlier specialization is particularly problematic in this regard, as the growing skeletons of youth athletes create an elevated risk that an overuse injury will stunt their long-term physical development (DiFiori et al., 2014). What’s more, athletes who diversify their sport experience create a more balanced wear-and-tear on their body, and by taking a break from one sport, they are able to provide their most heavily-burdened body parts with some much needed recovery time (Vealey & Chase, in press). However, some recent research on overuse injuries indicate that prevalence relates to year-round competition, but does not significantly differ between groups playing one sport year-round vs. those who vary sport participation (Cuff, Loud, & O’Riordan, 2010). While this finding casts some doubt on the notion of sport diversification as a preventative strategy for overuse injuries, these results emphasize the dangerous nature of overlapping year-round training schedules for athletes participating in multiple sports. No parent wants to see their child get hurt from playing sports, but nevertheless research has shown that pressure from parents and coaches is often a major factor in overspecialization (Cote & Lidor, 2013). The problem does not lie in a lacking of volition, but a lacking of knowledge: many parents and coaches simply do not know when a young athlete is physically ready to engage in heightened training, which in turn leads to a higher risk of suffering an overuse injury. This finding stems from the difficult dilemma that parents and coaches face when deciding how hard to push their young athlete, without pushing too far.

According to the recommendations of sport researchers and practitioners, the key is to guide youth athletes on the right path for their own goals, and to exclude any personal desires or mandates for their sport participation (Cote, et al., 2009; Vealey & Chase, in press). Early specialization can be beneficial; however, this practice must be employed carefully, because when the athlete isn’t the one making the decisions, there is a good chance that his or her long-term outcomes from sport participation will be negative. Studies have found that athletes who began with similar time commitments for early participation but exclusively specialized by age 13 exhibited higher dropout rates in their respective sports (i.e., ice hockey, swimming) than peers who diversified their sport participation past this age (Fraser-Thomas, Cote, & Deakin, 2008; Wall & Cote, 2007). Even if athletes who exclusively specialize at an earlier age persist in
their sport, they are more likely to experience the occurrence of negative outcomes down the road.

**Burnout**

One negative outcome stemming from developmentally-inappropriate sport participation that has received significant attention – both in the scholarly and popular sport community – is athlete burnout (Harris & Watson, 2014). Even the most passionate athletes may feel their sense of enjoyment in their sport waning periodically. However, when this negative state becomes the athlete’s typical disposition, it becomes characterized as “burnout.” Athlete burnout can be broken into three major dimensions: 1) physical and emotional exhaustion; 2) reduced sense of accomplishment in their sport; and 3) devaluation of sport (Raedeke & Smith, 2001). These symptoms of burnout greatly hinder an athlete’s ability to enjoy sport and fully develop, so identifying factors that may increase an athlete’s risk of burnout is an important goal.

Athlete risk factors for developing burnout can be sorted into three general categories: overload factors, climate factors, and personality factors (Vealey & Chase, in press). Overload factors refer to when an athlete trains excessively, feels too stressed or pressured by the demands of themselves or others, or has inadequate time to recover after training or competition. This becomes particularly important for multiple sport athletes, as their recovery time for one sport will inevitably bleed into training time for another, especially in cases of year-round training programs.

Climate factors that create a risk for burnout in athletes include problems with parents and coaches, not feeling that they have the proper social support, and feeling trapped in their sport participation (Vealey & Chase, in press). This feeling of entrapment can be when an athlete does not want to participate in a sport, but feels that a coach, parent, or other source of pressure disallows them from quitting (Raedeke, 1997). Another source of pressure may even be personal, in that the athlete knows deep-down that they love their sport and know the importance it holds with them, creating pressure to persist competing in their current environment even if this isn’t leading to enjoyment (Raedeke & Smith, 2001). One part of this climate factor that may be added through the scope of this study is in cases where the athlete doesn’t necessarily feel trapped to participate in one sport when they want to quit, but instead when an athlete feels trapped in one sport when they also wish to participate others, but the demands of the current sport disallow them from doing so. This study will delve into this topic by examining how
perceptions of off-season activities factor into their perception of diversification as a realistic goal, and in turn affects their level of burnout.

While coaches, parents, and practitioners can take steps to minimize the risk for burnout by addressing overload and climate factors, some risk factors may lie within the personality of the individual athlete. One major precursor of elite performance is that the athlete is highly-passionate about their sport (Gulbin et al., 2002; Vallerand, Pelletier, & Koestner, 2008). However, some athletes take this passion too far, and become obsessive about perfecting their craft, which relates to higher levels of burnout (Hill, 2013; Martin & Horn, 2013, as cited in Vealey & Chase, in press). These types of athletes feel that making mistakes are unacceptable, prescribe inflexible goals that may realistically exceed their ability, and focus on results over improvement (Vealey & Chase, in press).

Many of these risk factors align quite closely with the negative outcomes discussed above for early specialization, and research linking these two concepts validates their proximity. Youth athletes competing exclusively in a variety of sports such as gymnastics, swimming, and diving reported feeling more “emotionally exhausted” (a key factor of burnout) than their peers who diversified their sport participation (Strachan, Cote, & Deakin, 2009). Similar findings about burnout were shown in samples of elite tennis and ice hockey players, with early specialization extending to elevated dropout rates as well (Gould, Tuffey, Udry, & Loehr, 1996; Wall & Cote, 2007). One explanation of this linkage deals with how sport factors into the shaping of one’s identity.

Over-emphasizing performance and participation in one sport creates a “unidimensional identity” for athletes (e.g., “soccer player,” “softball player,” “swimmer,” etc.) that stunts their ability to develop other domains of their identity (Vealey & Chase, in press). Restricting a young person’s identity to one defining characteristic (whether sport-related or otherwise) is highly-maladaptive for long-term development, and has been linked not just to burnout, but also other psychological dysfunction (Coakley, 1992). Diversifying participation in sport and other extracurricular activities at an early age helps disperse the weight placed on each attribute of identity, and children who do this have been shown to have more functional psychological profiles than those who exclusively specialize (Zarrett & Lerner, 2008). Ensuring that young athletes separate their sport talent from their overall identity is a critical recommendation for
youth development, and avoiding this “unidimensional” attitude towards identity can help mediate burnout (Tofler & DiGeronimo, 2000; Coakley, 1992).

Research has confirmed that experiencing burnout is a common experience for athletes, with the majority of surveyed athletes reporting feeling burned out at some point in their athletic career (Gustafsson, Kentta, Hassmen, & Lundqvist, 2007; Raedeke & Smith, 2004). However, the prevalence of this phenomenon may be overstated, as most of burnout that athletes experience is temporary and as low as 1-2% of youth athletes actually experience severe burnout (Harris & Watson, 2014). While severe cases of burnout are less common, all levels of severity can be harmful to athletic development and may lead athletes to drop out of sport participation. To help avoid this problem, sport researchers and educators have put forth several recommendations for managing burnout.

A highly beneficial primary step for managing burnout is being aware of the previously listed risk-factors, as well as early indicators of burnout. Athletes may explicitly state feeling physically or emotionally worn out, but paying special attention to body language, performance, and attitude can also serve as precursors to identifying burnout (Vealey & Chase, in press). Being aware of situational and personal risk factors can also help to manage burnout at an early stage, including working to create an atmosphere of facilitative forms of passion and perfectionism for the athletes. Even if an athlete, their parents, and their coaches agree to exclusively specialize in one sport, maintaining other non-sport related extracurricular activities of interest helps create a multidimensional identity and avoid burnout. Lastly, the activities of athlete training programs should be diverse and challenging, which helps to avoid the feeling of monotony that sometimes accompanies the repetitive nature of training (Vealey & Chase, in press). By having a detailed breakdown of the type of training that athletes do on a month-to-month basis as well as ratings of coach and athlete perceptions of specialization, this study will provide empirical evidence that illuminates how effectively coaches are utilizing these recommendations in off-season training programs.

Coach Impact

A primary factor in effectively developing youth talent and avoiding negative outcomes from sport participation for athletes is their coach. The messages of coaches are the most critical part of an athlete’s perception of their sport climate even at elite levels (Pensgaard & Roberts, 2002), and affecting players through a built team climate is viewed as much more efficient than
attempting to alter each player’s individual disposition (Whitehead, Andrée, & Lee, 2004). Therefore, reviewing literature regarding how coaches can positively impact the talent development environment provides a template for examining the coaches in this study.

One important consideration for coaches is the type of messages that are stressed to motivate their athlete. Athletes who compete for coaches who focus more on mastering and improving skills rather than won/loss outcomes show higher ratings of enjoyment, satisfaction, and positive affect from training and competing (Boixadós, Cruz, Toregrosa, & Valiente, 2004; Carpenter & Morgan, 1999; Ntoumanis & Biddle, 1999; Seifriz, Duda, & Chi, 1992). These positive outcomes help mediate situational and personal risk factors for burnout (Duda, Balaguer, Moreno, & Crespo, 2001), and teaching effective time management and coping strategies can further help in this regard (Kim & Duda, 2003). A helpful philosophy to effectively developing youth talent through coaching is to balance the athlete’s “triad” of optimal performance, optimal development, and optimal experience (Vealey, 2005). While the goals for each of these aspects may vary between athletes, making a concerted effort to avoid over-emphasizing any part of this triad (especially the often overstressed optimal performance) can be highly beneficial in guiding athletes towards positive participation outcomes.

Studying the factors that play a role in effective talent development is an important part of optimizing this process for each athlete. However, special attention must be paid to the context-specific characteristics that will also play a critical role. One such context that is often seen as a fulcrum of specialization vs. diversification (Camire, 2014) and has shown a spike in burnout rate is that of athletes reaching high school age (Harris & Watson, 2014). Therefore, examining the culture of high school sport can be informative in better understanding why this trend may be occurring.

**High School Sport**

As mentioned above, one of the most difficult aspects of determining how to optimize youth talent development is accounting for the plethora of situational and contextual factors that may affect a participant’s experience (Cote & Lidor, 2013). Therefore, in this study the area of high school sport participation was exclusively used to continue furthering the knowledge base on how this particular context develops the multiple facets of an athlete’s development. Reviewing the literature on high school sport reveals that the term “school sport” is overgeneralized and used without critical regard to the contexts and situational characteristics
that may greatly alter meanings within this broad term (Pot & van Hillvoorde, 2013). For the purposes of this study, the popularized version of “school sport” in the United States of America (USA) was used to refer to athletic activities occurring outside of school hours in which interscholastic competition is the dominant form of play (Camire, 2014). Typically these leagues are structured from small-to-large, allowing for progression from local, regional, state, and national competitions and championships (Pot & van Hillvoorde, 2013).

High school sports are a very meaningful area in which to study talent development because of their prevalence in society, particularly in the USA (Camire, 2014). High school sport continues to be near the very top of the list of extracurricular activities for the high school age, with upwards of 7.5 million American youths estimated to participate annually (Larson, 2001; NFHS, 2011). Though high school sports still have very strong national participation, reports have shown that these numbers are trending downward, especially in what are considered the “major sports” (e.g., football, baseball, basketball) (Danish, Forneris, & Wallace, 2005).

One of these major sports that was chosen for this study is basketball. The National Federation of State High School Associations (NFHS) reports basketball as the sport with the third highest participation in the United States behind only track and field and football (NFHS, 2013). This ranking is even more impressive considering the much smaller roster size of basketball teams relative to the sports ranking above it. Basketball also is a good choice for this study because schools typically have both boy’s and girl’s teams, and separate levels for varsity, junior varsity, and underclassmen teams, allowing for a level of diversity even within the player population. While this sport is not meant to be overly-generalized to other sport domains, gaining knowledge in terms of outcomes from basketball participation may be useful in understanding why high school sport participation numbers are on a general decline (Danish et al., 2005).

One of the factors that has been noted to hinder a holistic understanding of high-school sport is the tendency for studies of this domain to focus on the positive impact of sport participation in order to validate the claim that sports are inherently positive to youth development (Bailey et al., 2009; Fraser-Thomas et al., 2005; Camire, 2014; Coakley, 2011). Additionally, the majority of these studies possess an underlying selection bias of athletes who have succeeded with their on-field performance and off-the-field outcomes, creating a rose-colored lens effect for high school sport involvement that doesn’t account for the opposite end of the participation spectrum (Camire, 2014). Reviewing the limited literature available dealing
with these negative outcomes indicates their equal importance in determining how to appropriately structure youth sport experiences, and specific situational factors should be studied to add depth to this knowledge (Camire, 2014).

Another reason that interscholastic sport participation is an ideal context to study talent development in terms of specialization is that these programs are nested in organizations (e.g., OHSAA, PIAA, WVSSAC) that create guidelines and codes to influence training schedules, which in theory should allow athletes to participate in multiple sports and still have enough time for the other duties of life that accompany a high school student. For example, the Ohio High School Athletics Association (OHSAA) has an entrenched off-season window for sports falling within their fall, winter, and spring sports. Basketball falls within the winter sport calendar, creating a distinct off-season period (i.e., February-September), as well as guidelines for allowed activities (e.g., open gyms, physical training programs, team camps) and hours for these activities (OHSAA.com). The inferred purpose of this 8-month window is to allow athletes to engage in multiple sports and recharge from the previous season. Though these interscholastic associations provide these as resources for what coaches “can and cannot do,” they are termed as “guidelines,” which infers that they are meant to inform coaches of how they should be constructing off-season programs, not providing strict rules for off-season activities. This oversight allows coaches to follow the guidelines to whatever extent they feel fit, including not following them at all. Therefore the nature of how closely coaches follow these guidelines in constructing their off-season activities is highly ambiguous. Moreover, the terminology used for activities can be highly influential in shaping athlete perceptions of the expectations of their attendance. Depending on numerous situational characteristics, an activity deemed “voluntary” may not be interpreted by the players as such. There is also much to be uncovered about how the coaches communicate their expectations to their players, and if these expectations are congruent between themselves and their players. The question is then raised about how effective these rules are in creating an environment that breeds athletic sport diversification, and what kind of consequences accompany playing multiple sports? For a framework that can be used to answer this question, we turn to the models and recommendation of athletic talent development researchers for developmentally-appropriate practices.

Models of Talent Development
Developing talent is often popularly viewed as an abstract mixture of inherited traits, proper guidance, and opportunity (Vealey & Chase, in press). Though there is no standardized “recipe” for developing talent due to the multitude of personal, environmental, and contextual factors that mediate athletic development, talent development theorists have created models and practical suggestions in order to guide effective athlete developmental practices. These conceptual frameworks create a more systematic approach to better aid parents, coaches, and all responsible for youth development in harnessing their efforts to maximize a young athlete’s talent, as well as ensure an enjoyable and sustainable athletic experience.

Theory of Deliberate Practice. One of the first (and most popularly referenced) theories that was created for this purpose is Ericsson’s “Theory of Deliberate Practice,” more commonly referred to as the “10,000 hours” prescription (Ericsson, Krampe, & Tesch-Romer, 1993). Ericsson’s study on violinists is considered one of the seminal works on talent development, in which he attempted to bring a level of quantification to the art of developing talent. In this study, violinists were stratified into three groups (elite, slightly below, and average), and their reported practice habits showed a highly positive correlation to this level of performance (10,000 hours vs. 75,000 hours vs. 50,000 hours for each respective group). The finding that practice related positively with performance level validated the importance of training in developing expertise, and the quantitative findings of this initial study resulted in the “10,000 hours prescription.” However, Ericsson honed in this theory further to not just account for the quantity of practice, but the quality as well. To reach expert level of performance, Ericsson posited that practice must be “a highly structured activity with the explicit goal to improve performance” that may not be “inherently or incessantly enjoyable” for an extended period of time, a concept which he termed as “deliberate practice” (Ericsson et al., 1993).

While the positive relationship between time practiced and performance level has been vastly supported in the literature, research on the exact prescription of 10,000 is more equivocal. For example, international soccer and field hockey players estimated that they accumulated 10,000 hours of training before reaching expert level performance, matching this prescription (Helsen, Hodges, Winckel, & Starkes, 2000; Helsen, Starkes, & Hodges, 1998). However, studies involving other popular sports (i.e., field hockey, ice hockey, basketball) have estimated the amount of training time to reach expert-level performance as much lower, ranging between 3,000 and 6,000 hours (Baker, Cote, & Abernethy, 2003; Bruce, Farrow, & Raynor, 2013;
Soberlak & Cote, 2003). Moreover, athletes who stay committed to this rigorous sustained training schedule have been shown to experience significant enjoyment through their training (Scanlan, Carpenter, Schmidt, Simons, & Keeler, 1993), an aspect that differs from Ericsson’s original work but is logically predictive of athlete persistence and commitment (Vealey & Chase, in press).

Though the Theory of Deliberate Practice has generally been supported through research (Cote, Baker, & Abernathy, 2007) and provided the necessary impetus for more critical examination of talent development, more systematic models were needed to account for the multitude of other personal and contextual factors that guide a highly-talented youth to expert level performance.

Bloom’s Study of Expert Performers. An early model that further dissected optimal practices for developing talent stemmed from Bloom’s observations of expert performers. In his original study, experts in a number of domains such as athletics, music, art, and science were observed in a 4-year longitudinal study to take a more processual approach to talent development (Bloom, 1985). This study acknowledged the importance of time committed to training, but added insights about how social, emotional, and interpersonal dynamics factor into talent development. These observations allowed him to create a three-stage model for development, which was also important because it acknowledged that optimal practices for improvement vary between stages of development (Vealey & Chase, in press).

The first step of this model is the initiation stage, in which activities should be characterized by fun and building a love for the sport, with a minimal emphasis on outcomes. At this stage it is necessary for parents to take the initiative to allow young athletes to sample multiple sports and activities, providing opportunities for their children to grow and decide for themselves what they like. Coaches should be encouraging and warm to build up confidence and provide an enjoyable experience, and technical aspects of the sport tend to be downplayed during the initiation stage. The next stage in this process is the development stage, in which children begin to assimilate the activity into their identity and become “hooked” on participating. This stage is accompanied by a major increase in training time, which results in necessary sacrifices of other competing activities by both parents and athletes. Coaches in this stage should be more technically knowledgeable and work to develop strong interpersonal relationships with their players, and at this stage there is much more focus on achievement and technique. Bloom’s final
stage is the perfection stage, in which the athlete has reached expert-level performance and now focuses on sharpening their high-level skills. Athletes in this stage tend to have a level of obsession with their sport, which makes their participation a dominant force in shaping their life and identity. This stage is also marked by increasingly autonomous athletes, with parents and coaches serving much more as support structures than instructors (Bloom, 1985; found in Vealey & Chase, in press). Bloom’s model was a critical step in the scientific study of talent development, including perceptual and cognitive aspects to supplement the training prescriptions offered by earlier researchers such as Ericsson. These observations of expert performers served as a shaping force for the developmental models to follow, but additional research was required to further delve into the social, motivational, and psychological influences on developing talent (Cote & Lidor, 2013).

Long-Term Athletic Developmental Model (LTAD). A more recent approach to talent development that may help optimize the way in which youth sport programs aim to develop talent is Balyi and Hamilton’s Long-Term Athletic Development Model (LTAD) (Balyi & Hamilton, 2004). The LTAD model takes into consideration the type of sport when determining the nature of specialization, sorting sports into the broad groups of “early specialization” and “late specialization” sports. The nature of peak performance in these respective categories is transparent through their nomenclature, as athletes in early specialization sports (e.g., gymnastics, diving, figure skating) tend to possess optimal physicality and exhibit peak performance at a significantly earlier age than late specialization sports (e.g., football, soccer, track and field). Though Balyi and Hamilton make the distinction that their model must be even further adjusted to the demands of each respective sport within these categories, they present a general four-step model for early specialization sports, while late specialization sports uses a six-step model. To break down the LTAD, it is beneficial to first work through the late specialization track, as late specialization sports follow the same four steps as early specialization sports while also allowing for two additional introductory stages (i.e., the FUNdamental stage and learning to train stage) (Balyi & Hamilton, 2004).

The first stage of late specialization sports is the “FUNdamental stage,” in which the primary objective is to build a wide foundation of overall motor skills through fundamental movement skills that can be later honed down and focused on more sport-specific activities. These includes basic locomotor, balance, and manipulative skills. Breeding enjoyment, fun, and
a positive attitude through the sport and movement activities is a key component at this stage. However, it is also recommended that these activities have a degree of structure to ensure proper form, technique, rules, and ethics are developed at a young age. Developing these proper fundamentals will be a useful first step for future athletic and fitness endeavors, regardless of what type of sport or activity in which the child will later participate, as well as if they do so in a competitive or recreational fashion (Balyi & Hamilton, 2004).

The second stage of this model is known as the “learning to train stage.” Youth athletes can build off their foundational skills from stage one, and now begin to apply them to a sporting context to create a stable of various sport-related skills. Balyi and Hamilton view this stage as the developmentally-appropriate point for children to begin developing “general overall sport skills that are the cornerstone of all athletic development.”

The next step in their progression should be Stage 3, referred to as the “training to train stage.” As mentioned previously, Stage 3 of the late specialization model coincides with step one of the early specialization track, and the two follow the same path through the remainder of the model’s progression. During this stage of the LTAD, athletes should begin creating their “engine” for athletic participation through aerobic training, paring down their sport-specific skills they will choose to further develop, and the introduction of light muscular strength exercises during the latter portion of this stage. Youth athletes in Stage 3 should also emphasize flexibility training due to rapid growth of bones, muscles, tendons, and ligaments, and the child’s rate of maturation should be carefully considered when determining their readiness to begin aerobic and strength-training. The intensity and frequency of training and competition will be heightened during this stage, though continued development of sport-specific skills, proper techniques, and enjoyment are still critical at this point. According to the LTAD literature, overemphasizing competition during this phase often leads to a plateauing of performance later in life due to an insufficient training foundation at this critical period of growth and skill development (Balyi & Hamilton, 2004).

Following the “training to train” stage, athletes will progress to “training to compete” stage. Athletes during this phase should focus their training even further in order to tailor their fitness and performance preparation to their particular sport, position, and team role. The LTAD recommends that Stage 4 athletes increase their time devoted to competition and competition-specific training to around 50% (basic technical skill and fitness training still encompass around
50% of training time). At this point, these athletes’ basic and sport-specific skills should be close to mastery levels, and they must now mix in the element of competitive conditions in order to perform these skills in high-pressure competitive situations. Individualization and athlete autonomy are also adjusted in Stage 4, as their fitness, recovery, performance, and psychological preparation should be tailored to their personal strengths and weaknesses, as well as the demands of their sport and their particular role.

The penultimate stage of the LTAD is the referred to as the “training to win” stage. Stage 5 mostly applies to athletes who have reached full physical development, and tend to be 18 years-old or older. This “final phase of athletic preparation” revolves around the athlete’s optimization of their fitness and sport potential to reach their peak performance outputs (Balyi & Hamilton, 2004). Their focus should be a multidimensional maximization (i.e., physically, psychologically, technically) of their capacity to perform, with the majority of their training time devoted to competition-related performance. Athletes should use their knowledge and experience to structure their training cycles so that they will be optimally-suited for peak performance during their most important competitions, while avoiding physical and psychological exhaustion. To complete the LTAD model, Stage 6 is known as the “retirement/retention” stage, in which the athlete retires from their high-level competition and prepares to move into a new career, whether that be in the athletic field or otherwise. The primary objective during this stage is to structure their physical training routine to a life after sport, and maintain their desired level of physical fitness and athletic engagement (Balyi & Hamilton, 2004).

While the LTAD brings further clarification to the talent development process through separating sports based on their timeline of specialization, this model still leaves much to interpretation in regards to the developing athlete’s timeline at which they should proceed to each stage. While they provide rough age guidelines throughout the model, Balyi and Hamilton explicitly mention that chronological age is an inaccurate marker for this endeavor; instead, they recommend that they capitalize on “sensitive” periods of rapid growth where the “trainability” of an athlete is highest. One way in determining these points are to use biological age markers, such as measuring for peak height velocity (Balyi & Hamilton, 2004). However, many parents, coaches, and youth sport coordinators are either uninformed about these biological measures or unable to measure them, and therefore tend to rely more on chronological age when developing a young athlete’s training plan. One model that we feel describes the most prevalent nature of
talent development programs today – while also utilizing general age cutoffs for progressing through its steps – is the Developmental Model of Sport Participation (Cote, 1999).

Cote’s Developmental Model of Sport Participation (DMSP). Building off the work of Bloom (1985), Jean Cote delved deeper into effective practices of talent development by creating the “Developmental Model of Sport Participation” (Cote, 1999). This model sought to provide more detail about the talent development process beyond just practice habits, and additionally incorporates psychosocial aspects that play a role in an athlete’s development (Cote & Lidor, 2013). To do so, Cote studied expert athletes from a variety of different sports and similarly to Bloom, created a three-stage model to guide sport participation for optimal development.

The first stage in the Developmental Model of Sport Participation (DMSP) is the “sampling years,” which typically ranges from ages 6-12 and is marked by the introduction to multiple sports and activities for the purpose of enjoyment. During this stage, parents have the responsibility to provide opportunities to get their children involved in a diverse range of activities, while coaches should emphasize basic skill development and generally nurture these young athletes’ enthusiasm for sport. While demonstrating the value of sport, adults should keep the children’s enjoyment as their primary focus (Cote, et al., 2003).

After the sampling years, young athletes progress to the specializing years from approximately ages 13-15. Skill development is stressed more during this time, but maintaining excitement and enjoyment is critical in maintaining interest and commitment to sport. It is around this time that children should begin paring down their sport activities to focus on a few sports, and their participation tends to involve more rigorous training and time commitment. Parents also must commit much more time and finances to sport during this period, and should continue to foster their child’s growing interest in sports. Coaching strategies should be more technical, and training and competing become much more serious in the specializing years (Cote & Lidor, 2013).

The final stage of the DMSP are the investment years (age 15+), in which athletes are on the edge of elite performance and focus on refining their training and competition strategies. Many athletes choose to exclusively specialize during this time in order to strive for elite levels of competition, and may have to sacrifice other activities in this pursuit. These athletes are much more autonomous, so the role of parents becomes to support their child through their quest of these lofty goals. Coaches are highly-qualified and tend to be sport-specific at this stage, and
building a relationship with the athlete to effectively deliver the highest-level of training and instruction is critical (Cote et al., 2003). Following up on the construction of this model, sport researchers have sought to find ways for practically applying the concepts to sport settings to aid coaches, players, and practitioners in developing athletic talent.

A concise list of the recommendations that accompany the DMSP can be found in the 2009 article by Cote et al., which takes the themes of this model and applies them to the current landscape of talent development. One important distinction that they make is between the developmental paths for elite performance and continued participation. Figuring out on which path an athlete is located will greatly affect the recommendations they should use as guidance, and this article dealt with this issue through seven postulates for how and when to specialize: “1) Early diversification (sampling) does not hinder elite sport participation where peak performance is reached after maturation; 2) Early diversification (sampling) is linked to a longer sport career and has positive implications for long-term investment; 3) Early diversification (sampling) allows participation in a range of contexts that most favorably affects positive youth development; 4) High amounts of deliberate play during the sampling years build a solid foundation of intrinsic motivation through activities that are enjoyable and promote internal regulation; 5) A high amount of deliberate play during the sampling years establishes a range of motor and cognitive experiences that children can ultimately bring to their principal sport of interest; 6) Around the age of primary school (about age 13), children should have the opportunity to either choose to specialize in their favorite sport or to continue in sport at a recreational level; 7) Late adolescents (around age 16) have developed the physical, cognitive, social, emotional, and motor skills needed to invest their effort into highly specialized training in one sport” (Cote et al., 2009).

The postulates associated with this model are highly-consistent with the literature previously reviewed regarding effective talent development. As discussed above, one of this model’s key components deals with specialization in sport, and at what age and conditions in which an athlete’s sport participation should be shaped through early specialization vs. diversification, an aspect that makes this model particularly well-suited for the scope of this study (Cote & Lidor, 2013). Therefore, the DMSP will be used as a conceptual framework for this study, and results will be compared to recommendations stemming from these concepts.
which will allow for the evaluation of off-season training programs in terms of effective developmental practices (Cote et al., 2009).

While Cote’s model created a meaningful focus on holistic development through athletic participation as well as specific guidelines for when and how to specialize, a major assertion of this proposed study is that these guidelines and recommendations may not be well-suited for all athletes. In fact, due to the low percentage of youth and high school sport participants who will go on to participate in further competitive levels, we predict that this model may be suboptimal for the majority of athletes. The DMSP posits that athletes before the age of 13 benefit most from sampling many sports and activities in order to develop a broad range of skills and to figure out what they like best (Cote et al., 2003). However, Cote and his colleagues suggest that athletes begin to specialize from ages 13-15, and by the time they reach high school, that they begin investing in a “signature activity.” As mentioned in this section, this research aligns with previous research that details the development of elite athletes; however, most participants of these “investment years” are not elite athletes, and investigation in terms of how this model aids in the holistic development of non-elite athletes is non-existent. Later work related to the DMSP suggests that both elite and participation tracks of athletic involvement should be provided, but explicit guidance for how to shape the experiences of athletes falling in the latter category are lacking (Cote et al., 2009). In this study, we predicted that elite talent-building models such as the Developmental Model of Sport Participation tend to be exclusively applied in high school sport settings, trapping athletes who do not see elite sport as their ultimate goal in a system that is ill-suited to their sport goals and motivations.

Contemporary Talent Development Practice

The traditionally-endorsed viewpoint that sport aids in holistic development has been previously supported through research, but also shows that program activities and messages must be diligently planned to make this a more likely occurrence (Gould & Carson, 2008). Research has called for more context-specific study of sport to better understand how these characteristics factor into talent development, and this study aimed to do just that (Camire, 2014).

Several previous studies relevant to the focuses of this research have used high school basketball teams as samples for detailing youth talent development. Wilkes and Cote (2010) empirically supported the notions that participating in high school sport can help develop initiative for athletes both on and off the field, but also found that these athletes are predisposed
to higher levels of stress than their peers not participating in sports. Research that has further
delved into the potential negative outcomes of participating in high school basketball revealed
that athletes are subjected to pressure stemming from discrimination, favoritism, and a “win-at-
all-costs” attitude that results in excessive pressure to succeed (Buford-May, 2001; Dworkin &
Larson, 2006). These negative experiences led some athletes to feel less engaged with the sport
and potentially even quit (Dworkin & Larson, 2006). While the perceptions of athletes are
obviously critical to determining their decision to participate in one vs. multiple sport, past
studies have shown the important impact that coaches can make on these subjective
interpretations (Pensgaard & Roberts, 2002).

Research on high school coaches has yielded a number of intriguing findings on their role
in talent development. Studies have found that coaches endorse the notion of sport as an
inherently positive shaping force in the development of athletes both in general (Gould, Chung,
Smith, & White, 2006) and specific domains such as physical, psychological, and social
development (Lesyk & Kornspan, 2000). Case studies have shown that high school coaches who
have experienced team success in terms of winning percentage are highly reflective about their
athlete’s learning process and delivering messages of growth and holistic development over
strictly performance markers of success (Camire, Trudel, & Forneris, 2012; Collins, Gould,
Lauer, & Chung, 2009). Regardless of the context in which high school sports are being played,
a quality coach-athlete relationship that includes compassion and support is a critical cog to
holistic development (Petitpas, Cornelius, Van Raalte, & Jones, 2005). However, while the
literature shows a general adoption of sport being used as a positive shaping mechanism,
research has also revealed that coaches often apply this message passively with underdeveloped
strategies for implementing a lifetime learning perspective (Holt, Tink, Mandigo, & Fox, 2008;
Lacroix Camire, & Trudel, 2008). Moreover, many coaches believe that sport has the potential
be used more effectively to foster growth through more diligent planning and strategizing, but
tend to fail to engage in these practices in practical settings (Camire et al., 2012).

**Gaps in Talent Development Literature**

Research has begun to illuminate the strenuous demands that developing athletes face, as
well as some of the negative consequences that these demands can lead to. This is especially the
case as athletes move into their high school years and have to determine whether they wish to
commence the rigorous training and competition schedule of high school athletics, or drop out
and focus on other activities. However, only part of this story is being told; prior research (e.g., review of high school sport literature in Camire, 2014) has centered on athletes in the heat of their in-season participation, and has not detailed how the increasingly-demanding nature of off-season training programs can affect their sport participation in other sports and activities. This line of research seems to be intuitively beneficial for expanded discussion of the specialization-diversification continuum. Moreover, there is often a lack of distinction between optimized talent development practices for all youth athletes (i.e., 18 years-old and younger) and those specifically at the high school level (i.e., ages 15-18). Therefore, this study explored how off-season activities are perceived by coaches and athletes at the high school level.

Additionally, research relating to burnout and specialization has tended to exclusively study the athletes’ perceptions of their climate, activities, and team dynamics (e.g., Raedeke & Smith, 2001, Harris & Watson, 2014). The literature base lacks any kind of research on whether the perceptions of these constructs for athletes are similarly (or dissimilarly) aligned with coaches’ interpretations. As outlined above, there are several existing models for how to optimally develop a youth athlete’s talent in order to optimize their holistic potential. However, the question still remains as to how these models are being applied in real-world sport settings: how are the proposed models of talent development (specifically, Cote’s Developmental Model of Sport Participation) matching what’s really happening in High School sports? Are there really recreational and elite-tracks available at this level, and if so, how do these experiences differ in regards to the year-round training that characterizes contemporary high school sports? How do athlete’s perception of burn out relate to these concepts? Through this study, we hope to answer these questions and further analyze the culture of high school sport and how it relates to effective talent development.
CHAPTER TWO

METHOD

Purpose

The purpose of this study was to explore interscholastic coaches’ and athletes’ perceptions of attendance-expectancy for scheduled off-season activities for athletes competing on male and female basketball teams, as well as how those expectations were related to their views of specialization in high school sports and athlete perception of burnout. Additionally, this study examined the level of congruency between coach and athlete perceptions regarding attendance expectations for team off-season activities, and compared these perceptions and their corresponding implications to recommendations for optimized talent development by Cote’s Developmental Model of Sport Participation (Cote et al., 2009). In addition, this study explored coaches’ and athletes’ perceptions of specialization in high school sport and athlete burnout.

Participants

Participants in this study were 80 high school basketball coaches and 13 athletes from boys and girls programs across the mid-Eastern United States. There were 75 male and 5 female coaches, 46 of whom coached boy’s teams and 34 coached girls, with age of the coach ranging from 25 to 71 years (M = 44.59, SD = 11.15). The coaches had from 1 to 17 years of coaching experience (M = 8.60, SD = 3.35), with their reported winning percentage for the previous season stretching from 11.5% to 80% (M = 57.85, SD = 13.95). The coaches’ estimation for the percentage of their players who would go on to compete collegiately ranged from 0% to 50% (M = 6.23, SD = 8.44). Twenty-five coaches were from schools in West Virginia, and 65 coaches were from schools in Ohio. In terms of school size, 20% (n = 16) schools were at the Division I/AAAA level, 30% at the Division II/AAA level (n = 24), 18.75% at the Division III/AA level (n = 15), 25% (n = 20) at the Division IV/A level, and 6.25% (n = 5) did not define their school size.

Thirteen athletes competing in high school basketball were also included in this study. The athlete participants played for the same team and had an age range from 15 to 18 years (M = 16.62, SD = 1.39). Six of the athletes were seniors, none were juniors, three were sophomores, and four were freshmen. Their years of basketball experience ranged from 6 to 13 years (M = 10.0, SD = 2.94), and they reported their team’s winning percentage for the current season as falling between 45% and 75% (M = 59.0, SD = 12.44). Out of these 13 athletes, five indicated
that their team role was “starter,” six were “second-string,” one as “rarely play during games,” with one undefined. On a 1-5 scale (i.e., 1 = highly unlikely, 2 = unlikely, 3 = 50/50 chance, 4 = likely, 5 = very likely), the athlete mean for the likelihood that they would go on to compete collegiately was 1.85 (SD = 1.14). On a scale of 1-10 (1 being easiest, 10 being the hardest), athletes rated their team’s level of competitiveness to make the team as 5.08 (SD = 2.75), and level of competitiveness for playing time as 6.77 (SD = 2.42).

Out of the 348 coaches who were contacted for this study, 76 completed the on-line measures in full with 4 coaches providing partial completion, accounting for a response rate of 21.97%. Athlete participation materials were delivered in bulk to coaches who agreed to assist in data collection, allowing these coaches to distribute and collect their players’ participation materials at a time of their convenience. Due to the uncertain nature of the exact number of players who chose to opt-in or decline participation in the study, the athlete response rate was not available.

Research Design

This study used the research design of data collection through quantitative measures. Coaches participated in the quantitative collection of data regarding their perceptions of attendance-expectancy for off-season activities and sport specialization through an on-line survey. The primary investigator met with athletes on-site or distributed measures via their coaches to have them complete measures of perceived off-season requirements, their views on specialization, and burnout.

Instrumentation

Demographic and Sport Background Questionnaire. A demographic questionnaire was used in this study to gather background information on the athletes’ and coaches’ personal characteristics and the nature of their sport involvement. The coach questionnaire prompted the participants for their age, gender, gender of athlete they coach, years of basketball playing experience at each level (i.e., youth sport, middle school, freshman, junior varsity, varsity, and collegiate/professionally), years of basketball coaching experience at each level (i.e., youth sport, middle school, freshman, junior varsity, varsity, and collegiate/professionally), their estimation of their overall team’s winning percentage, and their best estimate of the percentage of their players who will go on to compete collegiately (See: Appendix I).
The athlete questionnaire was comprised of age, year in school, gender, years of basketball experience (i.e., youth sport, middle school, freshman, junior varsity, and varsity), their estimated team winning percentage, and description of their role on the team (i.e., starter, second string, rarely plays). Each athlete also rated the reasons why they play basketball (e.g., “to have fun,” “to get exercise”) on a scale from 1-5 (i.e., 1= strongly disagree, 2= disagree, 3= neutral, 4= agree, and 5= strongly agree), listed the other sports they have played for an organized team or league, whether they are still participating, and when they last played if they no longer participate. (See: Appendix J). Examining this final aspect helped create a picture of these athlete’s experiences of specialization vs. diversification, and was compared to the recommendations and research associated with the Developmental Model of Sport Participation (Cote, et al., 2009). Finally, the athletes provided a score on a 1-5 scale (i.e., 1 = very unlikely; 2 = unlikely; 3 = 50/50 chance; 4 = likely; 5 = very likely) of the likelihood that they will go on to compete at the collegiate level, which provided useful data about whether athletes viewed themselves as on an elite performance track.

Basketball Off-Season Activity Survey. Using the Ohio High School Athletic Association (OHSAA) and the West Virginia Secondary Schools Activities Commission (WVSSAC) for out-of-season activities for boy’s and girl’s basketball, a survey was constructed to list the allowed off-season activities for high school athletes (WVSSAC.org; OSHAA.org). The off-season activity survey was separated into eight months based on these associations’ officially scheduled off-season. The activities included in the survey were those that were explicitly mentioned in the off-season compliance codes, and included a monthly option to add any off-season activities that were not included in the survey (See Appendix K). Each item was rated from 1-5 by the coaches and athletes in terms of their level of expectancy for player participation (from completely voluntary to completely mandatory), and the corresponding potential for negative consequences if an athlete fails to attend. A description of each scale increment was provided on the front page of the survey as follows: 1= completely voluntary, no negative consequences for failure to attend; 2= mostly voluntary, but some potential negative consequences for failure to attend; 3 = somewhat voluntary, though expected to attend; 4 = not explicitly mandatory, but negative consequences likely for failure to attend; and 5 = explicitly mandatory, high likelihood of negative consequences for failure to attend. The participants were then asked to provide examples of potential negative consequences for failure to attend off-season activities, as well as
potential positive outcomes from their participation. Finally, participants were provided an option of including any additional information they felt could help better understand their expectations of off-season activities (See: Appendix K). To score the off-season activity survey, the values provided for each activity (1-5) were be summed and averaged for each month and in total for the off-season. These scores were analyzed for variance between the coaches and athletes for each activity, month, and the total off-season, providing useful description of the level of congruency between the activity perceptions of these two groups.

**Basketball Specialization Questionnaire.** In order to measure athlete and coach perceptions of specialization in a high school sport context, a Basketball Specialization Questionnaire was constructed. This brief measure was comprised of ten questions scored from 1-5 (i.e., 1= strongly disagree; 2= disagree; 3= neither agree/disagree; 4= agree; 5= strongly agree). These questions were designed to explore a number of concepts related to how high school players and coaches view specialization, such as how it corresponded to enjoyment and success, what they believed the athletes on other teams are doing, and if an athlete must specialize to compete collegiately. Another important question was whether athletes reaching high school age should specialize, as per the recommendation for elite-track athletes in the Developmental Model of Sport Participation (Cote et al., 2003). The questionnaire began by defining specialization (Vealey & Chase, in press) so that there was no participant confusion of this concept, and took less than five minutes to complete. To score this measure, the participants’ ratings (from 1-5) were averaged and summed to create a score range from 7-35. Higher scores on this questionnaire aligned with an endorsement of specialization for high school athletes. An analysis of variance between the coaches and athletes was conducted to help determine the level of congruency of perceptions between these two groups, and potential relationships with ratings of off-season activities and burnout were also analyzed to test the hypotheses detailed later in this paper.

**Athlete Burnout Questionnaire.** The final quantitative measure, given exclusively to the athletes, was the Athlete Burnout Questionnaire (ABQ) (Raedeke & Smith, 2001). This measure allows for its application to any specific sport, and was used to quantify the athletes’ level of burnout. The ABQ breaks this phenomenon into three subscales of “emotional/physical exhaustion” (e.g., “I feel overly tired from basketball team participation”), “reduced sense of personal accomplishment” (e.g., “I don’t feel confident about my basketball ability”), and “sport
devaluation” (e.g., “I feel less concerned about being successful in basketball than I used to”). These subscales are correlated with other measures associated with the phenomenon of burnout such as stress, enjoyment, and coping (Raedeke & Smith, 2001). The measure consisted of 15 items (i.e., five per subscale) related to sport that are rated on a 5 point Likert scale (i.e., ranging from 1= “almost never” to 5 = almost always) based on their perception of their athletic experience. The athletes’ scores of the 15 items were summed for a total burnout score, as well as summing each 5-item subscale to provide further breakdown of the scores for specific aspects of athlete burnout (Raedeke & Smith, 2001).

**Procedures**

Approval to conduct this study was gained via permission from the Committee on the Use of Human Subjects in Research. To recruit high school basketball coaches, 348 boy’s and girl’s high school coaches were contacted via e-mail using contact information provided on the websites of their governing organizations, individual school websites (OHSAA.org. WVSSAC.org), and contact lists provided by several district coordinators. The initial contact e-mail (Appendix A) was distributed through SurveyMonkey.com and included a message to request their participation in a study to examine their perceptions of expected player participation in off-season activities. This message included an attached copy of the research description for coaches (Appendix C), as well as a link to the on-line survey, where they completed the questionnaires of this study. The researchers in this study had no relationship with the coaches or athletes contacted to participate. Any high school basketball male or female coach or athlete who choose to participate and provided the proper consent was included in this study. There were no excluding factors.

To recruit athletes, convenience sampling was used. Coaches were contacted via an initial contact e-mail/script for athlete participation (See Appendix B), though only one school completed the entire process of replying to the e-mail, gaining consent, collecting athlete responses, and distributing them to the primary investigator. The researcher sought permission to gain athlete participation according to each school district’s policy. Permission was gained from the Principal, Athletic Director, Coach, and parents as required by the policy of their school district before seeking consent to participate from any athletes (See Appendix F for location consent form). Once permission was gained through the proper procedures of each school district, the athletes (13 boys’ basketball players) participated in the study. The researcher made
an initial school visit to introduce the study to the coach, as well as to distribute a copy of the research description for anyone interested in participating (Appendix D). This meeting occurred at a convenient time for the coach and team, their participation was completely voluntary, and their responses were not made available to coaches. Any athlete choosing to participate received an informed consent and parent assent forms (for those under 18) and was asked to turn in their confidential completed measures to their coach so that they could be passed on to the primary investigator (See Appendices G and H, respectively).

Prior to any data collection, participants read over the Research Description for Participants. For the coaches, this form (Appendix E) preceded the on-line survey, and these participants were be instructed to contact the researcher with any questions or concerns before completing the quantitative measures. For the athletes, the research description and Informed Consent Form (Appendix G) were be distributed by the PI in person during an initial site visit, with a parent/guardian assent form being distributed to athletes under the age of 18 (Appendix H). Athletes were instructed to secure parent consent and decide whether they wanted to participate in the study. All participants were reminded that their participation was completely voluntary, and that they were free to stop participation at any time without penalty. After all questions and concerns were answered, the participant handed in their copy of the informed consent, either virtually (for coaches doing the survey on-line) or in-person (for athletes), and was provided the option of requesting a copy of this form in case any questions arise after their participation in this study.

After granting consent, the coach participants began the on-line survey with their completion of the Coaches Demographic and Sport Background Questionnaire (Appendix I). Coaches then completed the Basketball Offseason Activity Survey (Appendix K) to detail what types of activities are included in their team’s off-season regimen for 8 months (February – September), as well as their corresponding attendance-expectancy for each activity. Next, each coach completed the Basketball Specialization Questionnaire (Appendix L) to investigate their perceptions of specialization in the setting of interscholastic athletics. After completing both surveys, each coach was given a debriefing form (Appendix N), which detailed the purpose of the study and gave them the opportunity to receive a summary of the results, once the study has been completed. Four of the 80 coaches informed the investigator that they were interested in receiving this summary upon the study’s completion. The overall estimated time for completion
was estimated at 15 minutes (i.e., 5-10 minutes for the Basketball Offseason Activity Survey, 5 minutes for the Basketball Specialization Questionnaire), and each participant only needed to complete this process once.

After gaining consent from all required parties and completing the Athlete Demographic and Sport Background Questionnaire (Appendix J), the athletes completed the Basketball Off-Season Activity Survey, the Basketball Specialization Questionnaire (Appendix M), and the Athlete Burnout Questionnaire (Appendix N), and received a debriefing form (Appendix O) upon completion. Each athlete only needed to complete these measures one time, with the estimated duration of their total participation being 20 minutes (i.e., 5-10 minutes for the Basketball Offseason Activity Survey, 5 minutes for the Basketball Specialization Questionnaire, 5 minutes for the Athlete Burnout Questionnaire).

None of the participants were identified by name, school team, or any other identifying code. They were notified that in any written reports, publications, or presentations, all personal information will be kept confidential. Though the researcher knew the list of coaches who are contacted for recruitment via e-mail, the data from coaches actually completing these measures was anonymous.

**Data Analysis & Practical Implication**

After data collection was complete, the raw data from each survey was inspected to determine if there were any invalid responses or outliers. The internal consistencies of each scale was assessed. Data was analyzed according to the study’s guiding hypotheses, seen below. All effects were tested at a \( p < 0.05 \) level of significance utilizing the IBM SPSS-X software package.

**Hypotheses**

Several hypotheses were used to guide this study:

Hypothesis 1: Coaches’ perceptions of attendance-expectancy for off-season activities will be rated lower (i.e., more voluntary, less negative consequences for failing to attend) than the players’ perceptions.

Hypothesis 2: Athlete ratings of attendance-expectancy for off-season activities will be positively related to scores of athlete burnout.
Hypothesis 3: Athlete ratings of burnout will be negatively correlated to their ratings of sport specialization.

Hypothesis 4: Coach and athlete ratings of sport specialization will be positively correlated with their ratings of off-season activity perceptions.
CHAPTER THREE
RESULTS

The purpose of this study was to explore interscholastic coaches’ and athletes’ perceptions of attendance-expectancy for scheduled off-season activities for athletes competing on male and female basketball teams, as well as how those expectations were related to their views of specialization in high school sports and athlete perception of burnout. Additionally, this study examined the level of congruency between coach and athlete perceptions regarding attendance expectations for team off-season activities, and compared these perceptions and their corresponding implications to recommendations for optimized talent development by Cote’s Developmental Model of Sport Participation (Cote et al., 2009). In this section, the descriptive results of the three measures used for this study (i.e., the Basketball Off-Season Activity Survey, the Basketball Specialization Questionnaire, and the Athlete Burnout Questionnaire) will be analyzed to determine how high school coaches and athletes rated their expectations for attending off-season basketball activities, their attitudes towards specializing in basketball at the high school level, and how the athletes’ high school sport experience impacts their perceptions of being burned out. In the next section, we will present the results of the analysis for each hypothesis.

Descriptive Findings

Basketball Off-Season Activity Survey. The Basketball Off-Season Activity Survey was given to both the coach and athlete participants. This measure was designed to provide a detailed breakdown of what activities were scheduled during the off-season and how coaches and athletes perceived attendance-expectancy for off-season activities. The survey was separated into each of the seven months that comprise the high school basketball off-season (i.e., March-September). Each participant began by first indicating whether their team participated in each listed off-season activity during that month, then rated activities for which they participated on a 1-5 scale of their perceived attendance expectancy (i.e., 1 = completely voluntary, no negative consequences for failing to attend; 5 = explicitly mandatory, high likelihood of negative consequences for failing to attend).

Table 1 shows the frequency that each off-season activity was offered, divided into the seven months of the scheduled off-season, as well as separated by the coach and athlete groups.
For example, 36 of the 76 coaches who completed the survey indicated that their team participated in weight-lifting/conditioning programs during March, accounting for the 47.37% listed in the table. Activities for which team participation was most consistently reported, for both the coach and athlete samples, were weight-lifting/conditioning programs and open gyms. Athletes indicated a higher frequency of off-season activities being offered than coaches. Coaches reported the number of off-season activities as the lowest in August and highest in June, while athletes reported the number of off-season activities as lowest in March and highest in July. Interestingly, both weight-lifting/conditioning programs and open gyms were reported as being offered 100% by athletes for several months in the off-season (i.e., April-June), especially because these are the months that high school athletes could participate in a spring high school sport. It is important to note the large disparity in sample size when reporting these findings (Coaches: n = 76; Athletes: n = 12), as well as the homogeneity of the athlete sample due to their participation on the same team.

The monthly attendance means and standard deviations of the coach and athlete responses for attendance-expectancies are reported in Table 2. The activity and month for which the coaches rated attendance-expectancy the highest was “open gyms” in June (M = 3.44, SD = 1.37), while the lowest was “Summer Leagues/Tournaments” in August (M = 1.67, SD = 1.19). The athletes’ highest rated activity for an individual month was “Summer Leagues/Tournaments” in July (M = 4.50, SD = .53), while the lowest was “Team Camps/Shootouts” in March (M = 2.60, SD = 1.20). The overall mean of athlete ratings of attendance-expectancy for all off-season activities was 3.78 (SD = 1.19), indicating that their perception for attendance-expectancy of off-season activities falls most closely in the scale to the qualitative description of “not explicitly mandatory, but negative consequences likely for failure to attend.” Coaches, on the other hand, had an overall mean rating of 2.29 (SD = 1.29), which relates most closely to the scale’s description of “mostly voluntary, but some potential negative consequences for failure to attend.” Again, due the small size of the athlete sample these results should be interpreted with caution.

Finally, Table 3 provides the means and standard deviations for each off-season activity that was listed on the survey, separated into the coach and athlete groups. Athlete ratings of perceived attendance-expectancy were higher than the coaches’ for all five of the different activities. Both the coaches and athletes rated weight-lifting/conditioning the highest (i.e., most
mandatory, most likely to experience negative consequences for failing to attend), and team recreational activities the lowest (i.e., most voluntary, less likely to experience negative consequences for failing to attend). The caveat regarding the small sample size of the athletes in this study should again be noted when interpreting these results.

Table 1.
Frequency of Off-Season Activities in the 7-Month High School Basketball Off-Season

<table>
<thead>
<tr>
<th>Month</th>
<th>Activity</th>
<th>Coaches</th>
<th>Athletes</th>
</tr>
</thead>
<tbody>
<tr>
<td>March</td>
<td>Weight-lifting/Conditioning Programs</td>
<td>47.37%</td>
<td>58.33%</td>
</tr>
<tr>
<td></td>
<td>Team Camps/Shootouts</td>
<td>26.32%</td>
<td>41.67%</td>
</tr>
<tr>
<td></td>
<td>Open Gyms</td>
<td>34.21%</td>
<td>83.33%</td>
</tr>
<tr>
<td></td>
<td>Summer Leagues/Tournaments</td>
<td>38.16%</td>
<td>58.33%</td>
</tr>
<tr>
<td></td>
<td>Team Recreational Activities</td>
<td>35.52%</td>
<td>41.67%</td>
</tr>
<tr>
<td>April</td>
<td>Weight-lifting/Conditioning Programs</td>
<td>78.95%</td>
<td>100.00%</td>
</tr>
<tr>
<td></td>
<td>Team Camps/Shootouts</td>
<td>34.21%</td>
<td>50.00%</td>
</tr>
<tr>
<td></td>
<td>Open Gyms</td>
<td>73.68%</td>
<td>100.00%</td>
</tr>
<tr>
<td></td>
<td>Summer Leagues/Tournaments</td>
<td>32.89%</td>
<td>58.33%</td>
</tr>
<tr>
<td></td>
<td>Team Recreational Activities</td>
<td>40.79%</td>
<td>25.00%</td>
</tr>
<tr>
<td>May</td>
<td>Weight-lifting/Conditioning Programs</td>
<td>77.63%</td>
<td>100.00%</td>
</tr>
<tr>
<td></td>
<td>Team Camps/Shootouts</td>
<td>36.84%</td>
<td>58.33%</td>
</tr>
<tr>
<td></td>
<td>Open Gyms</td>
<td>77.63%</td>
<td>100.00%</td>
</tr>
<tr>
<td></td>
<td>Summer Leagues/Tournaments</td>
<td>32.89%</td>
<td>58.33%</td>
</tr>
<tr>
<td></td>
<td>Team Recreational Activities</td>
<td>40.79%</td>
<td>25.00%</td>
</tr>
<tr>
<td>June</td>
<td>Weight-lifting/Conditioning Programs</td>
<td>82.89%</td>
<td>100.00%</td>
</tr>
<tr>
<td></td>
<td>Team Camps/Shootouts</td>
<td>90.79%</td>
<td>66.67%</td>
</tr>
<tr>
<td></td>
<td>Open Gyms</td>
<td>81.58%</td>
<td>91.67%</td>
</tr>
<tr>
<td></td>
<td>Summer Leagues/Tournaments</td>
<td>76.32%</td>
<td>83.33%</td>
</tr>
<tr>
<td></td>
<td>Team Recreational Activities</td>
<td>53.95%</td>
<td>33.33%</td>
</tr>
<tr>
<td>July</td>
<td>Weight-lifting/Conditioning Programs</td>
<td>82.89%</td>
<td>91.67%</td>
</tr>
<tr>
<td></td>
<td>Team Camps/Shootouts</td>
<td>61.84%</td>
<td>75.00%</td>
</tr>
<tr>
<td></td>
<td>Open Gyms</td>
<td>77.63%</td>
<td>100.00%</td>
</tr>
<tr>
<td></td>
<td>Summer Leagues/Tournaments</td>
<td>55.26%</td>
<td>83.33%</td>
</tr>
<tr>
<td></td>
<td>Team Recreational Activities</td>
<td>50.00%</td>
<td>33.33%</td>
</tr>
<tr>
<td>August</td>
<td>Weight-lifting/Conditioning Programs</td>
<td>48.68%</td>
<td>75.00%</td>
</tr>
<tr>
<td></td>
<td>Team Camps/Shootouts</td>
<td>23.68%</td>
<td>66.67%</td>
</tr>
<tr>
<td></td>
<td>Open Gyms</td>
<td>35.52%</td>
<td>83.33%</td>
</tr>
<tr>
<td></td>
<td>Summer Leagues/Tournaments</td>
<td>23.68%</td>
<td>66.67%</td>
</tr>
<tr>
<td>Month</td>
<td>Activity</td>
<td>MeanC</td>
<td>SDC</td>
</tr>
<tr>
<td>------------</td>
<td>---------------------------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>September</td>
<td>Weight-lifting/Conditioning Programs</td>
<td>81.58%</td>
<td>75.00%</td>
</tr>
<tr>
<td></td>
<td>Team Camps/Shootouts</td>
<td>31.58%</td>
<td>50.00%</td>
</tr>
<tr>
<td></td>
<td>Open Gyms</td>
<td>75.00%</td>
<td>83.33%</td>
</tr>
<tr>
<td></td>
<td>Summer Leagues/Tournaments</td>
<td>31.58%</td>
<td>50.00%</td>
</tr>
<tr>
<td></td>
<td>Team Recreational Activities</td>
<td>39.47%</td>
<td>41.67%</td>
</tr>
</tbody>
</table>

**Note:** Coach: n = 76; Athlete: n = 12

Table 2.  
Monthly Attendance Expectancies by Month & Activity*

<table>
<thead>
<tr>
<th>Month</th>
<th>Activity</th>
<th>MeanC</th>
<th>SDC</th>
<th>MeanA</th>
<th>SDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>March</td>
<td>Weight-lifting/Conditioning Programs</td>
<td>2.28</td>
<td>1.45</td>
<td>4.14</td>
<td>0.69</td>
</tr>
<tr>
<td></td>
<td>Team Camps/Shootouts</td>
<td>1.81</td>
<td>1.17</td>
<td>2.60</td>
<td>1.27</td>
</tr>
<tr>
<td></td>
<td>Open Gyms</td>
<td>1.90</td>
<td>1.41</td>
<td>3.40</td>
<td>0.55</td>
</tr>
<tr>
<td></td>
<td>Summer Leagues/Tournaments</td>
<td>2.72</td>
<td>1.79</td>
<td>3.85</td>
<td>0.69</td>
</tr>
<tr>
<td></td>
<td>Team Recreational Activities</td>
<td>2.11</td>
<td>1.45</td>
<td>3.40</td>
<td>1.52</td>
</tr>
<tr>
<td>April</td>
<td>Weight-lifting/Conditioning Programs</td>
<td>2.31</td>
<td>1.25</td>
<td>3.42</td>
<td>1.31</td>
</tr>
<tr>
<td></td>
<td>Team Camps/Shootouts</td>
<td>2.25</td>
<td>1.23</td>
<td>2.67</td>
<td>1.16</td>
</tr>
<tr>
<td></td>
<td>Open Gyms</td>
<td>2.23</td>
<td>1.39</td>
<td>3.33</td>
<td>0.52</td>
</tr>
<tr>
<td></td>
<td>Summer Leagues/Tournaments</td>
<td>1.92</td>
<td>1.12</td>
<td>3.71</td>
<td>0.49</td>
</tr>
<tr>
<td></td>
<td>Team Recreational Activities</td>
<td>1.97</td>
<td>1.02</td>
<td>3.00</td>
<td>1.41</td>
</tr>
<tr>
<td>May</td>
<td>Weight-lifting/Conditioning Programs</td>
<td>2.48</td>
<td>1.33</td>
<td>3.50</td>
<td>1.38</td>
</tr>
<tr>
<td></td>
<td>Team Camps/Shootouts</td>
<td>2.38</td>
<td>1.23</td>
<td>2.83</td>
<td>1.27</td>
</tr>
<tr>
<td></td>
<td>Open Gyms</td>
<td>2.46</td>
<td>1.48</td>
<td>3.86</td>
<td>1.22</td>
</tr>
<tr>
<td></td>
<td>Summer Leagues/Tournaments</td>
<td>2.16</td>
<td>1.28</td>
<td>4.00</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td>Team Recreational Activities</td>
<td>2.07</td>
<td>1.15</td>
<td>3.20</td>
<td>1.48</td>
</tr>
<tr>
<td>June</td>
<td>Weight-lifting/Conditioning Programs</td>
<td>2.97</td>
<td>1.34</td>
<td>4.00</td>
<td>1.13</td>
</tr>
<tr>
<td></td>
<td>Team Camps/Shootouts</td>
<td>2.92</td>
<td>1.33</td>
<td>3.46</td>
<td>1.04</td>
</tr>
<tr>
<td></td>
<td>Open Gyms</td>
<td>3.44</td>
<td>1.37</td>
<td>3.88</td>
<td>0.84</td>
</tr>
<tr>
<td></td>
<td>Summer Leagues/Tournaments</td>
<td>3.41</td>
<td>1.34</td>
<td>4.20</td>
<td>0.63</td>
</tr>
<tr>
<td></td>
<td>Team Recreational Activities</td>
<td>2.71</td>
<td>1.39</td>
<td>3.25</td>
<td>1.71</td>
</tr>
<tr>
<td>July</td>
<td>Weight-lifting/Conditioning Programs</td>
<td>2.68</td>
<td>1.39</td>
<td>4.36</td>
<td>1.21</td>
</tr>
<tr>
<td></td>
<td>Team Camps/Shootouts</td>
<td>2.68</td>
<td>1.32</td>
<td>3.75</td>
<td>1.22</td>
</tr>
<tr>
<td></td>
<td>Open Gyms</td>
<td>3.06</td>
<td>1.54</td>
<td>4.13</td>
<td>0.84</td>
</tr>
<tr>
<td></td>
<td>Summer Leagues/Tournaments</td>
<td>3.02</td>
<td>1.42</td>
<td>4.50</td>
<td>0.53</td>
</tr>
<tr>
<td></td>
<td>Team Recreational Activities</td>
<td>2.63</td>
<td>1.38</td>
<td>4.00</td>
<td>2.00</td>
</tr>
<tr>
<td>August</td>
<td>Weight-lifting/Conditioning Programs</td>
<td>2.38</td>
<td>1.36</td>
<td>4.44</td>
<td>1.33</td>
</tr>
</tbody>
</table>
Table 3

<table>
<thead>
<tr>
<th>Activity</th>
<th>MeanC</th>
<th>SDC</th>
<th>MeanA</th>
<th>SDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight-lifting/Conditioning Programs</td>
<td>2.61</td>
<td>1.41</td>
<td>4.08</td>
<td>1.14</td>
</tr>
<tr>
<td>Team Camps/Shootouts</td>
<td>2.38</td>
<td>1.28</td>
<td>3.31</td>
<td>1.24</td>
</tr>
<tr>
<td>Open Gyms</td>
<td>2.42</td>
<td>1.42</td>
<td>3.73</td>
<td>1.02</td>
</tr>
<tr>
<td>Summer Leagues/Tournaments</td>
<td>2.59</td>
<td>1.41</td>
<td>4.08</td>
<td>0.82</td>
</tr>
<tr>
<td>Team Recreational Activities</td>
<td>2.23</td>
<td>1.34</td>
<td>3.26</td>
<td>1.68</td>
</tr>
</tbody>
</table>

*MeanC= Coach Mean; SDC= Coach Standard Deviation; MeanA= Athlete Mean; SDA= Athlete Standard Deviation
Coaches: n=76; Athletes: n = 12

Basketball Specialization Questionnaire. The means and standard deviations for each item of the Basketball Specialization Questionnaire are shown below in Table 4. Each item was scored on a scale from 1-5, in which higher scores indicated more favorable perceptions of sport specialization. All items were used and an overall summary score was created, by summing the participant’s ratings, for each of these items. Item 9 (i.e., “the requirements of playing basketball limit my involvement in other activities in which I would like to participate”) was reverse-scored, though this is already reflected in the reporting of the mean in Table 4.

Item 1 (“I believe that all high school athletes should specialize in only one sport) was rated the lowest by the coaches, while they rated Item 5 (“The majority of players I compete against play only basketball”) the highest. For the athlete sample, their highest rating was for Item 4 (“Players who wish to play basketball at the collegiate level and beyond should focus on playing and training for basketball year-round”), and their lowest rating was for Item 2 (“I feel
pressure from my coach to only play one sport”). The small sample size of the players and the potential for social desirability bias should be taken into account when interpreting these statistical findings.

Internal consistency measures for the Basketball Specialization Questionnaire were computed to determine the reliability in this novel measure of sport specialization perceptions. The measure was comprised of 10 total items, and the overall Cronbach’s Alpha was calculated to be .85. Item analysis (Table 5) yielded the findings that the items with the lowest corrected item-total correlation were Item 5 (.345) and Item 9 (.305), though they would not have significantly altered the Cronbach’s Alpha measure if deleted (.859, .858 respectively).

Table 4.

<table>
<thead>
<tr>
<th>Item</th>
<th>MeanC</th>
<th>SDC</th>
<th>MeanA</th>
<th>SDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I believe that all high school athletes should specialize in only one sport</td>
<td>1.44</td>
<td>0.63</td>
<td>2.00</td>
<td>1.29</td>
</tr>
<tr>
<td>2. I feel pressure from my coach to only play one sport**</td>
<td>1.61</td>
<td>0.71</td>
<td>1.78</td>
<td>0.83</td>
</tr>
<tr>
<td>3. For our team to be successful, each player should focus on playing and training for basketball year-round</td>
<td>2.20</td>
<td>1.20</td>
<td>3.15</td>
<td>1.34</td>
</tr>
<tr>
<td>4. Players who wish to play basketball at the collegiate level and beyond should focus on playing and training for basketball year-round</td>
<td>2.77</td>
<td>1.28</td>
<td>4.00</td>
<td>0.71</td>
</tr>
<tr>
<td>5. The majority of players I compete against only play basketball.</td>
<td>2.84</td>
<td>1.14</td>
<td>2.39</td>
<td>0.87</td>
</tr>
<tr>
<td>6. Once athletes reach high school, they should pick one sport and concentrate on playing and training for that sport year-round</td>
<td>1.63</td>
<td>0.73</td>
<td>2.00</td>
<td>0.57</td>
</tr>
<tr>
<td>7. Athletes who specialize in one sport are more likely to have an enjoyable experience from their sport participation than those who play multiple sports</td>
<td>1.74</td>
<td>0.72</td>
<td>2.23</td>
<td>1.23</td>
</tr>
<tr>
<td>8. If it were up to me, I would choose to only play one sport</td>
<td>2.00</td>
<td>0.82</td>
<td>2.15</td>
<td>1.35</td>
</tr>
<tr>
<td>9. The requirements of playing basketball limit my involvement in other activities in which I would like to participate***</td>
<td>2.10</td>
<td>0.89</td>
<td>2.08</td>
<td>1.12</td>
</tr>
<tr>
<td>10. If it were up to my coach, they would like for me to only play basketball</td>
<td>1.79</td>
<td>0.92</td>
<td>2.39</td>
<td>0.96</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2.01</td>
<td>0.61</td>
<td>2.42</td>
<td>0.75</td>
</tr>
</tbody>
</table>

*MeanC= Coach Mean; SDC= Coach Standard Deviation; MeanA= Athlete Mean; SDA= Athlete Standard Deviation
Coaches: n=80; Athletes: n = 13  
**Note: Items 2, 5, 8, 9, and 10 have slightly different wording to reflect the participant’s team role; see Appendix L and Appendix M for exact wording  
***Item 9 was reverse scored

*Athlete Burnout Questionnaire.* The descriptive results of the Athlete Burnout Questionnaire are shown below in Table 5. This measure was completed by the athlete participants only, and is comprised of 15 items using a rating scale ranging from 1-5, with higher scores indicating a higher degree of athlete burnout. The overall mean was 1.92 (SD = 1.09), with the highest rated items for the sample being item 7 (“I am not performing up to my ability in basketball; M = 2.54, SD = 1.18) and item 2 (“I feel so tired from my training that I have trouble finding energy to do other things; M = 2.31, SD = 1.18). The items that the athletes scored the lowest were item 1 (“I’m accomplishing many worthwhile things in basketball; M = 1.39, SD = 1.04) and item 14 (“I feel successful at basketball; M = 1.54, SD = 0.78) both items of the “personal accomplishment” subscale of the BSQ. Once again, the fact that only 13 athletes completed this survey (and all came from the same team) should be accounted for in the interpretation of these results.

Table 5. 
*Athlete Burnout Questionnaire Descriptive Results*  

<table>
<thead>
<tr>
<th>Item**</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I’m accomplishing many worthwhile things in basketball</td>
<td>1.39</td>
<td>1.04</td>
</tr>
<tr>
<td>2. I feel so tired from my training that I have trouble finding energy to do other things</td>
<td>2.31</td>
<td>1.18</td>
</tr>
<tr>
<td>3. The effort I spend in basketball would be better spent doing other things</td>
<td>1.46</td>
<td>0.78</td>
</tr>
<tr>
<td>4. I feel overly tired from my basketball participation</td>
<td>2.00</td>
<td>1.08</td>
</tr>
<tr>
<td>5. I am not achieving much in basketball</td>
<td>2.08</td>
<td>1.19</td>
</tr>
<tr>
<td>6. I don’t care as much about my basketball performance as I used to</td>
<td>1.85</td>
<td>1.28</td>
</tr>
<tr>
<td>7. I am not performing up to my ability in basketball</td>
<td>2.54</td>
<td>1.20</td>
</tr>
<tr>
<td>8. I feel “wiped out” from basketball</td>
<td>2.23</td>
<td>1.54</td>
</tr>
<tr>
<td>9. I’m not into basketball like I used to be</td>
<td>1.77</td>
<td>1.17</td>
</tr>
<tr>
<td>10. I feel physically worn out from basketball</td>
<td>2.31</td>
<td>1.25</td>
</tr>
</tbody>
</table>
11. I feel less concerned about being successful in basketball than I used to 1.62 0.87
12. I am exhausted by the mental and physical demands of basketball 2.15 1.09
13. It seems that no matter what I do, I don’t perform as well as I should 1.92 0.95
14. I feel successful at basketball 1.54 0.78
15. I have negative feelings toward basketball 1.62 1.04
Total 1.92 1.09

*Mean= Athlete Mean; SD= Athlete Standard Deviation (n = 13);
**Items 1 and 14 are reverse-scored

Coach and Athlete Perceptions of Off-Season Activities

The first hypothesis of this study was that coaches’ perceptions of attendance-expectancy for off-season activities would be rated lower (i.e., more voluntary, less negative consequences for failing to attend) than the players’ perceptions. To test this hypothesis, a t-test for equality of means was calculated, showing a highly significant effect for group type, $t(81) = -2.99$, $p<.01$. This means that the athletes scored significantly higher on this measure than the coaches, indicating that overall athletes perceive off-season activities as more mandatory with higher likelihood of negative consequences to attend than coaches in this sample perceive these activities. Hypothesis One was supported. In addition, an independent-sample $t$ test was conducted to further detail the differences between these two groups (See Table 6). For each of the seven months, the $t$-values were negative, with significant mean differences at the .05 for April, May, July, August, and September. These statistics again support Hypothesis One that athletes perceive off-season activities as more mandatory than coaches.

Further analysis of these results by month (see Table 7) indicated the mean rating of attendance-expectancy for coaches was 2.36 ($SD = 1.32$), while the mean for the athletes was 3.76 ($SD = 1.18$). Therefore, Table 7 illustrates that not only did athletes rate off-season activities as more mandatory to attend than their coaches for the overall off-season, but even the lowest-rated month for athletes (i.e., April, $M = 3.23$) exceeded the highest-rated month by coaches (i.e., June, $M = 2.92$). These monthly results provide further evidence to support Hypothesis One. The means for both groups are illustrated by month in Figure 1, lending visual support to the results that athletes perceive attendance-expectancy for off-season activities consistently higher than their coaches perceive attendance-expectancy for off-season activities.
Table 6.
T-test for Equality of Monthly Activity Means between Coach and Athlete Participants

<table>
<thead>
<tr>
<th>Month</th>
<th>t-value</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Standard Error Difference</th>
<th>95% Confidence Interval</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>March</td>
<td>-.91</td>
<td>53</td>
<td>.368</td>
<td>-.46</td>
<td>.509</td>
<td>-1.48</td>
<td>.56</td>
<td></td>
</tr>
<tr>
<td>April</td>
<td>-2.35</td>
<td>71</td>
<td>.021*</td>
<td>-.83</td>
<td>.352</td>
<td>-1.53</td>
<td>-.13</td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>-2.22</td>
<td>75</td>
<td>.029*</td>
<td>-.85</td>
<td>.383</td>
<td>-1.62</td>
<td>-.09</td>
<td></td>
</tr>
<tr>
<td>June</td>
<td>-1.57</td>
<td>80</td>
<td>.121</td>
<td>-.60</td>
<td>.380</td>
<td>-1.35</td>
<td>.16</td>
<td></td>
</tr>
<tr>
<td>July</td>
<td>-2.94</td>
<td>79</td>
<td>.004*</td>
<td>-1.23</td>
<td>.420</td>
<td>-2.07</td>
<td>-.40</td>
<td></td>
</tr>
<tr>
<td>August</td>
<td>-3.66</td>
<td>48</td>
<td>.001*</td>
<td>-1.65</td>
<td>.451</td>
<td>-2.56</td>
<td>-.72</td>
<td></td>
</tr>
<tr>
<td>September</td>
<td>-3.15</td>
<td>74</td>
<td>.002*</td>
<td>-1.32</td>
<td>.420</td>
<td>-2.16</td>
<td>-.48</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>-2.99</td>
<td>81</td>
<td>.004*</td>
<td>-.95</td>
<td>.317</td>
<td>-1.58</td>
<td>.10</td>
<td></td>
</tr>
</tbody>
</table>

Note: Equal variances are assumed in the reporting of these results
*Indicated significance at the p<.05 level
1= Combined total for the 8-month off-season

Table 7.
Monthly Attendance Expectancies for Combined Off-Season Activities

<table>
<thead>
<tr>
<th>Off-Season Activity Perceptions: Monthly Breakdown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coaches (n = 180)</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td><strong>Month:</strong></td>
</tr>
<tr>
<td>March</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>April</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>May</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>June</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>July</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>August</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>September</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Athlete Perceptions of Off-Season Activities and Burnout

The next hypothesis for this study was that athlete ratings of attendance-expectancy for off-season activities would be positively related to perceptions of athlete burnout. Correlation was computed for the athlete’s ratings of the Basketball Off-Season Activity Survey, using the combined 7-month scores for perceptions of off-season activity attendance-expectancy, and the Athlete Burnout Questionnaire. Results indicated there was no correlation between these two variables: \( r(13) = -.024, p = .938 \). A low correlation between variables was also found when analyzing each of the seven months individually. These results suggest that how an athlete in this sample view expectations for attending off-season activities has no bearing on their level of feeling “burned out” from their basketball participation. Though the sample size was very small (\( n = 13 \)), the results of these correlation analyses do not support Hypothesis Two.

Athlete Perceptions of Burnout and Sport Specialization

Hypothesis Three stated athlete ratings of burnout would be negatively correlated to their ratings of sport specialization. A correlation was conducted between the athlete’s score on the Basketball Specialization Questionnaire and the Athlete Burnout Questionnaire, revealing a
moderate, positive but non-significant correlation: $r(13) = .511$, $p = .075$. This calculation suggests that for the athletes in this study, more favorable perceptions of specialization (i.e., higher BSQ ratings) tended to coincide with higher ratings of feeling burned out. Though this correlation was not significant at the $p < .05$ level and was calculated from a small sample, the results were in the suggested direction. Hypothesis Three was not supported.

To further analyze the data, the athlete’s report of whether they play one or multiple sports (i.e., specialized or diversified) were analyzed for differences in Athlete Burnout, using a t-test for equality of means. This analysis built on the previous analysis by examining if the actual nature of sport participation was related to burnout. The results of the $t$-test showed a significant effect of sport participation type (i.e., specialization or diversification), $t(12) = 2.65$, $p < .05$. This analysis signifies that athletes who specialize averaged higher burnout scores ($M = 48.00$, $SD = 11.31$), than athletes who had a diverse sport experience ($M = 30.40$, $SD = 8.22$). Finding a significant difference between the means of these two groups is even more fascinating when considering the extremely small size of this sample ($n = 12$).

**Participant Perceptions of Sport Specialization and Off-Season Activities**

The final hypothesis of this study was that coach and athlete ratings of sport specialization would be positively correlated with their ratings of attendance expectancy for off-season activity. To analyze the relationship between these two variables, separate correlation analyses were calculated for the coach and athlete groups. For the athlete sample, a weak-moderate, non-significant negative correlation was found: $r(13) = -.333$, $p = .267$, meaning that the more an athlete endorsed specialization as a beneficial way of structuring their high school sport experience, the more likely they were to see off-season activities as voluntary. In the coach sample, a weak, non-significant correlation was found in the opposite direction: $r(70) = .164$, $p = .174$. This means that the more positive a coach’s perception was of specialization, the more likely he or she was to see off-season activities as *mandatory*. Hypothesis Four was not supported.

**Exploratory Analysis**

After analyzing the four hypotheses of this study, several other characteristics of the participants were analyzed in relation to the three main variables (i.e., off-season activity perceptions, specialization perceptions, and burnout). Due to the low number of athlete
participants, only coach data was included in these exploratory analyses, so the variable of athlete burnout was excluded.

*Off-Season Activity Perceptions and Basketball Experience.* One of the characteristics that was gathered for coaches was their experience both as a player and a coach at each level of organized basketball. Their total years of playing and coaching at each level were separately summed and a correlation analysis was performed with these scores and the Basketball Off-Season Activity Survey. For years of coaching experience, no significant correlation was found: \( r(71) = .047, p = .697 \). However, in terms of their years of *playing* experience, a moderate positive significant correlation was found: \( r(71) = .324, p < .01 \). Interestingly enough, these results suggest that while a person’s experience in coaching has no effect on their perceptions of off-season activity attendance-expectancy, those who have actually played more basketball in their life are more likely to see off-season activities as mandatory to attend.

*Off-Season Activity Perceptions and School Size.* Another variable that was postulated to play a role in off-season activity perceptions was school size. This characteristic was normalized by state (i.e., Division I for Ohio, AAAA in West Virginia) so that a correlation analysis could be conducted between the coach’s school size classification and their perceptions of off-season activity expectations. These two variables showed a significant weak-moderate negative correlation, \( r(68) = -.261, p < .05 \). This finding suggests that the larger a school, the less likely coaches were to rate off-season activities as mandatory. The potential implications of this relationship in regards to the DMSP and effective talent development will be further elaborated on in the discussion section.
CHAPTER FOUR
DISCUSSION

High school sports are frequently viewed as a positive way for students to engage in extracurricular activity to enhance their physical abilities, social skills, cognitive development, and moral reasoning (Camire, 2014). Despite all of these positive consequences from the impact of sport participation for high school-aged athletes, there has been a lack of exploration as to how sport involvement may actually lead to a negative impact on its many participants (Camire, 2014). This is especially relevant in relation to the trend for increasingly early specialization, which often results in athletes engaging in year-round training regimens to keep “in shape” and improve skills for that particular sport (Vealey & Chase, in press). This study was designed to investigate how off-season sport activities may affect an athlete’s experience of high school sport participation in terms of the degree to which they feel they are expected to attend. Based on these attendance-expectancies, the study also aimed to determine whether these perceptions were similar between the athletes and their coaches and how they related to perceptions of sport specialization and athlete burnout at the high school level. In this section, the participants’ results for the Basketball Off-Season Activity Survey (completed by both coaches and athletes), the Basketball Specialization Questionnaire (completed by both coaches and athletes), and the Athlete Burnout Questionnaire (completed solely by athlete participants) will be discussed in relation to the previous literature in the sport psychology. Findings of this study are also compared to the framework and recommendations of the Developmental Model of Sport Participation (Cote et al., 2003) to investigate how the real-world experiences of coaches and athletes compare to the conceptual structure of this model. Finally, limitations, assumptions, and directions for future research are summarized.

Perceptions of Attendance-Expectancies for Off-Season Activities

The incongruent perceptions of off-season training activities between coaches and athletes in terms of their expectations for player attendance was one of the most critical findings of this study. The literature base of high school sport research (e.g., Camire, 2014) is notably bereft of exploration related to off-season training programs, as well as comparison of perceptions between coaches and athletes. Therefore, the findings of this study are vital to better understanding a high school athlete’s year-round sport participation experience. It was predicted that when rating off-season activities in terms of attendance-expectancy, coaches would rate
activities as much more voluntary than their players. Looking at the overall and monthly perceptions of activities presented in the results section, this is clearly the case within the participants of this study. Even in terms of the type of activity, athletes rated all five listed activities as more mandatory than their coaches. However, both groups ranked the activities in the same order in terms of attendance-expectancy, listed from ratings of most mandatory to most voluntary: 1) Weight-lifting/conditioning, 2) summer leagues/tournaments, 3) Open gyms, 4) Team camps/shootouts, and 5) Team recreational activities. These results show that coaches and athletes have the same relative understanding of the importance of attending each type of off-season activity, athletes just see each as much more mandatory to attend.

This hypothesized disparity was a major impetus for this study, and the results have important implications for coaches and administrators of high school sport. Whether coaches actually believe that these off-season activities are voluntary or are just apt to label them as such, the results of these measures clearly illustrate that athletes do not feel the same way. Qualitative descriptions of the benefits and consequences of attendance for off-season activities are mirrored between coaches and athletes, leading to a belief that it is not the perceptions that differ, but the labels. For benefits, coaches frequently included ideas related to improved physical conditioning and “skill development.” Players were much less likely to include any positive outcomes, though one player did mention “extra conditioning.” However, when discussing negative consequences, “less playing time” was one of the most common themes among both coach and athlete participants. One coach elaborated that “If 2 players are relatively equal in regards to skill, [t]he decision for playing time or making the team will favor the player who participated more in our summer program.” One athlete’s response echoed this notion: “It shows the coaches it's not important to you and they might cut you.” While coaches are rating these activities as more voluntary than the players, much of the participants’ qualitative descriptions suggest that the players may just be rating these activities more realistically in terms of the potential outcomes stemming from attendance. Restrictions and guidelines for off-season activities that are in place through their governing organization (e.g., OHSAA, WVSAAC) may further cloud the labelling, nature, and delivery of off-season activities. In future research, qualitative interviews with coaches and players would be highly-beneficial in supplementing the brief comments and qualitative data collected through this introductory study. Overall, the participant responses clearly illustrated that coaches and athletes do not perceive off-season activities in the same way
in terms of expectations for attendance. Previous research has shown that the messages and attitudes of coaches are vital in shaping the beliefs and perceived team climate of their players (Pensgaard & Roberts, 2002). The results of this study indicate that these messages and attitudes that the coach believes they are presenting may not necessarily be accurately perceived by their athletes. This disconnect creates the potential for miscommunication and tension between the coaches and athletes that may harm the team’s ability to work as a cohesive unit. Implications of this finding suggest that if coaches do not want athletes to view off-season activities as strictly mandatory with negative consequences for failing to attend, then they need to significantly alter both the way that they communicate their messages relating to off-season programs, as well as their more concrete behaviors such as how attendance affects playing time and team selection.

Other variables related to attendance-expectancies for off-season activities also yielded some interesting findings. For athletes, there was a strong positive correlation between the number of years playing basketball and the likelihood that they viewed off-season activities as mandatory. This finding nicely fits the recommendations of the elite track of the Developmental Model of Sport Participation, signifying their belief that they should be increasingly committing more time to basketball as they approach the end of their high school playing career. However, as reported earlier, these athletes (on average) view themselves as unlikely to continue playing in college, meaning that this endorsement of the elite-athlete track may be ill-fitting to their ultimate destination as an athlete. The athlete’s perceived role was also analyzed and showed a weak positive correlation with off-season activity attendance-expectancy. Though the sample size was small, this result signifies a kind of leveling effect between members of the same team in reference to expectations for attending off-season activities, whether the player is a starter, second string, or rarely play. Considering that perceived role does not seem to significantly affect the athletes’ perceptions of off-season activities, players seem to be following the elite track of the DMSP regardless of their ability, providing support for the idea that only one track is being utilized in high school sport settings. Future research is needed with a larger sample size to explore these relationships.

For the coaches, one fascinating finding was how their off-season activity perceptions were related to their years of experience in organized basketball. The correlation between years of coaching experience and attendance-expectancies for off-season activities was close to zero and non-significant, but the correlation between years of playing experience and attendance-
expectancy was moderately positive and significant at the .01 level. These correlations mean that years of coaching seems to be irrelevant in terms of off-season activity expectancies, but the more years that a coach had as a player, the more likely they are to now view off-season activities as mandatory for the team that they coach. The reasoning for the disparity between correlations is unclear, though one hypothesis is that after enduring more years of practice and training, they seek similar levels of commitment from their current athletes. Determining if this relationship would hold up in a larger sample size would be an interesting line of future research for better understanding coaches’ perceptions of attendance-expectancy for off-season activities.

**Perceptions of Sport Specialization**

Contemporary sport has shown a recent trend of pushing for increasingly focused sport specialization at an increasingly early age (Vealey & Chase, in press). In response to this trend, sport psychology researchers and practitioners have created models designed to guide athletes through the process of effectively structuring their sport participation (e.g., Cote et al., 2003; Balyi & Hamilton, 2004), and even some top-level coaches and administrators have posited their desire for well-rounded, diversely-experienced athletes (Matz, 2014). The question then becomes, how are these conflicting ideas influencing the perception and application of sport specialization in practical youth sport settings? This study explored this concept, particularly in the widely-popular and highly-participated context of high school sport (NFHS, 2011).

The participants of this study (both coaches and players) seemed to adopt the notion that specialization was a suboptimal pattern for most high school athletes, as evidenced by their low global ratings on the Basketball Specialization Questionnaire. However, the individual items’ means illuminated some interesting findings about the intricacies of their perceptions. For example, the coach sample rated item 1 (“I believe that all high school athletes should specialize in only one sport”) the lowest of any item on the measure; however, they rated item 5 (“The majority of players I compete against play only basketball”) the highest. The large gap in their perceptions of what they think high school players should do and what they believe their competitors are actually doing may explain why they tend to portray an outward message of mandatory year-round commitment from their players. This may not be intentional, but the much smaller gap between these two items for the athletes may lend further credence to this explanation.
Another concept that was important to analyzing coach and athlete perceptions of specialization was how they felt elite athletes should deal with specializing at the high school level. Item 4 (“Players who wish to play basketball at the collegiate level and beyond should focus on playing and training for basketball year-round”) was included to determine if this perception varied at all from their overall perception, and it indeed did. Athletes rated this item the highest on the survey by a significant margin, and coaches showed the second highest item rating of the ten included in the measure (only behind their rating of the item relating if they believed their competitors specialized). From their scores on this item, there is evidence that both groups support specialization for “elite-track” athletes; however, as mentioned earlier, they strongly believe that specialization should not be a blanketed approach for all athletes. From these results, it seems that both coaches and athletes feel that a participatory, recreational approach that allows and encourages multi-sport participation should be provided in high school sport. This belief would seem to align nicely with the recommended two-track nature of the DMSP which allows the opportunity for elite and recreational participation (Cote et al., 2007), a well-suited approach when considering that the participants of this study rated their likelihood of playing basketball in college as very low. The question then becomes, how do these reported attitudes align with their actual behaviors?

To get a basic idea of these behaviors, the participants completed the Basketball Off-Season Activity Survey to illustrate what activities were included in their off-season, as well as how they perceived the expectation for player attendance. As discussed above, the coaches rated these activities toward the voluntary end of the spectrum, while players rated them as much more mandatory. These ratings suggest that coaches feel that their off-season programs do not hinder participation in other sports or activities because they are mostly “voluntary” and should not lead to negative consequences if the players fail to attend. However, if the athletes believe that their basketball off-season activities are mandatory and that they must go to avoid receiving negative consequences (such as losing playing time), how will they be able to manage the in-season demands of other sports? In summary, while coaches and athletes both seem to want the same type of “two-track” high school sport experience that the sport psychology literature recommends in regards to specialization, the results of this study may suggest that only the coaches are actually perceiving the contemporary climate as such.

**Athlete Burnout**
The third and final concept that was examined through this study was athlete burnout. With the increasing push for year-round training in one sport, feeling physically, mentally, or emotionally “burned out” was seen as a logical potential outcome. An encouraging finding of this sample was that their burnout overall and subscale means were very low, indicating that they did not feel burned out overall or in any of the three dimensions (i.e., physical and emotional exhaustion, reduced sense of accomplishment in their sport, devaluation of sport). Interestingly enough, these burnout scores showed no correlation with scores on the Basketball Off-Season Activity survey, suggesting that off-season activity perceptions may not play a role in causing athletes to feel burned out. However, there are a few important considerations in this relationship. First, the sample size of athletes was very small, the players came from the same team, and the correlation was non-significant. Secondly, the athletes may have been subject to social desirability bias in order to avoid giving the impression of low commitment to their team (despite the assurance of response confidentiality). Finally, the timing of participation could have greatly affected the correlation between these two variables. Athlete data was collected at the conclusion of the basketball regular season, so any feelings related to burnout would have most likely been due to in-season demands, not those of the off-season. Taking the burnout measure in the middle or towards the end of their off-season training may lead to different (and potentially more valid) results.

Continuing on the construct of athlete burnout, athletes’ scores were linked with their perceptions of sport specialization. The hypothesized relationship between these two constructs was a negative correlation, meaning that athletes who rated specialization practices more favorably would be less likely to experience burnout. Preliminary studies linking athlete burnout and sport specialization suggest that athletes who practice more diverse patterns of sport participation (e.g., Strachan et al., 2009; Gould et al., 1996; Wall & Cote, 2007) are less likely to feel burned out, a concept that was used as the foundation of this hypothesis. However, this study provided an added benefit of not only measuring burnout scores in relation to type of an athlete’s sport participation, but also how athletes perceive the issue of specialization vs. diversification. The correlation between perceptions of specialization and athlete burnout was positive and moderate-strong (though not significant at the $p < .05$ level), indicating that athletes who endorsed specialization were also more likely to feel burned out. While this relationship was the opposite of what was predicted in Hypothesis 3, it may have illuminated an error in the original
line of thinking when constructing the hypothesis. When doing so, it was predicted that athletes who did not endorse specialization would be more likely to be burned out due to an increasing attitude in high school sports programs towards specializing. However, this presumption may have incorrectly assumed that athletes who favored diversifying their sport participation were unable to do so. In actuality, the sample’s results appear to demonstrate that athletes who favor specialization will specialize in one sport, and athletes who favor diversification will play multiple sports; this participation decision is still made via their own volition. This idea is reinforced when comparing the sample’s correlation between actual sport participation and burnout scores, which aligns with prior research findings that the athletes who specialized scored significantly higher mean scores on the burnout measures than athletes who diversified. The same relationship is found when breaking down the number of sports an athlete plays, not just whether they are a single or multi-sport athlete. Overall, these findings suggest that even in the face of the increasing push for sport specialization at the high school level, student-athletes are still able to make their own decision in regard to playing one or multiple sports.

**Implications for Cote’s Developmental Model of Sport Participation**

Cote’s Developmental Model of Sport Participation (Cote, et al., 2003) provides a recommended pathway for structuring young athletes’ sport participation with the goal of creating a developmentally-appropriate path for sport participation. This model provides recommendations for specializing, and uses estimated ages to guide athletes through the three stages of this framework. However, the suggestion to move towards exclusive specialization in Stage 3 (i.e., “the Specializing Years”) is only meant to apply to those athletes on the track for elite sport. Further clarification of the model suggests that a second recreational/participation track be made available to allow athletes who will not reach elite levels of sport to continue multi-sport participation. This study predicted that the contemporary climate of high school sport places an overwhelming emphasis on the elite-track model of the DMSP, creating a culture that pressures athletes to specialize and is ill-fitted to the majority of athletes who will never reach the elite levels of sport. Through the measures of this study, we hoped to uncover the actual availability of dual-track participation in high school sport settings.

Both the athletes’ ratings of their likelihood of playing collegiately and the coaches’ estimated percentage of their players that will go on to play collegiately emphasize that the participants of this study believe that most of these athletes are not on an elite track. Therefore,
the DMSP posits that the option to participate in multiple sports should be available. One of the most interesting finding from the athletes in this study was that despite the noted trends towards specialization and year-round training, 10 of the 12 athletes reported currently playing on two or more sport teams (i.e., sport diversification), while only two reported specializing in basketball (one participant did not provide the nature of their participation). While this sample size is too small to form a strong conclusion, it appears that athletes are still able to overcome the obstacles of playing multiple sports if they wish to do so. Furthering this notion is the difference in scores related to specialization perceptions, which suggests that athletes who perceive specialization positively are the ones who specialize, while those who favor diversification are able to do so. These results align with Cote’s recommendations that a second, non-elite track be created to allow athletes the option of participating in multiple sports later into their athletic careers. Allowing high school athletes to choose their own pattern of sport participation provides encouraging support for the concept of dual-track availability that the DMSP recommends.

However, the findings stemming from the Basketball Off-Season Activity Survey may undermine those of the specialization perceptions. While the mean coach rating for attendance-expectancy of off-season activities was associated with being voluntary and no negative consequences for failing to attend, players perceive these activities as much more mandatory. If players feel that they must attend the off-season activities in these off-season months, how are they able to manage their time and energy resources to fully engage in other sports during the summer and fall months? Though the results of this study present some promising results concerning an athlete’s ability to choose their own path of participation to ensure an enjoyable experience, a larger and more diverse sample is needed to clarify the degree to which the recommendations and framework of the DMSP are being embraced by high school sport programs.

Assumptions

Several assumptions are associated with this study. For one, participants were assumed to be truthful to the best of their ability when completing the measures. We also assumed that by ensuring confidentiality in answers and disallowing disclosure between coaches and athletes that the participants felt comfortable that their answers would not have any negative impact on their sport participation. Finally, we assumed that coaches and players had an accurate understanding
of the agenda for off-season activities, and provided accurate descriptions of these programs when completing their surveys.

Limitations

This study was meant to provide an introductory understanding of how perceptions of attendance-expectancy in off-season activities impact interscholastic athletes’ decisions to specialize or generalize in high school sport. Due to this introductory nature, there were several limitations of the study that should be noted. For one, this sample used only one sport (basketball), though there are many others that may have different structures of off-season programs and corresponding cultural differences related to off-season training demands. Secondly, the sample was limited to the region surrounding the study, so the results from this area may differ from other regions based on the regional cultural differences and the organizations for which these schools are nested under. Not all schools have similar resources (e.g., physical training facilities, coaching payroll, travel budgets, etc.) for training their athletes, and basketball may be valued more highly in some communities and regions than others, which may limit the application of the results. Another important consideration is that the athletes competing in this study were ones who have competed in at least one high school sport (basketball) in the most recent season, creating the possibility of a selection bias as opposed to those who may have already dropped out or have never viewed high school sport as an enjoyable experience for them (Camire, 2014). Finally (and possibly most importantly) participant recruitment was unbalanced due to the on-line setup for coach participants (which resulted in much higher participation) as opposed to the face-to-face data collection of athletes. Because of this, the coach sample size was much larger and very diverse, while the athlete sample was much smaller and came from only one team, making the validity and application of the results somewhat uncertain.

Conclusion and Future Research

The main scope of this study was to gain an introductory understanding about how the unexplored concept of off-season training activities affected athletes’ experiences and participation patterns in high school sport, as well as how congruent these perceptions were between athletes and their coaches. Clearly through the results of this study, there is support for the idea that coaches and athletes have incongruent views of the expectations of attendance for these off-season activities and must communicate more effectively to ensure that they are on the
same page. Additional variables of interest were how the increasingly prevalent pattern of specialization was perceived by coaches as athletes, as well as athlete burnout.

Not only were the results of this study promising in regards to our ability to understand the impact of off-season activities and how these programs fit into the current models and recommendations of the field, they have also opened many new avenues for further research. The nature of off-season programs was only explored through the scope of attendance-expectancy of activities; many more characteristics of these programs are vital to forming a more holistic picture. To clarify, participants only indicated whether or not they participated in each activity and how they perceived the expectation that they would attend; the actual nature of these activities (e.g., time of day, level of strenuousness, duration of activities, etc.) would be valuable when examining the same constructs of this study. Qualitative research would also be a beneficial route in developing a clearer, more descriptive understanding of how off-season training programs factor into what we know about high school sports.

While characteristics of this sample failed to produce significant results for several of the study’s proposed relationships, this preliminary data provided a solid foundation for further postulation regarding these variables. Furthermore, the measures introduced through this study (i.e., the Basketball Off-Season Activity Survey and the Basketball Specialization Questionnaire) showed encouraging reliability results that may lead to further application to other sports and athletes for better comprehension of the experiences of high school coaches and athletes. At the very least, treading the novel research terrain of off-season activities in high school sports through this study should provide a wealth of new and exciting directions for future research and applications in the field of sport psychology.
REFERENCES


National Federation of State High School Associations (NFHS). (2013). *NFHS participation*


Appendix A:

Initial Contact E-mail (Coach Participants)

Dear Coach ______,

My name is Justin DiSanti and I am a Master’s student at Miami University. I am contacting you to request your team’s participation in a study for my master’s thesis, which examines coach and athlete perceptions of expected player participation in off-season activities, and how these perceptions relate to talent development and athlete burnout. I have attached a copy of the research description form to further expand on the nature of this study. To participate, please follow the link provided below to the on-line survey, which should take approximately 15-20 minutes to complete. Your participation would be greatly appreciated, and please feel free to contact me with any questions, concerns, or comments regarding this project.

Sincerely,
Justin DiSanti

disantjs@miamioh.edu
(412)-251-2692

SurveyMonkey Link
Appendix B:

Initial Contact E-mail/Script (Used to Recruit Athlete Participants)

Dear ____________.

My name is Justin DiSanti and I am a Master’s student at Miami University. I am contacting you to request your permission to allow the members of your high school basketball team to participate in a study for my master’s thesis, which examines coach and athlete perceptions of expected player participation in off-season activities, and how these perceptions relate to talent development, athlete burnout, and sport specialization. I have attached a copy of the research description form to further expand on the nature of this study.

If you allow your school to participate, I will follow-up to gain permission for athlete participation (i.e., coach, principal, athletic director, superintendent, etc.) according to your school district’s policy. Once permission is gained through following these procedures, I will make an initial school visit to introduce the study to potential athlete participants and explain the procedures. This meeting will occur at a convenient time for the team (e.g., at the conclusion of practice), be completely voluntary, and not include the coach so that athletes do not perceive any pressure from them to participate. Any athlete choosing to attend the meeting will receive an informed consent and parent assent forms (for those under 18) and will be asked to attend a second meeting. At the second meeting, I will collect data from those athletes who consent and have parental permission or those over 18 who give informed consent. Again, the coach will not be present at this meeting in order to assure that the student-athletes do not feel coerced to participate.

Your participation would be greatly appreciated, and please feel free to contact me with any questions, concerns, or comments regarding this project.

Sincerely,

Justin DiSanti

disantjs@miamioh.edu

(412)-251-2692
Appendix C:

Research Description for Participants (Coaches)

Title of Research Project: Congruency between expectations of high school coach and athlete off-season activities: Is sport diversification a realistic option?

Principal Investigators: Justin DiSanti, Department of Kinesiology and Health, Miami University and Dr. Melissa Chase, Professor, Miami University.

You are invited to participate in a research study to investigate how high school basketball coaches and athletes perceive expectations for off-season activities. If you decide to participate you will be asked to complete two on-line questionnaires detailing your perceptions of attendance-expectancy for players in scheduled off-season activities, as well as the environment in terms of effective talent development. These measures will be completed only one time, and the estimated total time for completion is 15-20 minutes. **Throughout the study, always keep in mind that your participation is voluntary and you are free to refuse to participate and/or withdraw from the study at any time without penalty.** You are strongly encouraged to make the research staff aware of any discomfort or concerns you experience during the session.

Any information obtained in connection with this study that can be identified with you will remain confidential and will be disclosed only with your permission. While the answers you provide may be personal in nature, you will never be identified by name, school, or team, and these answers will not be disclosed to any of players, fellow coaches, or school administrators. Therefore, any risks for your participation in this investigation have been minimized, and your participation will NOT have any adverse impact on player’s impression of you. As a participant, you may potentially benefit through the opportunity to think critically about how you perceive basketball off-season activities, and how these perceptions relate to your overall coaching experience. In any written reports, publications, or presentations, no participant will be identified by name. All information that you disclose will NOT be shared with players, fellow coaches, or anyone outside of this study without your explicitly granted permission. Completed questionnaires will be entered into an electronic file and stored on a Miami University secure computer, in a locked office. Only the principal investigator (Justin DiSanti) and academic advisor (Melissa Chase) will have access to the data.

By participating in the study you will be contributing to the literature on effective youth sport talent development.

Do you have any questions regarding your participation in the study?

In the future, if you have any questions or concerns about the study, please contact Justin DiSanti at disantjs@miamioh.edu or Dr. Melissa Chase at Chasema@miamioh.edu. If you have general questions about your rights as a research participant, you may also contact Miami’s Office for the Advancement of Research and Scholarship at 513-529-3734 or humansubjects@miamioh.edu.

You will be provided a copy of this form to keep.
Appendix D:

Research Description for Participants (Players)

Title of Research Project: Congruency between expectations of high school coach and athlete off-season activities: Is sport diversification a realistic option?

Principal Investigators: Justin DiSanti, Department of Kinesiology and Health, Miami University and Dr. Melissa Chase, Professor, Miami University.

You are invited to participate in a research study to investigate how high school basketball coaches and athletes perceive expectations for off-season activities. If you decide to participate you will be asked to complete questionnaires detailing your perceptions of off-season activities, the environment in terms of effective talent development, and athlete burnout. These measures will be completed only one time, and the estimated duration of this aspect of the study will take approximately 30 minutes. The principal investigator will conduct the data collection on-site at the athlete’s high school at a time and place of the participant’s convenience. Throughout the study, always keep in mind that your participation is voluntary and you are free to refuse to participate and/or withdraw from the study at any time without penalty. You are strongly encouraged to make the research staff aware of any discomfort or concerns you experience during the session.

If you are under the age of eighteen, you must be granted parental consent to participate in this study. Any information obtained in connection with this study that can be identified with you will remain confidential and will be disclosed only with your permission. In any written reports, publications, or presentations, no participant will be identified by name. All information that you disclose will NOT be shared with coaches, teammates, or anyone outside of this study without your explicitly granted permission.

Any information obtained in connection with this study that can be identified with you will remain confidential and will be disclosed only with your permission. While the answers you provide may be personal in nature, you will never be identified by name, school, or team, and these answers will not be disclosed to any coach, fellow players, or school administrators. Therefore, any risks for your participation in this investigation have been minimized, and your participation will NOT have any adverse impact on coach’s impression of you or your playing time. As a participant, you may potentially benefit through the opportunity to think critically about how you perceive basketball off-season activities, and how these perceptions relate to your overall sport experience. In any written reports, publications, or presentations, no participant will be identified by name. All information that you disclose will NOT be shared with coaches, teammates, or anyone outside of this study without your explicitly granted permission. The hard copies of your completed questionnaires will be stored in a locked office in a locked filing cabinet, and only the principal investigator (Justin DiSanti) and academic advisor (Melissa Chase) will have access to the data.

By participating in the study you will be contributing to the literature on effective youth sport talent development.

Do you have any questions regarding your participation in the study?
In the future, if you have any questions or concerns about the study, please contact Justin DiSanti at disantjs@miamioh.edu or Dr. Melissa Chase at Chasema@miamioh.edu. If you have general question about your rights as a research participant, you may also contact Miami’s Office for the Advancement of Research and Scholarship at 513-529-3734 or humansubjects@miamioh.edu.

You will be provided a copy of this form to keep.
Appendix E:

Informed Consent Form - Coach

Title of Research Project: Congruency between expectations of high school coach and athlete off-season activities: Is sport diversification a realistic option?

Principal Investigators: Justin DiSanti, Department of Kinesiology and Health, Miami University and Dr. Melissa Chase, Professor, Miami University.

This is to certify that I, ________________, hereby agree to participate as a volunteer in a scientific investigation of coach perceptions of off-season basketball activities and their relation to effective talent development and sport specialization. I agree to participate in this research project as an authorized part of the education and research program of Miami University under the supervision of Dr. Melissa Chase, Professor at Miami University.

The investigation and my part in the investigation have been defined and fully explained to me and I understand the explanation. A copy of the procedures of this investigation has been provided to me and has been discussed in detail with me, which included an expected duration for my participation in the study (i.e., 20-30 minutes).

I am above the legally required 18 years of age to participate in this study

I understand that results of this study will be disseminated through presentation at an academic/professional conference and publication in a peer reviewed journal if accepted. However, I understand that while the answers I provide may be personal in nature, I will never be identified by name, school, or team, and these answers will not be disclosed to any of my players, fellow coaches, or school administrators. Therefore, I confirm that I am assured that any risks for my participation in this investigation have been minimized, and my participation will NOT have any adverse impact on my player’s impression of me. The personal impact of this study has been described to me in the research description (i.e., minimal impact), as well as the potential benefits of my participation (i.e., thinking critically about how I perceive basketball off-season activities).

I understand the procedures for confidentiality in this study, meaning that my completed questionnaires will be entered into an electronic file and stored on a Miami University secure computer, in a locked office. The hard copies of these questionnaires will also be stored in a locked office in a locked filing cabinet, and only the principal investigator (Justin DiSanti) and academic advisor (Melissa Chase) will have access to the data.

I have been given the opportunity to ask questions and all such questions and inquiries have been answered to my satisfaction. I understand that I am volunteering for this study and am free to deny answers to specific questions in the questionnaires. I understand that my answers and
information will be collected and will be kept in Justin DiSanti’s office and will not be available for others. I further understand that I am free to decline participation or withdraw my consent and terminate participation at any time during the study without penalty or loss of potential benefits, and will notify the principal investigator (Justin DiSanti) if I feel any discomfort at any point during my participation in the study. Furthermore, if any future questions or concerns about the study arise, I may contact the principal investigator (disantjs@miamioh.edu) or his academic advisor (chasema@miamioh.edu).

____________________  ___________________
 Date  Date of Birth (optional)

______________________________
Participant's Signature

I, the undersigned have defined and fully explained the investigation to the above participant.

____________________  ___________________
 Date  Investigator's Signature (or that of official representative)

Participants will be provided a copy of this form to keep.
Appendix F: Informed Consent Form – Location

Title of Research Project: Congruency between expectations of high school coach and athlete off-season activities: Is sport diversification a realistic option?

Principal Investigators: Justin DiSanti, Department of Kinesiology and Health, Miami University and Dr. Melissa Chase, Professor, Miami University.

Name of School District: _______________________

This is to certify that _______________________ School District hereby consents to allow their student-athletes to participate as volunteers in a scientific investigation of athlete perceptions of off-season basketball activities and their relation to sport specialization, effective talent development, and athlete burnout. I agree to allow their participation in this research project as an authorized part of the education and research program of Miami University under the supervision of Dr. Melissa Chase, Professor at Miami University. I verify that I have received a copy of the participant’s informed consent form, and I agree to allow athletes who have completed this informed consent form to participate in this study, consistent with the required permission in our school district’s policy.

This investigation and my part in the investigation have been defined and fully explained to me and I understand the explanation. A copy of the procedures of this investigation has been provided to me and has been discussed in detail with me.

I have been given the opportunity to ask questions and all such questions and inquiries have been answered to my satisfaction. I understand that participants are free to deny answers to specific questions in interviews or questionnaires.

I understand that the answers and information collected will be kept in Justin DiSanti’s office and will not be available for others. I further understand that each participant is free to withdraw their consent and terminate participation at any time during the study.

________________________________________
Coach’s Signature

________________________________________
Principal’s Signature

________________________________________
Athletic Director’s Signature

Date
I, the undersigned have defined and fully explained the investigation to the above participant.

Date Investigator's Signature (or that of official representative)
Appendix G:  

Informed Consent Form – Athlete

Title of Research Project: Congruency between expectations of high school coach and athlete off-season activities: Is sport diversification a realistic option?

Principal Investigators: Justin DiSanti, Department of Kinesiology and Health, Miami University and Dr. Melissa Chase, Professor, Miami University.

This is to certify that I, ______________________, hereby agree to participate as a volunteer in a scientific investigation of athlete perceptions of off-season basketball activities and their relation to sport specialization, effective talent development, and athlete burnout. I agree to participate in this research project as an authorized part of the education and research program of Miami University under the supervision of Dr. Melissa Chase, Professor at Miami University.

This investigation and my part in the investigation have been defined and fully explained to me and I understand the explanation. A copy of the procedures of this investigation has been provided to me and has been discussed in detail with me, which included an expected duration for my participation in the study (i.e., 30 minutes).

I am above the legally required 18 years of age or have obtained the necessary parental consent to participate in this study.

I understand that results of this study will be disseminated through presentation at an academic/professional conference and publication in a peer reviewed journal if accepted. However, I understand that while the answers I provide may be personal in nature, I will never be identified by name, school, or team, and these answers will not be disclosed to any of my coaches, teammates, or school administrators. Therefore, I confirm that I am assured that any risks for my participation in this investigation have been minimized, and my participation will NOT have any adverse impact on my coach’s impression of me or my playing time. The personal impact of this study has been described to me in the research description (i.e., minimal impact), as well as the potential benefits of my participation (i.e., thinking critically about how I perceive basketball off-season activities).

I understand the procedures for confidentiality in this study, meaning that my completed questionnaires will be entered into an electronic file and stored on a Miami University secure computer, in a locked office. The hard copies of these questionnaires will also be stored in a locked office in a locked filing cabinet, and only the principal investigator (Justin DiSanti) and academic advisor (Melissa Chase) will have access to the data.

I have been given the opportunity to ask questions and all such questions and inquiries have been answered to my satisfaction. I understand that I am volunteering for this experiment and am free to deny answers to specific questions in the questionnaires. I understand that my answers and
information will be collected and will be kept in Justin DiSanti’s office and will not be available for others. I further understand that I am free to decline participation or withdraw my consent and terminate participation at any time during the study without penalty or loss of potential benefits, and will notify the principal investigator (Justin DiSanti) if I feel any discomfort at any point during my participation in the study. Furthermore, if any future questions or concerns about the study arise, I may contact the principal investigator (disantjs@miamioh.edu) or his academic advisor (chasema@miamioh.edu).

Date

Date of Birth

Participant's Signature

Parent/Guardian Signature (optional)

I, the undersigned have defined and fully explained the investigation to the above participant.

Date

Investigator's Signature (or that of official representative)

Participants will be provided a copy of this form to keep.
Appendix H: Participation Assent Form

This is a study to examine what you think about your basketball team’s activities in the off-season. If you agree to be in this study, you will be asked questions that will help us better understand what athletes like you do in the off-season, how you feel about these activities, how you feel about playing basketball, and how and why you decide to play other sports or only basketball. The questions we will ask are only about what you think, and there are no right or wrong answers.

By being in this study, you will be taking part in a research project that is an authorized part of the education and research program of Miami University under the supervision of Dr. Melissa Chase, Professor at Miami University. Since you are under 18 years-old, you will also need to get your parent’s permission to take part in this study.

This investigation and your part in the investigation have been defined and fully explained to me and I understand the explanation. A copy of the procedures of this investigation has been provided to me and has been discussed in detail with me,

You should understand that the results of this study may be used in future academic and professional presentations, conferences in journals. However, while the answers you provide may be personal in nature, you will never be identified by name, school, or team, and these answers will not be disclosed to any of your coaches, teammates, or school administrators. Therefore, any risks for participating in this investigation have been minimized, and your participation will NOT have any negative impact on your coach’s impression of you or your playing time. The personal impact of this study has been described to you in the research description (i.e., minimal impact), as well as the potential benefits of your participation (i.e., thinking critically about basketball off-season activities).

Your completed questionnaires will be entered into an electronic file and stored on a Miami University secure computer, in a locked office. The hard copies of these questionnaires will also be stored in a locked office in a locked filing cabinet, and only the principal investigator (Justin DiSanti) and academic advisor (Melissa Chase) will have access to the data.

If you sign this paper, it means that you have read this and want to be in this study. It also means that you agree that you have been given the opportunity to ask any questions or voice any concerns you have about being in this study and have had them answered to your satisfaction. Your participation in this study should take about 30 minutes. It is important to remember that your participation is completely voluntary, and if you do not want to be in this study or at any time you do not want to finish, it is no problem and you just need to let the researchers know. If any future questions or concerns about the study arise, you may contact the principal investigator (disantjs@miamioh.edu) or his academic advisor (chasema@miamioh.edu).

Your printed name: ___________________________ Date: _____________

Your signature: ___________________________
Investigator’s Signature:  

Date:  

72
Appendix I:

Coaches Demographic and Sport Background Questionnaire

1. Age: ___________

2. Gender: Male Female

3. Gender of Athletes you Coach: Male Female

4. In what state is your high school located? ____________________________

5. Years of Basketball playing experience.
   Youth sport ______
   Middle school ______
   Freshmen ______
   Junior varsity ______
   Varsity ______
   Collegiate/Pro ______

6. Years of Basketball coaching experience
   Youth sport ______
   Middle school ______
   Freshmen ______
   Junior varsity ______
   Varsity ______
   Collegiate/Pro ______

7. Overall Coaching Estimated Team Winning Percentage: _____________%

8. In your best estimate, what percentage of your players will go on to play basketball collegiately? ___________ %
Appendix J:

Athlete Demographic and Sport Background Questionnaire

1. Age: ____________  Year in School: ________________

2. Gender:  Male ______  Female ______

3. Years of Basketball Experience
   a. Youth sport ______
   b. Middle school ______
   c. Freshmen ______
   d. Junior varsity ______
   e. Varsity ______

4. Estimated Team Winning Percentage for the CURRENT/MOST RECENT SEASON:
   Winning Percentage = ______________%

5. How would you best describe your CURRENT role on the team?
   a. Starter ______
   b. 2nd String ______
   c. Rarely Play ______

6. Rate each reason below that best describes why you play basketball.
   1 – strongly disagree; 2 – disagree; 3 – neither agree/disagree; 4 – agree; 5 – strongly agree

   a. To have fun   1 2 3 4 5
   b. To be with friends  1 2 3 4 5
   c. To stay in shape   1 2 3 4 5
   d. To improve my skills  1 2 3 4 5
   e. To get exercise    1 2 3 4 5
   f. To be a part of school team  1 2 3 4 5
   g. To earn a college scholarship  1 2 3 4 5
7. How likely is it that you will go on to play basketball at the collegiate level? (Circle answer that best applies to you)

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Very Unlikely</td>
<td>Unlikely</td>
<td>50/50 Chance</td>
<td>Likely</td>
<td>Very Likely</td>
</tr>
</tbody>
</table>

8. On a scale of 1-10 (1 being the easiest, 10 being the hardest), how would you rate the competitiveness to make the basketball team at your school? ____________

9. On a scale of 1-10 (1 being easiest, 10 being the hardest), how would you rate the competitiveness for playing time at your school? ____________

10. What other organized sports have you played besides basketball? Please indicate all sports for which you have participated in an organized team/league, and mark either “X” if you are still participate in this sport, or list the estimated last year in which you participated in this sport in an organized fashion (mark N/A if basketball is your only sport)

<table>
<thead>
<tr>
<th>Sport</th>
<th>Currently Play</th>
<th>Age When Last Played</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Why did you stop playing these sports?
Appendix K:

Basketball Off-Season Activity Survey

Instructions: Please mark “X” next to the activities in which your players participate during the official high school basketball off-season, then rate each item based on how you would BEST describe your expectation for their attendance.

NOTE: The amount of enjoyment the players receive from participation in these activities should NOT affect your answers; your perceptions of their expectancy is what is important.

- 1 = completely voluntary, no negative consequences for failure to attend
- 2 = mostly voluntary, but some potential negative consequences for failure to attend
- 3 = somewhat voluntary, though expected to attend
- 4 = not explicitly mandatory, but negative consequences likely for failure to attend
- 5 = explicitly mandatory, high likelihood of negative consequences for failure to attend

Basketball Off-Season Activity Survey

<table>
<thead>
<tr>
<th>Month</th>
<th>Activity</th>
<th>“X”</th>
<th>Expectation</th>
</tr>
</thead>
<tbody>
<tr>
<td>February</td>
<td>Weight-lifting/Conditioning Programs</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>Team Camps/Shootouts</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>Open Gyms</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>Summer Leagues/Tournaments</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>Team Recreational Activities</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>Other:</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>March</td>
<td>Weight-lifting/Conditioning Programs</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>Team Camps/Shootouts</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>Open Gyms</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>Summer Leagues/Tournaments</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>Team Recreational Activities</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>Other:</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>April</td>
<td>Weight-lifting/Conditioning Programs</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>Team Camps/Shootouts</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>Open Gyms</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>Summer Leagues/Tournaments</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>Team Recreational Activities</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>Other:</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>May</td>
<td>Weight-lifting/Conditioning Programs</td>
<td>1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td></td>
<td>June</td>
<td>July</td>
<td>August</td>
</tr>
<tr>
<td>----------------</td>
<td>-------------------------------------------</td>
<td>-----------------------------------------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>Weight-lifting/Conditioning Programs</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Team Camps/Shootouts</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Open Gyms</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Summer Leagues/Tournaments</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Team Recreational Activities</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Other:</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Please provide some examples of potential negative consequences for non-participation and positive consequences for off-season participation

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________
Are there any additional comments or information not apparent in this survey that you feel prudent to understanding expectations of player participation in off-season basketball activities?
Appendix L:

Basketball Specialization Questionnaire (Coaches)

Specialization is defined as “an investment in a single sport through systematic training and competition, typically including year-round participation in that sport, to pursue proficiency and enjoyment in a ‘signature’ activity.” (Vealey & Chase, in press). The following questions are related to the concept specialization in high school sports.

Instructions: Please circle the number that you feel best applies to your views of sport specialization for each item from 1-5:
  * 1 = strongly disagree
  * 2 = disagree
  * 3 = neither agree/disagree
  * 4 = agree
  * 5 = strongly agree

1. I believe that all high school athletes should specialize in only one sport

   1  2  3  4  5

2. I would like for my players to only play one sport

   1  2  3  4  5

3. For our team to be successful, each player should focus on playing and training for basketball year-round

   1  2  3  4  5

4. Players who wish to play basketball at the collegiate level and beyond should focus on playing and training for basketball year-round

   1  2  3  4  5

5. The majority of teams we compete against have players who specialize only in basketball
6. Once athletes reach high school, they should pick one sport and concentrate on playing and training for that sport year-round.

7. Athletes who specialize in one sport are more likely to have an enjoyable experience from their sport participation than those who play multiple sports.

8. If it were entirely up to my players, they would choose to play only one sport.

9. The requirements of playing basketball limit my players’ involvement in other activities in which they would like to participate.

10. If it were entirely up to me, I would choose for my players to only participate in basketball.
Appendix M: Basketball Specialization Questionnaire (Athletes)

Specialization is defined as “an investment in a single sport through systematic training and competition, typically including year-round participation in that sport, to pursue proficiency and enjoyment in a ‘signature’ activity.” (Vealey & Chase, in press). The following questions are related to the concept specialization in high school sports.

Instructions: Please circle the number that you feel best applies to your views of sport specialization for each item from 1-5:

- 1 = strongly disagree
- 2 = disagree
- 3 = neither agree/disagree
- 4 = agree
- 5 = strongly agree

1. I believe that all high school athletes should specialize in only one sport

1 2 3 4 5

2. I feel pressure from my coach to only play one sport

1 2 3 4 5

3. For our team to be successful, each player should focus on playing and training for basketball year-round

1 2 3 4 5

4. Players who wish to play basketball at the collegiate level and beyond should focus on playing and training for basketball year-round

1 2 3 4 5

5. The majority of players I compete against only play basketball
6. Once athletes reach high school, they should pick one sport and concentrate on playing and training for that sport year-round.

7. Athletes who specialize in one sport are more likely to have an enjoyable experience from their sport participation than those who play multiple sports.

8. If it were entirely up to me, I would choose to play only one sport.

9. The requirements of playing basketball limit my involvement in other activities in which I would like to participate.

10. If it were up to my coach, they would like for me to only play basketball.
Appendix N:  

**Athlete Burnout Questionnaire**

Instructions: Please circle the number you feel best applies to you for each item from 1-5:

- 1 = almost never
- 2 = rarely
- 3 = sometimes
- 4 = frequently
- 5 = almost always

1. I’m accomplishing many worthwhile things in basketball:
   - [ ] 1   [ ] 2   [ ] 3   [ ] 4   [ ] 5

2. I feel so tired from my training that I have trouble finding energy to do other things:
   - [ ] 1   [ ] 2   [ ] 3   [ ] 4   [ ] 5

3. The effort I spend in basketball would be better spent doing other things:
   - [ ] 1   [ ] 2   [ ] 3   [ ] 4   [ ] 5

4. I feel overly tired from my basketball participation:
   - [ ] 1   [ ] 2   [ ] 3   [ ] 4   [ ] 5

5. I am not achieving much in basketball:
   - [ ] 1   [ ] 2   [ ] 3   [ ] 4   [ ] 5

6. I don’t care as much about my basketball performance as I used to:
   - [ ] 1   [ ] 2   [ ] 3   [ ] 4   [ ] 5

7. I am not performing up to my ability in basketball:
   - [ ] 1   [ ] 2   [ ] 3   [ ] 4   [ ] 5

8. I feel “wiped out” from basketball:
   - [ ] 1   [ ] 2   [ ] 3   [ ] 4   [ ] 5

9. I’m not into basketball like I used to be:
   - [ ] 1   [ ] 2   [ ] 3   [ ] 4   [ ] 5

10. I feel physically worn out from basketball:
    - [ ] 1   [ ] 2   [ ] 3   [ ] 4   [ ] 5
11. I feel less concerned about being successful in basketball than I used to:
   1  2  3  4  5

12. I am exhausted by the mental and physical demands of basketball:
   1  2  3  4  5

13. It seems that no matter what I do, I don’t perform as well as I should:
   1  2  3  4  5

14. I feel successful at basketball:
   1  2  3  4  5

15. I have negative feelings toward basketball:
   1  2  3  4  5

*Note: This scale is taken from Raedeke & Smith's (2001) “Development and preliminary validation of an athlete burnout measure,” and adopted for basketball players
Appendix O:

Debriefing Form

Thank you for agreeing to participate in this study. The general purpose of the study is to explore how coaches and athletes perceive off-season basketball activities, and how this relates to constructing an effective environment for talent development, as well as athlete burnout.

As a reminder, any information obtained in connection with this study that can be identified with you will remain confidential and will be disclosed only with your permission. In any written reports, publications, or presentations, no participant will be identified by name. All information that you disclose will NOT be shared with coaches, teammates, or anyone outside of this study without your explicitly-granted permission.

For the sake of the study, please do not share the Chapt of your participation with other potential participants.

If you have further questions about the study, please contact Justin DiSanti at disantjs@miamioh.edu. If you have any concerns about any aspect of the study you may contact Miami’s Office for the Advancement of Research and Scholarship at 513-529-3734 or humansubjects@miamioh.edu.