

# Research in Youth Sports: Critical Issues Status\*

*White Paper Summaries of the Existing Literature*

11-01-04



By

**Ryan Hedstrom & Daniel Gould**

Institute for the Study of Youth Sports  
College of Education  
Department of Kinesiology  
Michigan State University  
Room 210 IM Sports Circle  
East Lansing, MI 48824-1049  
517-432-0175 (phone)  
517-353-5363 (fax)  
drgould@msu.edu

\* A project conducted for the Citizenship Through Sports Alliance, Kansas City, Mo.

**Contents**

Overview.....3

The Benefits of Youth Sport Participation.....4

Youth Sport Coaching: Development, Approaches, and Educational Needs.....9

Health and Safety in Youth Sports: Injury Risk and Obesity .....15

Youth Sports: Involvement, Participation, and Dropout .....21

The Role of Parents in Children’s Sports .....26

Youth Sports: Talent Development and Sports Specialization.....34

## Overview

In the United States youth sports is a highly popular activity that is assumed to have important physical, psychological and social development consequences for those millions of children and youth involved. Moreover, given the contemporary epidemic of inactivity and obesity in American children, youth sports is thought to play a major role in improving children's health and welfare for years to come.

Despite these perceived benefits, contemporary youth sports has its critics that see this highly popular children's activity as plagued by major problems. Concerns have been voiced regarding the highly competitive nature of youth sports and it is often argued that young athletes become injured or burnout as a result of excessive stress and pressure. Still others are thought to learn inappropriate behaviors such as aggression or poor sportspersonship from their involvement.

One problem facing youth sport leaders and policy makers is a lack of understanding relative to the scientific knowledge on children involved in sport and physical activity that has evolved over the last 30 years. Thus, current practices and policies are formed without any contribution from the sport science community. Recognizing this state of the affairs, the Citizenship Through Sport Alliance (CTSA) commissioned the Institute for the Study of Youth Sports at Michigan State University to review the scientific literature on critical issues in youth sports and to write summary white papers on the various topics. These white papers are not intended to be in-depth reviews of the literature in the area. Rather, the charge was to review the literature on selected key issues and identify major findings that could be used to inform CTSA members in forming policies and spearheading projects in this important area. This document is the result of this effort.

### *The Benefits of Youth Sport Participation*

With so many youth participating in sports, either in school or agency-sponsored programs, it is important to examine the possible benefits of this involvement. The benefits and detriments of youth sport participation have been a topic of debate within the research and policy literature, however, numerous benefits have been identified. For instance, Seefeldt, Ewing, and Walk (1992) have identified the following possible benefits associated with competition:

- Learning physical skills. Young athletes learn both fundamental motor skills (e.g., running, jumping and hopping) and sport-specific skills (e.g., how to putt a golf ball or shoot a jump shot in basketball) that allow them to stay active.
- Appreciation of fitness. Two of the motives for participation identified by children is “to get exercise” and “stay in shape” (Ewing & Seefeldt; 1989); participating in sports offers this benefit.
- Sense of belonging. Another strong motive of participation is social interaction. Sports can provide peer interaction through both teammates and healthy competition (see Weiss & Stuntz, 2004 for a review of the literature).
- Acquiring sport skills for leisure. Learning the fundamental motor skills through sport (e.g., proprioception, coordination) can aid in skill development, but can also be transferred to other sports and leisure activities, promoting increased participation and involvement.

In a review of current trends and literature in youth sport, Malina and Cumming (2003) outlined other possible benefits of participation:

- Growth and maturation effects
- Regular physical activity leading to increased fitness
- Self-concept or self-worth effects
- Social competence
- Moral development

Of this list, the benefit of *moral development* has been most debated. Researchers have questioned the notion that “sports builds character” as an automatic by-product of sport participation (Coakley, 2004; Weiss & Smith, 2002). Rather, character must be specifically “taught” versus “caught” (Hodge, 1989). Moreover, research has demonstrated that when fair play, sportsmanship and moral development information is systematically and consistently taught to children in sport and physical education settings, character can be enhanced (Bredemeier, Weiss, Shields, & Shewchuk, 1986; Gibbins, Ebbeck, & Weiss, 1995).

Broader than the moral development literature is the recent focus on teaching underserved youth life skills through after school physical activity programs. For example, Hellison (1995) has developed and tested a model for teaching youth social-emotional skills such as responsibility in after-school activity programs for underserved youth. After a recent review of this research, Hellison and Walsh (2002) concluded that while none of the studies contained sufficient controls to permit generalizations, evidence provides some support for the utility of teaching responsibility (e.g., respect for the rights of others, effort and teamwork, self-direction and goal setting, and leadership) to youth through means like awareness talks, group meetings, and reflection time. It is important to note, however, that these programs were not typical youth sports programs. Rather, they were specially designed after-school “life skill training” programs for underserved youth.

Youth development experts outside of the sports sciences have also begun to study how participation in sport and other leisure time activities influence youth development. Larson (2000), for instance, has suggested that extracurricular and

community-based after school activities foster motivation and intense concentration in adolescents. For these reasons, it has been suggested that after school activities may be particularly useful promoting skills such as initiative and the ability to set and achieve goals.

This assertion was supported in a recent study of 55 high school adolescents involved in extracurricular and community based activities (72% were involved in sport). Dworkin, Larson, and Hansen (2003) found that these young people viewed extracurricular activities as an important growth experience in which psychological skills such as goal setting, time management, and emotional control were learned. In a second more comprehensive investigation, Hansen, Larson, and Dworkin (2003) studied 450 high school students who reported the developmental gains they associated with involvement in a variety of extracurricular activities, including sports. Results revealed that these youth reported higher rates of learning experiences such as identity exploration, reflection, and team skills in sports and extracurricular activities versus participation in regular school classes and unsupervised time with friends. Sports were thus identified as a context for identity work and emotional development. However, participation in sports was also associated with negative experiences like peer pressure and inappropriate adult behaviors. Finally, Steen, Kachorek, and Peterson (2003) found that adolescents reported characteristics like leadership, wisdom, and social intelligence were acquired through life experiences fostered by extracurricular activities.

In summary, a number of physical, psychological, and social benefits can be gained from youth sports participation. However, the developmental benefits of youth

sports are not guaranteed through mere participation. Evidence indicates that the quality of adult leadership is a key factor in maximizing positive effects.

#### References

- Bredemeier, B., Weiss, M.R., Shields, D.L., Shewchuk, R.M. (1986). Promoting growth in a summer sports camp: The implementation of theoretically grounded instructional strategies. *Journal of Moral Education*, 15, 212-220.
- Coakley, J.L. (2004). *Sport and society: Issues and controversies* (8<sup>th</sup> Ed.). St. Louis: Times Mirror/Mosby.
- Dworkin, J. B., Larson, R., & Hansen, D. (2003). Adolescents' accounts of growth experiences in youth activities. *Journal of Youth and Adolescence*, 32 (1), 17-26.
- Ewing, M.E., & Seefeldt, V. (1989). *Participation and attrition patterns in American agency-sponsored and interscholastic sports: An executive summary*. Final Report.
- Gibbins, S.L., Ebbeck, V., & Weiss, M.R. (1995). Fair play for kids: Effects on the moral development of children in physical education. *Research Quarterly for Exercise & Sport*, 66, 247-255.
- Hansen, D., Larson, R., & Dworkin, J. (2003). What adolescents learn in organized youth activities: A survey of self-reported developmental experiences. *Journal of Research on Adolescence*, 13 (1), 25-56.
- Hellison, D. (1995). *Teaching responsibility through physical activity*. Champaign IL: Human Kinetics.
- Hellison, D., & Walsh, X. (2002). Responsibility-based youth programs evaluation: Investigating the investigations. *Quest*, 54 (4), 292-307
- Hodge, K. P. (1989). Character-building in sport: Fact or fiction? *New Zealand Journal of Sports Medicine*, 17(2), 23-25.
- Larson, R. (2000). Toward psychology of positive youth development, *American Psychologist*, 55 (1), 170-183.
- Malina, R.M., & Cumming, S.P. (2003). Current status and issues in youth sports. In R.M. Malina & M.A. Clark (Eds.), *Youth sports: Perspectives for a new century*. (pp. 7-25). Monterey, CA: Coaches Choice.
- Seefeldt, V., Ewing, M., & Walk, S. (1992). *Overview of youth sports programs in the United States*. Washington, DC: Carnegie Council on Adolescent Development.

- Steen, T. A., Kachorek, L. V., & Peterson, C. (2003). Character strengths among youth. *Journal of Youth and Adolescence*, 32 (1), 5-16.
- Weiss, M. R., & Smith, A.L. (2002). Moral Development in sport and physical activity: Theory, research, and intervention. In Horn, T. (ed.). *Advances in sport psychology* (2<sup>nd</sup> edition). Champaign, IL: Human Kinetics, pp. 243-280.
- Weiss, M.R., & Stuntz, C.P. (2004). A little friendly competition: Peer relationships and psychosocial development in youth sports and physical activity contexts. In M.R. Weiss (Ed.), *Developmental sport and exercise psychology: A lifespan perspective* (pp. 165-196). Morgantown, WV: Fitness Information Technology, Inc.

*Youth Sport Coaching: Development, Approaches, and Educational Needs*

The youth sport coach can have a dramatic influence on young athletes' development and enjoyment of sport. But who is the youth sport coach? The background and perspective of youth sport coaches can vary from inexperienced parent-volunteers to highly skilled and paid coaches of elite youth programs. Within this spectrum are millions of individuals that coach youth programs of all types. Unfortunately, research has not extensively examined who the "youth sport coach" is so our knowledge in this area is limited.

With increased sports participation in private, non-scholastic, and agency-sponsored programs and the finding that quality coaching is critical for ensuring the beneficial effects of youth sports participation there is a great need for better understanding youth coaches.

Initial survey research (Gould & Martens, 1979; Martens & Gould, 1979; Michigan Youth Sports Institute, 1978) on the characteristics and attitudes of volunteer youth coaches showed that the major objectives relative to coaching young athletes focused on physical, psychological, and social development, as well as fun. Winning was the objective rated as least important. At the same time the coaches reported that while winning is not overemphasized in their programs, problems with overemphasizing competitive outcomes sometimes occurred in youth sports. Most of the surveyed coaches were male, married, and untrained and the majority became involved in coaching because of their child's participation. Hence, they had little knowledge of sports safety, training and conditioning, and child development. On average these coaches worked with 22 youngsters for approximately 11 hours a week during an 18 week season.

Unfortunately, this research is over two decades old so we do not know if the characteristics of these coaches and their attitudes have changed. However, more recent studies have identified some commonality among those that have coached at the youth level for several years:

- In an observational and interview study with 50 coaches it was found that most youth sport coaches have had some athletic experience but not necessarily in the sport(s) they are coaching (Sage, 1989).
- Most youth sport coaches who remain coaches for numerous years found that being an assistant coach or having a mentor was vital to their longevity (Bloom, Durand-Bush, Schinke, & Salmela, 1998; Sage, 1989).
- When asked about the experience, most youth sport coaches revealed that coaching was a more difficult endeavor than anticipated. In one study utilizing in-depth interviews with eight youth sport coaches some of the challenges in coaching were limited practice time, negative interactions with parents, and league structure (Streat, 1995).

While these are common considerations for the structure of a youth sport setting, it has been found that few programs address these concerns. First, coaches who have not participated in the sport are rarely given effective instruction, even though this guidance is what surveyed coaches ask for the most (Houseworth, Davis, & Dobbs, 1990). Secondly, many youth sport coaches are left to coach an entire team without other individuals to help or do not have a network for mentoring. Finally, while coaches continue to discuss concerns like time, parents, and structure, few youth sports programs seem to be willing to implement necessary changes.

Some of the most important and methodologically sound youth sports research conducted to date has focused on the approaches coaches take while interacting with children. Ron Smith, Frank Smoll, and their colleagues (see Smith, Smoll, & Curtis, 1979; Smoll, Smith, Barnett, & Everett, 1993) have been the leading researchers in this

area. In this line of both correlational and experimental research the investigators have looked at how the feedback and behaviors exhibited by a coach influences athletes' sense of satisfaction with the coach, season, and teammates. More specifically, it was found that youth coaches who underwent Coach Effectiveness Training (CET) to learn techniques for encouragement, effective skill instruction, and avoiding punishment were perceived in a different way than those coaches who did not undergo the training. Coaches trained in "positive coaching" techniques were better liked by their athletes and these athletes had more satisfaction with their teammates and season. Athletes of CET trained coaches also exhibited higher levels of motivation. Further, those children who started the season with lower self-esteem and played for a CET trained coach showed a greater increase in self-esteem over the season than those with lower self-esteem playing for non-trained coaches. An interesting note on this line of research is that the win-loss records of the team seemed not to impact athletes' perceptions of satisfaction with coach and season. Thus, this research has shown that training coaches to be more positive and encouraging leads to a number of positive psychosocial consequences.

Coaching style training such as CET has also been found to affect attrition rates in youth sports. In a follow-up investigation, it was found that those athletes who played for untrained coaches reported an attrition rate of 26% (typical rate in youth sports); whereas those athletes playing for a CET trained coach reported rates of only 5% (Barnett, Smoll, & Smith, 1992). Players who had played for these positively oriented coaches also exhibited lower anxiety levels (Smith, Smoll, & Barnett, 1995). These findings clearly substantiate the powerful affect of positive coaching behaviors on both keeping youth

active in sports and ensuring positive psychosocial consequences such as enhanced esteem and lower anxiety.

While this line of research on “positive coaching” has made an impact on understanding feedback and coaching behaviors, there are also several implications for youth coaching education. The literature is clear that coaching education is not being fully embraced in all youth sport settings (Houseworth, Davis, & Dobbs, 1990; Stewart & Sweet, 1992). Numerous studies have investigated coaches’ perceptions of educational opportunities. Survey and questionnaire data from samples of coaches, ranging from 39 to almost 800 respondents depending on the study, found some interesting results. First, programs are not perceived to benefit most coaches. Further, coaching education material is not seen as comprehensive, not effective, or not adequately preparing these coaches for their myriad roles (Houseworth, Davis, & Dobbs, 1990; Silvestri, 1991; Stewart & Sweet, 1992). As stated earlier, many youth sport coaches are volunteers who do not have time to give to coaching education. Despite much concern about the educational needs of these coaches, experts agree that youth sport coaching education should focus on the following:

- A comprehensive approach providing both strategies for sport development (e.g., skills and drills, growth and maturation, training techniques) and strategies for dealing with social issues (e.g., communication, feedback, parents) (Silvestri, 1991).
- Providing ongoing education that allows for not only the foundational knowledge but also strategies for dealing with sport and league specific concerns. This process would allow coaches to refresh previous knowledge and learn updated practices.
- In a series of interviews with coaches it was found that an environment allowing coaches to network with, learn from, and mentor each other was critical for development (Bloom, Durand-Bush, Schinke, & Salmela, 1998). Peer learning and evaluation can greatly enhance coaching education formatting.

Due to the scope of youth sport experience, the development and background of the typical youth sport coach has not been easily identified. While some research has examined the general background and needs of these coaches, more research would aid in understanding the overall role and needs of the youth sport coach. Positive approaches to coaching have been identified through research of feedback patterns and coach-athlete interactions. Furthering this line of research into application of all youth sport contexts would be beneficial. Finally, coaching education practices have had limited success but have not found much support on a wide-scale effort (Gilbert & Trudel, 1999). Identifying educational needs have helped researchers in better understanding formats to reach this diverse audience.

#### References

- Barnett, N.P., Smoll, F.L., & Smith, R.E. (1992). Effects of enhancing coach-athlete relationships on youth sport attrition. *The Sport Psychologist*, 6, 111-127.
- Bloom, G.A., Durand-Bush, N., Schinke, R.J., & Salmela, J.H. (1998). The importance of mentoring in the development of coaches and athletes. *International Journal of Sport Psychology*, 29, 267-281.
- Gilbert, W., & Trudel, P. (1999). An evaluation strategy for coach education programs. *Journal of Sport Behavior*, 22, 234-250.
- Gould, D., & Martens, R. (1979). Attitudes of volunteer coaches toward significant youth sport issues. *Research Quarterly*, 50 (3), 369-380
- Houseworth, S.D., Davis, M.L., & Dobbs, R.D. (1990). A survey of coaching education program features. *Journal of Physical Education, Recreation, and Dance*, May/June, 26-30.
- Martens, R., & Gould, D. (1979). Why do adults volunteer to coach children's sports? In: K.M. Newell & G.C. Roberts (Eds.). *Psychology of motor behavior and sport – 1978* (pp 79-89). Champaign, IL: Human Kinetics Publishers.
- Michigan Youth Sports Institute (1978). *Joint legislative study on youth sports programs: Phase III report*. Lansing, MI: State of Michigan.

- Sage, G.H. (1989). Becoming a high school coach: From playing sports to coaching. *Research Quarterly for Exercise and Sport*, 60, 81-92.
- Silvestri, L. (1991). Survey of volunteer coaches. *Perceptual and Motor Skills*, 72, 409-410.
- Smith, R.E., Smoll, F.L., & Barnett, N.P. (1995). Reduction of children's sport performance anxiety through social support and stress-reduction training for coaches. *Journal of Applied Developmental Psychology*, 16, 125-142.
- Smith, R.E., Smoll, F.L., & Curtis, B. (1979). Coach effectiveness training: A cognitive-behavioral approach to enhancing relationship skills in youth sport coaches. *Journal of Sport Psychology*, 1, 59-75.
- Smoll, F.L., Smith, R.E., Barnett, N.P., & Everett, J.J. (1993). Enhancement of children's self-esteem through social support training for youth sport coaches. *Journal of Applied Psychology*, 78, 602-610.
- Stewart, C.C., & Sweet, L. (1992). Professional preparation for high school coaches: The problem continues. *Journal of Physical Education, Recreation, and Dance*, August, 75-79.
- Strean, W.B. (1995). Youth sport contexts: coaches' perceptions and implications for intervention. *Journal of Applied Sport Psychology*, 7, 23-37.

*Health and Safety in Youth Sports: Injury Risk and Obesity*

With millions of youth participating in private and agency-sponsored (versus school) sport programs health and safety are major issues. Understanding issues related to how these younger athletes are affected by injury and health risks are important. Research findings conflict on the exact epidemiology of youth sport injuries, however, several trends are seen in the literature (Patel & Nelson, 2000):

- 48% of youth sport athletes have been found to have at least one injury during an athletic season.
- 65% of injuries in youth sports are minor.
- Overuse injuries (e.g., tendonitis) are more common than acute injuries (e.g., fractures) at around 30-50% of all injuries.
- Strength training does not pose an inherent risk for youth and children (Faigenbaum, 2000).
- The overall rate of injury in youth sport participants is lower than adult sport participants (Bruns & Maffulli, 2000).

While these statistics are encouraging about the long-term negative effects of youth sport participation, it is necessary to understand what makes developing children susceptible to injuries. Patel and Nelson (2000) have determined special considerations for this population of athletes:

- Adolescent growth spurts (including issue of size and weight)
- Development of motor skills
- Training practices
- Differential growth of bones and connective tissues
- Bone maturation

Of this list, the effect of bone growth, differential growth of other tissues, and growth spurts are quite a concern. Avulsion fractures (fractures causing a piece of bone to be broken off due to traction) are common during adolescence due to the imbalance of tendon strength to bone strength (Bruns & Maffulli, 2000). This injury is especially devastating when occurring near growth plates in the long bones of the arm and leg.

Injuries in the upper-extremity occur in a variety of youth sports. One study found that around 15% of sport participants under the age of 16 had sustained an upper extremity injury (Rettig, 1998). While 3-9% of all sports injuries are upper-extremity, the most common tend to be overuse injuries (e.g., tendonitis), accounting for 25-50% of total injuries, or sprains to the wrist (Fulcher, Kiefhaber, & Stern, 1998; Rettig, 1998).

There are preventative steps that can be taken to help reduce the incidence and severity of youth sport injuries. The most important step is identifying contributing factors and addressing changes in order to prevent injury. Micheli, Glassman, & Klein (2000) have reported several areas of future research and practice for preventing injuries:

- Lack of coach education regarding injury
- Hazardous conditions for play and practice
- Training errors and inadequate instruction
- Inadequate equipment
- Poor nutrition
- Declining fitness level of youth

The last two items on this list are a major concern with today's youth. According to the Centers for Disease Control and Prevention (CDC, 1999):

- Almost half of America's youth do not take part in regular vigorous exercise.

- 14% of youth report no physical activity.
- Only 19% of high school students are getting the recommended level of physical activity in a physical education setting.
- Social support (family and peer encouragement) is a consistent correlate of physical activity.

These are alarming statistics regarding the inactivity of today's youth. As obesity has become a childhood issue, the factors affecting this disorder must be examined. First, obese children report a significantly lower quality of life than non-obese children (Schwimmer, Burwinkle, & Varni, 2003). Secondly, obesity in childhood and adolescence is a predictor of adult obesity, regardless of parental obesity level (Whitaker, Wright, Pepe, Seidel, & Dietz, 1997). Physical activity can be an effective tool for affecting weight change in these children. There are numerous factors that influence physical activity in children and youth. An investigation of school age children found that three variables were regularly reported by subjects as predicting physical activity (Sallis, Prochaska, Taylor, Hill, & Geraci, 1999). These factors were:

- Time after school to participate,
- Interest in physical education classes, and
- Support from family.

While these factors can positively influence continued participation in regular physical activity, the largest determinants of change in activity over time were found to be the parental resources for supporting activity (e.g., transportation, money) (Sallis, Alcaraz, McKenzie, & Hovell, 1999). These are interesting findings when the impact of money and social support are taken into account. With these factors in mind, it is apparent

individuals lacking in these resources are faced with even more barriers to physical activity.

Ethnicity and gender have also been investigated as predictors of physical activity. For instance, one study (Gordon-Larsen, McMurray, & Popkin, 1999) found that non-Hispanic black youth engaged in more inactivity per week (by about 7 hours) than non-Hispanic white youth. Ethnic minorities also engaged in less physical activity overall. For the most part, females tended to partake in less physical activity than their male counterparts, with ethnicity again being a differentiating variable.

Several findings regarding physical activity and obesity in youth help to illustrate the personal and social complexity of the problem:

- Children are snacking more over the last 35 years. Children eat more snacks with lower nutritional value during the day (Jahns, Siega-Riz, & Popkin, 2001).
- Children view barriers to activity as attractiveness of indoor activity, lack of motivation, and time constraints. Further, children perceive barriers to eating healthy food as convenience of snack foods, taste of snacks, and social factors (O'Dea, 2003).
- Television commercials have been found to increase children's desires for the food they want (Borzekowski & Robinson, 2001). This finding may be compounded by children's preferences for indoor activity!

While these points may seem to illustrate a hopeless state of youth of inactivity and increased consumption, research has shown some promise. It has been found that those children who reduced their overall television watching and videogame playing did show weight loss as one result (Robinson, 1999). It has also been found that simply spending more time outdoors is correlated with increased activity (Pate, 2004). Finally, community-based interventions have proven to be an effective promotion of physical activity and weight change. These programs were most effective when focusing on

decreasing sedentary behaviors and increasing motivation for activity (Epstein, Valoski, Vara, McCurly, Wisniewski, Kalarchian, Klein, & Shrager, 1995; Pate, Saunders, Ward, Felton, Trost, & Dowda, 2003). In one program for obese children it was found that focusing on diet (promoting healthy foods and balanced nutrition) as well as limiting sedentary activities (television viewing) was linked to healthy weight loss and increase in activity (Epstein, Valoski, Vara, McCurly, Wisniewski, Kalarchian, Klein, & Shrager, 1995). These findings substantiate the efforts of programs that promote interplay of factors: healthy diet, decrease of sedentary activities, and increase in fitness activities.

#### References

- Borzekowski, & Robinson (2001). The 30-second effect: An experiment revealing the impact of television commercials on food preferences of preschoolers. *Journal of the American Dietetic Association, 101*, 42-46.
- Bruns, W., & Maffulli, N. (2000). Lower limb injuries in children in sports. *Clinics in Sports Medicine, 19*, 637-662.
- Centers for Disease Control and Prevention (2004). *Adolescents and young adults*. Retrieved on October 10, 2004 from <http://www.cdc.gov/nccdphp/sgr/adoles.htm>.
- Epstein, L.H., Valoski, A.M., Vara, L.S., McCurly, J., Wisniewski, L., Kalarchian, M.A., Klein, K.R., & Shrager, L.R. (1995). Effects of decreasing sedentary behavior and increasing activity on weight change in obese children. *Health Psychology, 14*, 109-115.
- Faigenbaum, A.D. (2000). Strength training for children and adolescents. *Clinics in Sports Medicine, 19*, 593-619.
- Fulcher, S.M., Kiefhaber, T.R., & Stern, P.J. (1998). Upper-extremity tendonitis and overuse syndromes in the athlete. *Clinic in Sports Medicine, 17*, 433-448.
- Gordon-Larsen, P., McMurray, R.G., Popkin, B.M. (1999). Adolescent physical activity and inactivity vary by ethnicity: The national longitudinal study of adolescent health. *The Journal of Pediatrics, 135*, 301-306.
- Jahns, L., Siega-Riz, A.M., & Popkin, B.M. (2001). The increasing prevalence of snacking among US children from 1977 to 1996. *The Journal of Pediatrics, 138*, 493-498.

- Micheli, L.J., Glassman, R., & Klein, M. (2000). The prevention of sports injuries in children. *Clinics in Sports Medicine, 19*, 821-834.
- O'Dea, J.A. (2003). Why do kids eat healthful food? Perceived benefits of and barriers to healthful eating and physical activity among children and adolescents. *Journal of the American Dietetic Association, 103*, 497-501.
- Pate, R.R. (2004, July). Promotion of physical activity for obesity prevention in youth. Presented at the Gatorade Sports Science Institute 2004 Scientific Conference, Santa Cruz, CA.
- Pate, R.R., Saunders, R.P., Ward, D.S., Felton, G., Trost, S.G., & Dowda, M. (2003). Evaluation of a community-based intervention to promote physical activity in youth: Lessons from active winners. *American Journal of Health Promotion, 17*, 171-182.
- Patel, D.R., & Nelson, T.L. (2000). Sports injuries in adolescents. *Medical Clinics of North America, 84*, 983-1007.
- Rettig, A.C. (1998). Epidemiology of hand and wrist injuries in sports. *Clinic in Sports Medicine, 17*, 401-406.
- Robinson, T.N. (1999). Reducing children's television viewing to prevent obesity: A randomized controlled trial. *Journal of the American Medical Association, 282*, 1561-1567.
- Sallis, J.F., Alcaraz, J.E., McKenzie, T.L., & Hovell, M.F. (1999) Predictors of change in children's physical activity over 20 months: Variations by gender and level of adiposity. *American Journal of Preventive medicine, 16*, 222-229.
- Sallis, J.F., Prochaska, J.J., Taylor, W.C., Hill, J.O., & Geraci, J.C. (1999). Correlates of physical activity in a national sample of girls and boys in grades 4 through 12. *Health Psychology, 18*, 410-415.
- Schwimmer, J.B., Burwinkle, T.M., & Varni, J.W. (2003). Health-related quality of life of severely obese children and adolescents. *Journal of the American Medical Association, 289*, 1813-1819.
- Whitaker, R.C., Wright, J.A., Pepe, M.S., Seidel, K.D., & Dietz, W.H. (1997). Predicting obesity in young adulthood from childhood and parental obesity. *The New England Journal of Medicine, 337*, 869-873.

*Youth Sports: Involvement, Participation, and Dropout*

With millions of children participating in youth sports each year, it is vital to understand the motives for, predictors of, and detractors to involvement. Children participate in youth sports for a variety of reasons and have multiple reasons for involvement (Gould & Petlichkoff, 1988). For example, the largest study of its type conducted to date (surveying 8000 youth) identified the reasons children report for participating in sport (Seefeldt, Ewing, & Walk, 1992). These reasons included:

- To have fun
- To do something I am good at
- To stay in shape
- To learn new or improve my skills
- To play as part of a team

These motives for participation are interesting for several reasons. First, regardless of gender, the most important reason for participating is to have fun. Second, most young athletes have multiple motives for involvement; there is interplay of skill development, physical development, and social interaction. Finally, “to win” is rated 8<sup>th</sup> in participation motives for school-sponsored sports and was not even listed by non-school sport participants (Seefeldt, Ewing, & Walk, 1992).

While the identification of key motives for youth sports participation are important for helping researchers understand why children participate in sport, they have not been found to tell the entire story. Researchers have discovered that there are deeper motives for youth sport participation (Gould & Petlichkoff, 1988). Chief among these are young athletes’ perceptions of competence or ability. Children who feel competent about their physical abilities have been found to more often participate and persist in physical activity whereas children who do not have that sense of competence are more likely to not become involved or to discontinue involvement (see Weiss & Ferrer-Caja, 2002 for a

detailed review). Thus, helping children to feel “competent” is seen as critical for sport participation and involvement.

Overall participation patterns in youth sports are difficult to gauge. Ewing and Seefeldt (2002) reported that between 1987-1999 basketball had the highest participation increase of all team sports (39.2% of youth, 10% increase over this period). In fact, most team sports surveyed had a negative shift in participation during this time period. When examining the difference between school-sponsored and agency-sponsored programs there are also interesting findings (Ewing & Seefeldt, 2002):

- Overall, minorities participate less in both school and agency-sponsored programs.
- Minorities participate in school-sponsored programs more than agency-sponsored programs.
- Boys, regardless of race, participate in both types of programs at a higher rate than girls.

As important as understanding why children participate in sports is understanding why they discontinue involvement. It is estimated that around 35% of children drop out of sport each year, although some children dropout of one sport and still participate in other sports while other young athletes discontinue sports completely (Gould & Petlichkoff, 1988). The onset of adolescence (ages 11 -12) is a time when discontinuation of sport participation is at its highest level. An example of this comes from the sport of gymnastics. In a group of youth sport participants, 25.3% of children participated at the age of 10 while only 3.3% of these athletes were still involved at age 18 (Seefeldt, Ewing, & Walk, 1992)!

Interviews with athletes who discontinued their sport participation have revealed numerous reasons for their decision with the major reason being changing interests or

interest in some other type of activity. Overall, reasons for dropping out of both school and agency-sponsored youth sport programs have been found to be (Seefeldt, Ewing, & Walk, 1992):

- No longer interested in the sport (highest for both boys and girls).
- It was no longer fun.
- The coach played favorites/was a poor teacher.
- Wanting to participate in other activities.

This last motive for discontinuation of participation provides a note of explanation.

Many studies examining youth sport attrition have found that a large number of those dropping out are either trying other sports or continuing the same sport at a later time (Gould, Feltz, Horn, & Weiss, 1982; Klint & Weiss, 1986). This poses an interesting issue for those studying youth sport attrition. It has become important to distinguish between those athletes who drop out of all sports and those that go on to sample others; Gould and Petlichkoff (1988) would call these sport-specific and domain-general forms of sport withdrawal.

An especially interesting reason cited for dropping out of sport has been the influence of leadership. An early investigation (Orlick, 1973) into youth sport attrition found that athletes were concerned with the overemphasis of competition they experienced within sport. The participants were frustrated with not getting to play and not having a chance to learn the appropriate skills to gain experience. Further, most blamed the coach for these concerns. In another study (Gould, Feltz, Horn & Weiss, 1982) children cited dislike of their coach and not enough fun as significant motives for

discontinuing. These studies, then, certainly emphasize the important role coaching leadership provides in the youth sport attrition process.

When further examining reasons for dropping out of sports, several differences based on demographics are found:

- African American and Hispanic American youth rated too much emphasis placed on winning, needing time to study, and the coach being an ineffective teacher higher than Caucasian youth (Seefeldt, Ewing, & Walk, 1992).
- Males reported the effect of win-loss record on their decision more than females (Seefeldt, Ewing, & Walk, 1992).
- Females rated social aspects of sports (relationships with teammates, peer comparison) as more of an influence on their decision than males (Seefeldt, Ewing, & Walk, 1992).
- Females have reported negative experiences in sport (physical and emotional trauma) that have led to some discontinuing sport participation (Gilbert, 2001).

Examining why participants drop out of youth sports is a major concern in both research and policy. Especially with the increase of inactivity and health risks to youth, understanding how to keep children involved in physical activity is critical. Further, understanding the interplay of personal factors (e.g., self-esteem, skill competence) and social factors (e.g., coach-athlete interactions, peer relations) could aid in providing a program focused on sustaining participation and involvement.

#### References

- Ewing, M.E., & Seefeldt, V. (2002). Patterns of participation in american agency-sponsored youth sports. In F.L. Smoll, & R.E. Smith (Eds.), *Children and Youth in Sport* (2<sup>nd</sup> ed.). (pp. 39-56). Dubuque, IA: Kendall/Hunt Publishing Company.
- Gilbert, E.D. (2001). Towards a richer understanding of girls' sport experiences. *Women in Sport and Physical Activity Journal*, 10, 117-143.

- Gould, D., Feltz, D., Horn, T., & Weiss, M. (1982). Reasons for attrition in competitive youth swimming. *Journal of Sport Behavior*, 5, 155-165.
- Gould, D., & Petlichkoff, L. (1988). Participation motivation and attrition in young athletes. In F.L. Smoll, R.A. Magill, & M.J. Ash (Eds.), *Children in sport* (3<sup>rd</sup> ed.). (pp.161-178). Champaign IL: Human Kinetics.
- Klint, K.A., & Weiss, M.R. (1986). Dropping in and dropping out: Participation motives of current and former youth gymnasts. *Canadian Journal of Applied Sport Sciences*, 11, 106-114.
- Orlick, T.D. (1973, Jan/Feb). Children's sport—A revolution is coming. *Canadian Association of Health, Physical Education, and Recreation Journal*, 12-14.
- Seefeldt, V., Ewing, M., & Walk, S. (1992). *Overview of youth sports programs in the United States*. Washington, DC: Carnegie Council on Adolescent Development.
- Weiss, M. R., & Ferrer-Caja, E. (2002). Motivational orientations in youths sports. In Horn, T. (ed.). *Advances in sport psychology* (2<sup>nd</sup> edition). Champaign, IL: Human Kinetics, pp. 101-183.

### *The Role of Parents in Children's Sports*

A parent's role in his or her child's sport experience may range from something as simple as being a driver to and from practices and games to something more complex such as being a coach or official. Parents also shape a child's psychological development through their involvement in their child's athletic experience (Côté & Hay, 2002). While research is only starting to emerge on the role parents play in children's sports, research has shown that parents affect young athletes' motivation and competence, as well as emotional responses.

#### *Motivation and Competence*

Existing research has shown that parents can influence a child's motivation, perceived competence, and enjoyment of sports (Brustad, Babkes, & Smith, 2001). The feedback and behavior of a parent can affect how long a child stays involved in a sport as well as how a child perceives his or her abilities. The outcome a parent emphasizes and reinforces, such as winning or improving skills, can have a major effect on what a child deems as success in sports. Moreover, how a parent acts before, during, and after a practice or game can cause a great deal of anxiety in the child. As a result, a child's performance and enjoyment can be impacted.

The motivational climate that a parent creates can have enduring effects on a child. The climate created can be based on an extrinsic goal focus, where external rewards such as trophies or recognition are emphasized, or an intrinsic goal orientation, where satisfaction comes from skill mastery and personal improvement.

Parents knowingly and unknowingly create motivational climates that can have enduring effects on a child. For instance, when a child plays sports, competence is reinforced by his or her parents and as a result the child will become more confident and motivated to perform these skills. Children also look to parents for information regarding judgments on ability and decisions about future participatory behavior (Weiss & Ferrer-Caja, 2002). As a result, parents are thought to play an important role in the development of perceived competence, intrinsic motivation, and emotional development. Researchers have generally supported these contentions. For example, it has been found that:

- “Parental expectations and orientations towards achievement are related to children’s perceptions and motivated behavior” (Brustad, 1992, p. 72).
- Parental influences are conveyed through modeling and reinforcement (Brustad, 1988; Swain & Harwood, 1996; Yusuff, 1991).
- Parents are the main socializers influencing children’s sport involvement. Fathers have typically been found to be the most important socialization influence for both boys and girls (Greendorfer, Lewko, & Rosengren, 1996).
- Children’s perceptions of their parents’ level of interest in their sport are predictive of children’s initial and sustained involvement (Greendorfer et al., 1996).
- Low perceived parental pressure was found to be associated with higher enjoyment of a season (Brustad, 1988).
- The greater the value placed on the outcome of the swim race by a significant other, the more the race outcome mattered to youth swimmers. Moreover, if swimmers perceived their parent as being more concerned with the swimmer’s mastery of skills, the swimmer also became more intrinsically motivated (Swain & Harwood, 1996).

Although the research is not abundant regarding parental influences on their children in the arena of physical activity or sports, the above research does provide evidence that parents are very influential in terms of influencing children’s motivational goal orientations and subsequent performance.

*Emotional Outcomes*

In addition to motivation and competence, parents have been shown to be tremendously influential in shaping children's emotional outcomes from sport participation. Parents have been identified as a common theme in research examining sources of stress for youth sport participants (Gould, Eklund, Petlichkoff, Peterson, & Bump, 1991; Gould, Wilson, Tuffey, & Lochbaum, 1993; Scanlan & Lewthwaite, 1984). Thus, research on children's emotional outcomes has focused on and been linked to how children perceive parental pressure, expectations, and evaluation.

The most frequently studied emotional responses to sport participation for youth have been anxiety and enjoyment, which parents commonly influence. Administering anxiety assessments before and after matches, Scanlan and Lewthwaite (1984) examined the factors that influenced competitive stress of 9- to 14-year-old wrestlers. Children's perceptions of significant adult influences were shown to be a predictor of pre- and post-match anxiety. Specifically, the authors indicated that "prematch worries about failure and perceived parental pressure to participate" were predictors of pre-match stress (p. 208). Young wrestlers who perceived high levels of parental pressure to wrestle were found to have high state anxiety prior to competition, thus, emphasizing the influence parents can have on their children's emotional and affective responses to sport participation.

In addition to perceived parental pressure to participate in a sport, parents can influence their children's emotional responses through evaluation, particularly unfavorable evaluations, and the expectations they have for their children. Passer (1983) found that "fear of failure and fear of evaluation are significant sources of threat in

competitive trait-anxious children” (p. 172). In particular, children with high competitive trait anxiety (a personality orientation that predisposes one to see evaluative situations as threatening) worried more often about receiving negative evaluations from significant others than their low competitive trait anxious peers. It was also found that players with high trait anxiety worried more than players with low trait anxiety about “not playing well, losing, and being evaluated by parents, coaches, and teammates” (p. 172), which emphasizes how significant others, including parents, can influence a child’s affect related to sport participation

A young athlete’s emotional response was further shown to be related to his or her perceptions of parental pressure by Hellstedt (1988). Hellstedt (1988) found that the “degree of parental pressure is related to the type of affective reaction from the young athlete” (p. 143), with high levels of parental pressure related to negative athlete response. The athletes were also shown to be apprehensive about how their parents would react emotionally, such as with disappointment or disapproval, when they did not perform well. In addition, according to these young athletes, continued sport participation was due, in part, to the desire to please their parents, further emphasizing the strong influence parents have on their children’s sport participation as well as their emotional responses to such participation.

Although parental influences and behaviors can have negative effects on a young athlete’s sporting experience, these behaviors can also be perceived as encouraging and positive and result in positive affective responses. For instance, even though Hellstedt’s (1988) study on parental pressure on young ski racers found negative affective responses to parental pressure, he also found that those skiers who perceived their parent’s

involvement as supportive and positive had more positive reactions to sport participation. Skiers that indicated they were “very pleased” with their parents’ attitude and involvement felt that their parents would not be upset when they did not perform well and showed enthusiasm for sport participation.

In addition, Scanlan and Lethwaite (1986) found that the youth wrestlers who perceived “greater parental and coach satisfaction with their season’s performance... and more positive adult sport involvement and interactions” felt greater enjoyment and satisfaction throughout the season whereas those wrestlers who did not have the same perceptions of significant others did not enjoy those benefits (Scanlan & Lewthwaite, 1989, p. 25). Furthermore, the researchers also found that if wrestlers perceived less pressure from their mothers as well as fewer negative maternal reactions to their performance, they experienced more season-long enjoyment.

In summary, the role that a parent plays in his or her child’s youth sport experience can have a profound influence on the child’s reaction to sport participation. The amount of parental involvement and pressure perceived by a child as well as the importance children feel parents place on participation in sports can have a negative or positive effect on a child’s emotional responses, goal orientations, competence, as well as length of sport participation.

#### *Parental Problems in Youth Sports*

While most of the research on parental involvement in youth sports has focused on examining how parental expectations and behaviors influence involvement, motivation, and emotional reactions of young athletes, studies looking at problems parents might create in the sport experience are only now being conducted. This is an

important area of new research because of the increased media accounts of parents arguing with coaches, confronting referees, and even fighting at youth sports contests.

In a survey of 154 varsity high school sport coaches, representing seven sports, it was reported that problems with parents were one of the most frequently cited issues encountered in coaching high school athletes today (Gould, Chung, Smith, & White, 2002). Similarly, in a national survey study of junior tennis coaches (Gould, Lauer, Rolo, Jannes, & Sie Pennisi, 2004), it was perceived that 36% of parents hurt their child's tennis development. On a more positive note it was reported that 59% of parents were perceived to have a positive influence on their child's tennis development. Finally, it was found that the five biggest parent-child interaction problems perceived included:

- overemphasizing winning;
- holding unrealistic expectations;
- coaching one's own child;
- criticizing one's child; and,
- pampering their child too much.

Parents, then, are seen to have both positive and negative influences on the youth sports experience.

#### References

- Brustad, R. J. (1988). Affective outcomes in competitive youth sport: The influence of intrapersonal and socialization factors. *Journal of Sport and Exercise Psychology, 10*, 307-321.
- Brustad, R. J. (1992). Integrating socialization influences into the study of children's motivation in sport. *Journal of Sport and Exercise Psychology, 14*, 59-77.

- Brustad, R., Babkes, M., & Smith, A. (2001). Youth in sport: Psychological considerations. In R. Singer, H. Hausenblas, and C. Janelle (Eds.), *Handbook of sport psychology* (pp. 604-635). New York: Wiley.
- Côté, J., & Hay, J. (2002). Family influences on youth sport performance and participation. In J. M. Silva and D. Stevens (Eds.), *Psychological foundations of sport* (pp. 503-519). Boston, MA: Allyn & Bacon.
- Gould, D., Chung, Y., Smth, P., & White, J. (2002). Coaching life skills: high school coaches views. Unpublished manuscript.
- Gould, D., Eklund, R., Petlichkoff, L., Peterson, K., & Bump, L. (1991). Psychological predictors of state anxiety and performance in age-group wrestlers. *Pediatric Exercise Science*, 3, 198-208.
- Gould, D., Lauer, L. Rolo, S., Jannes, C., & Sie-Pennisi, N. (2004). The role parents in junior tennis success and failure. Final Report. U.S. Tennis High Performance Sport Science Grant.
- Gould, D., Wilson, C., Tuffey, S., & Lochbaum, M. (1993). Stress and the young athlete: The child's perspective. *Pediatric Exercise Science*, 5, 286-297.
- Greendorfer, S.L., Lewko, J.H., & Rosengren, K.S. (1996). Family influence in sport socialization: Sociocultural perspectives. In F. Smoll and R. Smith (Eds.), *Children and youth in sport* (pp. 89-111). Dubuque, IA: Brown and Benchmark.
- Hellstedt, J. C. (1988). Early adolescent perceptions of parental pressure in the sport environment. *Journal of Sport Behavior*, 13, 135-144.
- Passer, M. W. (1983). Fear of failure, fear of evaluation, perceived competence and self-esteem in competitive trait-anxious children. *Journal of Sport Psychology*, 5, 172-188.
- Scanlan, T., & Lewthwaite, R. (1984). Social psychological aspects of competition for male youth sport participants: I. Predictors of competitive stress. *Journal of Sport Psychology*, 6, 208-226.
- Scanlan, T., & Lewthwaite, R. (1986). Social psychological aspects of competition for male youth sport participants: IV. Predictors of enjoyment. *Journal of Sport Psychology*, 8, 25-35.
- Swain, A.B., & Harwood, C.G. (1996). Antecedents of state goals in age-group swimmers: An interactionist perspective. *Journal of Sports Sciences*, 14, 111-124.
- Weiss, M. R., & Ferrer-Caja, E. (2002). Motivational orientations in youths sports. In Horn, T. (ed.). *Advances in sport psychology (2<sup>nd</sup> edition)*. Champaign, IL: Human Kinetics, pp. 101-183.

Yusuff, K.B. (1991). Parental influence as perceived as motivational agent in competitive sports among selected elite male athletes. *Indian Journal of Behaviour*, 15, 36-42.

*Youth Sports: Talent Development and Sports Specialization**Athletic Talent Development*

Youth sport participation not only provides a developmentally sound and rewarding experience for children in which they can develop numerous physical, social, and psychological benefits, but for some children it serves as an important opportunity to develop athletic talent. It is ironic, then, that the athletic talent development process is seldom understood and this often results in inappropriate practices (Gould & Carson, 2004).

While more research is needed in this area, especially in relation to how athletic talent is cultivated and developed by parents and coaches, several large-scale studies (Bloom, 1985; Csikszentmihalyi, Rathunde, Whalen, & Wong, 1993) on talent development across a variety of domains (e.g., music, art, science, sport) have provided a foundation to this knowledge base.

Bloom (1985) was one of the first to study talent development in world-class performers. Specifically, 120 individuals (renowned artists, academicians, musicians, mathematicians, swimmers, tennis players) at the top of their fields were studied. A good deal of consistency was found across domains in terms of the investments of tangible and intangible resources found to be essential in nurturing promising individuals with talent. In addition to financial support and transportation to numerous competitions and performances, parents found ways to provide social-emotional support (e.g., facilitating a disciplined involvement while avoiding excessive expectations and pressure). The parents also served as models for disciplined independence and fostered disciplined

independence in their talented children. That is, parents often modeled hard work while supporting their children; parents reinforced their children for working independently and expected those behaviors from them. Bloom's results, then, clearly show that talent development is a long-term process that involves more than just the talented person, but also a strong support system with parents playing a primary role.

Interestingly, Bloom (1985) also found that these talented individuals' careers fell into three distinct stages:

- the early years, or what has been labeled the Romance Phase;
- the middle years, labeled the Precision Phase; and,
- the later years or the Integration Phase.

In the early years (Romance Phase) the child developed a love for the activity, had a great deal of fun, received encouragement from significant others, was free to explore the activity, and achieved a good deal of success. Parents also instilled the value of hard work and doing things well during this time.

In the Precision Phase, an experienced coach or teacher promoted long-term systematic skill learning in the talented individual. The focus was on technical mastery, technique, and excellence in skill development.

Finally, in the later years or the Integration Phase an individual continued to work with a master teacher (coach) and practiced many hours a day to turn training and technical skills into optimal performance. There was a realization that the practiced activity was significant in one's life. These phases occurred over a 15 to 20 year time period and each person moved through each phase in a developmental sequence, without skipping phases.

More recently, Csikszentmihalyi, Rathunde, Whalen, and Wong (1993) chronicled the development of 208 outstanding high school students who were identified by their teachers as having strong talent in art, athletics, mathematics, music, or science. These students were tracked from their first to final years of high school for the purpose of determining how they differed from their peers whose talents were more average. These investigators also wanted to determine why some of the students developed their talent and others failed to do so. Based on their findings, it was concluded that talent must be viewed as a developmental process rather than an all-or-nothing phenomenon and it cannot be developed unless it is valued by society and recognized and nurtured by parents, teachers, and coaches. Specifically, these investigators suggested that for talent to develop information or knowledge relative to the tools of the domain must be provided. Motivation is also needed and is greatly influenced by support and encouragement of those in the field and family members. Finally, discipline is needed that allows the talented teen to study their domain long enough to acquire the skills needed for superior performance.

Csikszentmihalyi and colleagues' (1993) also found that talent development involves the acquisition of a mature personality during the teenage years – a personality that allows the individual to cope with all the opportunities and obstacles that they will face in their chosen endeavor. To nurture his or her gift, the talented teen must have discipline, as well as talent. Talented individuals were also found to spend more time practicing the activity, less time working outside of school, less time socializing with friends, more time on hobbies, and less time doing chores than their less talented counterparts. The investigators also concluded that:

- Teenagers cannot develop talent unless they are intrinsically motivated and enjoy the activities of their domain while working hard to achieve their goals;
- Conflicts inherent in the development of talent (e.g., making difficult choices and coming to terms with the implications of their individuality) cannot be avoided; and,
- No child succeeds unless he or she is supported by caring adults.

Talented teens were also very attuned to the quality of teaching in their talent area, giving very specific details about positive and negative behaviors of their most and least favorite teachers and coaches. Lastly, talent development came easier to youngsters who learned habits conducive to talent development.

Côté (1999) studied four elite athletes and their families (mothers, fathers, siblings) and found that families, particularly parents, play an important role in elite athlete development as athletes progress through what were identified as sampling, specializing, and investment years. Results of in-depth interviews revealed that during what they labeled the sampling years (ages 6 –13) the child participated in multiple sports for fun. Parents encouraged such involvement, fueled by a belief that sport contributed to the child's overall development, allowing and encouraging the child to sample a wide variety of sports. During the specializing years (ages 13-15), parents became committed supporters as their child focused on a limited number of sports. Little pressure was placed on the child to participate in any one sport and parents took on more of a follower/supporter versus a leadership role, making financial and time sacrifices to optimize their child's participation. Lastly, during the investment years (ages 15 and over) the child focused on deliberate practice in an effort to pursue performance excellence. In this phase parents also provided important sources of social support, especially when their child faced adversity or had to deal with setbacks. Little pressure

was placed on the child in these years.

Finally, Gould, Dieffenbach, and Moffett (2002) recently examined the development of psychological talent in Olympic champions. Specifically, 10 U.S. Olympic champions (winners of 32 Olympic medals) were interviewed, as were one of their coaches ( $n = 10$ ), and a parent, guardian, or significant other ( $n = 10$ ). A battery of psychological inventories was also administered to the athletes. It was found that the athletes were characterized by: the ability to cope with and control anxiety; confidence; mental toughness/resiliency; sport intelligence; the ability to focus and block out distractions; competitiveness; hard work ethic; the ability to set and achieve goals; coachability; high levels of dispositional hope; optimism; and adaptive perfectionism. Results also revealed that a number of individuals and institutions influenced the athletes' psychological development including the community, family, the individual him or herself, non-sport personnel, sport environment personnel, and the sport process. Coach and family influences were perceived to be particularly important. Ways in which parents and coaches influenced the athletes were both direct, such as teaching or emphasizing certain psychological lessons and indirect, involving modeling or unintentionally creating certain psychological environments. Results supported Bloom's (1985), Côté's (1999) and Csikzentmihalyi, et al.'s (1993) talent development research, demonstrating the important roles parents play in athletic talent development.

While this initial research on athletic talent development is encouraging, much more research is needed. Particularly useful would be studies that examine positive and negative effects of parental involvement and ways parents interact with coaches. Along these lines Gould, Lauer, Jahnes, Rolo and Sie-Pennisi (2004) recently studied the

careers of young professional tennis players (by interviewing the players, their parents and coaches) for the purpose of identifying parenting practices across one's career. Most interesting was the finding that parental support and commitment was critical to player development. Parenting practices were also reported to differ across Bloom's phases of talent development. Especially interesting was the finding that fun and fundamentals were emphasized during the early years and that parents had few expectations or goals relative to a career in tennis.

The above finding is important because some experts (Gould & Carson, 2004) have argued that many parents are taking a professionalized approach to initial youth sports involvement by skipping the critical romance phase, and overemphasizing winning, rankings, single sport involvement and downplaying the role of fun. At this time, the long term ramifications to such an early professionalization orientation are not known. However, from what is known about the talent development literature, a concern is that without developing the love of the game children will not have the motivation to sustain the effort needed to pursue excellence that has been found to take as many as 10,000 hours or 10 years of deliberate practice to develop (Ericsson, 1996).

#### *Early Sport Specialization*

A topic related to talent development in young athletes is early specialization and year round training in one sport. Over the last two decades the practice of specializing in a single sport on a year-round basis has increased. In a survey of 152 high school athletic directors, for example, over 70 percent of the respondents felt that sport specialization was on the rise (Hill & Simons, 1989). Moreover, the most important factors identified as contributing to the increased emphasis on specialization included:

- pressure from coaches;
- high parental expectations;
- athlete's desire to participate in championships;
- encouragement from college recruiters; and,
- a societal emphasis on specialization.

While specialization is certainly on the rise, the exact number of young athletes specializing is not known and research on the topic is badly needed. In one of the few studies conducted on the topic, Hill and Hansen (1987) found that 101 high school football coaches felt that athletes who specialize are more likely to have refined athletic skills, participate in an all-star game, and receive a college scholarship. However, these same coaches also indicated that athletes who specialize are under more pressure to excel, experience fewer meaningful social interactions, and experience a less diversified high school sports experience.

Other concerns voiced in response to specialization include the fact that athletic performance at one age in childhood does not accurately predict performance at a later age. Thus, one might not specialize in the sport they have the ultimate potential, seeing that 98% of athletes who specialize will never reach the highest levels of the sport (Wiersma, 2000). From a sociological perspective, early specialization is thought to isolate the young athlete from peers and interfere with normal identity development. Finally, early specialization is thought to be related to an increase in burnout or withdrawal from sport as a result of chronic stress (Wiersma, 2000).

Some of the most interesting studies on early sport specialization were conducted in the former Soviet Union, which extensively practice the early identification of athletes

and selection into single sports . Barynina and Vaitsekhobvski (1992) reported that age group swimmers who specialized at a later age advanced at a greater rate than swimmers who specialized early. Similarly, Bompa (1995) cited several Soviet studies that showed early sport specialization did not lead to the performance advantages people thought, and in fact, there was an advantage to early sport diversification.

This literature does not suggest that individuals not specialize in sport. Indeed, given Ericsson's (1996) work on the amount of time it takes to develop expertise (10 years of 10,000 hours of deliberate practice) and what has been learned from tracking stages of elite athletes' development (Bloom, 1985; Cote, 1999) in order to develop their talents, athletes must and should specialize. The critical question is at what age young athletes should do so. Professionals are concerned that specialization is occurring at too early of an age. Moreover, little scientific evidence is available to support or refute the risks that may be involved in early specialization. Preliminary evidence does indicate that while early specialization has some distinct advantages, it may have negative physical, psychological, and social effects on a child. For this reason, groups such as the American Academy of Pediatrics (2000) urge caution when it comes to early sport specialization. They also stress the importance of making efforts to provide young athletes, their parents, and coaches with knowledge and recommendations that will help them avoid the pitfalls of early specialization.

#### References

- American Academy of Pediatrics (2000). Intensive training and sports specialization in young athletes. *Pediatrics*, *106*(1), 154-157.
- Bloom, B.S. (Ed.) (1985). *Developing talent in young people*. NY: Ballantine.
- Bompa, T. (1995). *From childhood to champion athlete*. Toronto, Ontario: Veritas.

- Bayrnina, I.I., & Vaitsekhovskii, S.M. (1992). The aftermath of early sports specialization for highly qualified swimmers. *Fitness Sports Review International*, August, 132-133.
- Côté, J. (1999). The influence of the family in the development of talent in sport. *The Sport Psychologist*, 13<sub>2</sub>, 395-417.
- Côté, J., & Hay, J. (2002). Family influences on youth sport performance and participation. In J. M. Silva and D. Stevens (Eds.), *Psychological foundations of sport* (pp. 503-519). Boston, MA: Allyn & Bacon.
- Csikszentmihalyi, M., Rathunde, K., Whalen, S & Wong, M. (1993). *Talented teenagers: The roots of success and failure*. NY: Cambridge University Press.
- Ericsson, K. A. (1996). (Ed.). *The road to excellence: the acquisition of expert performance in the arts, sciences, sports, and games*. Mahwah, NJ: Erlbaum.
- Gould, D, & Carson, S. (2004). Myths surrounding the role of youth sports in developing Olympic champions. *Youth Studies Australia*, 23(1), 19-26.
- Gould, D., Dieffenbach, K., & Moffett, A. (2002). Psychological characteristics and their development in Olympic champions. *Journal of Applied Sport Psychology*, 14, 177-209.
- Hill, G.M., & Hansen, G.F. (1987). Sport specialization in high school: A complex issue. *The Physical Educator*, 44(4), 422-426.
- Hill, G. M., & Simons, J. (1989). A study of the sport specialization on high school athletics. *Journal of Sport & Social Issues*, 13(1), 1-13.
- Howe, M. J.A. (1999). *The psychology of high abilities*. Washington Square, NY: New York University Press.
- Wiersma, L.D., (2000). Risks and benefits of youth sport specialization: Perspectives and recommendations. *Pediatric Exercise Science*, 12, 13-22.