Athletic Insight
The Online Journal of Sport Psychology

September, 2006
Volume 8, Issue 3

Youth Sports: Implementing Findings and Moving Forward with Research

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ABSTRACT

This paper reviews the literature, outlines practical implications, and discusses future studies in youth sport research. The literature is discussed in light of three potential benefits of youth sport participation 1) physical health, 2) psycho-social development, and 3) motor skills acquisition. The ultimate objective of youth sport programs is to consider all the benefits of youth sport participation rather than focusing on one or two at the cost of the other(s). It is suggested that researchers, sport administrators, coaches, and parents work together to promote sporting activities and programs that are more likely to enhance children's physical health, psychosocial development and lifelong recreational or elite sport participation.

Introduction

It has been recently suggested that youth sport has the potential to accomplish three important objectives in children's development (Côté & Fraser-Thomas, 2007). First, sport programs can provide youth with opportunities to be physically active, which in turn can lead to improved *physical health.* Second, youth sport programs have long been considered important to youth's *psychosocial development*, providing opportunities to learn important life skills such as cooperation, discipline, leadership, and self-control. Third, youth sport programs are critical for the learning of *motor skills*; these motor skills serve as a foundation for future national sport stars and recreational adult sport participants.

The physical and psychosocial benefits of youth sport involvement are well recognized. Physical activity facilitates cardiovascular fitness, weight control, muscular strength, muscular endurance, flexibility, and healthy bone structure (Bar-Or, 1983; Taylor, Sallis, & Needle, 1985, Wankel & Berger, 1990). In addition, given that physical activity habits developed during childhood and adolescence are associated with physical activity habits in adulthood (Baronowski et al., 1992; Curtis, McTeer, & White, 1999; Dishman, Sallis, & Orenstein, 1985; Robertson-Wilson, Baker, Derbyshire, & Côté, 2003), active youth are less likely to develop numerous diseases later in life including heart disease, obesity, diabetes, osteoporosis, depression, and cancer (Berger & Owen, 1988; Powell, Thompson, Caspersen, & Kendrick, 1987; Paffenbarger, Hyde, Wing, & Hsieh, 1986; Taylor et al., 1985). Further, sport experiences often foster citizenship, social success, positive peer relationships, leadership skills, and a sense of initiative in youth (Côté & Hay, 2002; Elley & Kirk, 2002; Evans & Roberts, 1987; James, 1995; Larson, 2000; Manjone, 1998; Wright & Côté, 2003), while youth sport involvement has been positively correlated with adult career achievement (Larson & Verma, 1999) and negatively correlated with school dropout and delinquent behavior (Eccles & Barber, 1999; McMillan & Reed, 1999; Segrave, 1983; Sheilds & Bredemeier, 1995).

Although youth sport clearly provides opportunities for positive outcomes, research suggests that these positive outcomes are not necessarily automatic. For example, despite high youth sport participation rates, child obesity is at an all time high in many developed nations (e.g. Tremblay, Katzmarzyk, & Willms, 2002). Sport-related injuries and eating disorders among young athletes are also gaining increased attention (Anshel, 2004; Law, Côté, & Ericsson, in press; Reel & Gill, 1996). From a psychosocial perspective, youth often feel excessive pressure to win, perceive themselves as having poor abilities, feel unattached to their teams, and feel vulnerable in the presence of teammates (Wankel & Mummery, 1990). Experiences such as these have led youth to experience low self-confidence and low self-esteem (Martens, 1993; Wankel & Kreisel, 1985). Further, poor sportspersonship, poor morality reasoning, and acts of violence and aggression have become common in youth sport settings (Bredemeier & Sheilds, 1987; Colburn, 1986; Lemyre, Roberts, & Ommundsen, 2002; Sheilds & Bredemeier, 1995). Possibly due to youths' less than positive experiences, attrition rates are extremely high during adolescence, with an estimated one third of all participants between ten and seventeen years of age withdrawing from sport programs every year (Gould, 1987).

Thus, there appears to be a void between the potential positive outcomes, and some of the negative realities of youth sport programs. One of the key issues for researchers and practitioners must be to close this void and work together to assure that youth have positive rather than negative experiences in sport, leading to positive rather than negative outcomes from youth sport involvement. Specifically, youth sport programs should lead to physical health, psychosocial development, and lifelong recreational or elite sport participation. In a recent paper (Fraser-Thomas, Côté, & Deakin, 2005) an applied sport-programming model of positive youth development was proposed, highlighting the vital role of sport organizations in designing programs that develop healthier, more psychosocially competent people, rather than simply skilled individuals. The model proposed the critical role of coaches in implementing programs on a day-to-day basis,

and of parents, in supporting their child throughout their involvement in sport programs; it also highlighted the role of policy makers in assuring the accessibility of youth sport programs to all youth, regardless of socio-economic status, race, culture, ethnicity, or gender. The present paper a) reviews current youth sport literature on sport programming, coaches, and parents, within the framework of positive and negative outcomes, b) outlines practical implications for sport programmers, coaches, and parents, and c) discusses future directions for youth sport researchers.

Overview of Current Youth Sport Research

Sport Programming

Much research in recent years has focused on how different types of sport programs develop young athletes. Côté and colleagues' Developmental Model of Sport Participation (DMSP; Côté, Baker & Abernethy, 2003; Côté & Fraser-Thomas, 2007; Côté & Hay, 2002) was built on research with elite and recreational athletes in a variety of sports including rowing, swimming, baseball, hockey, tennis, and triathlon. The model suggests that children who enter into sport programs eventually choose to participate in sports at a recreational level or an elite level, or they choose to drop out of sports completely. In order to promote prolonged participation rather than dropout, the model emphasizes the importance of participating in a diversity of sports that focus on deliberate play activities during the "sampling years" (ages 6-12). Deliberate play activities such as street hockey or driveway basketball are defined as activities set up and monitored by age adapted rules; they are intrinsically motivating, provide immediate gratification, and designed to maximize enjoyment.

Côté and colleagues' model aligns with much of the current developmental literature on readiness for competition, particularly with regard to psychological and cognitive readiness. Kirk (2005) suggests that quality early learning experiences through sampling and play during childhood develop perceptions of competence, which in turn lead to motivation for continued participation. Horn and Harris (2002) suggest that children's perceptions of competence in late childhood (ages 8-12) are largely the result of comparisons with their peers. It is only at about the age of 12 or 13 that children are able to fully understand the differing effects that effort, practice, and ability have on their performances. For example, before the age of 12 or 13, children tend to judge their athletic ability in comparison with their peers (i.e. I run faster/slower than Mary) rather than in absolute terms (i.e. I can run 100m in 15 seconds). Many researchers have argued that if children are exposed to competition and advanced skill work too soon, they will experience a decreased sense of self-esteem and competence, and an increased sense of anxiety. Csikszentmihalyi, Rathunde, and Whalen's (1997) research on talent development provides further support for this argument; they found that those who did not persist in their talent area often experienced anxiety because their skill level was too low for the challenges offered to them.

Ericsson, Krampe, and Tesch-Römer's (1993) framework of deliberate practice suggests an alternative approach to youth sport programming. The framework outlines

that to reach the highest level of performance, one must engage in 10,000 hours or 10 years of deliberate practice in their chosen domain (sport). They define deliberate practice as high quality, high concentration practice that is not usually inherently enjoyable; practice activities must become increasingly more complex over time, and practice must be done with the primary goal of improving performance. Essentially, the theory assumes that elite athletes must specialize in their main sport and start deliberate practice at a very young age.

While there is some sport research that supports a positive relationship between deliberate practice training and elite performance (e.g. Helsen, Starkes, & Hodges, 1998; Hodge & Deakin, 1998; Hodges & Starkes, 1996; Starkes, Deakin, Allard, Hodges, & Hayes, 1996), several dimensions of the theory of deliberate practice have not been supported (see Abernethy, Farrow, & Berry, 2003 for a review). For example, few studies have shown that 10,000 hours of deliberate practice is indeed a prerequisite for expert performance in sport. To the contrary, expert performance in sports where peak performance generally occurs after the age of 20 has been achieved with 3,000 to 4,000 hours of sport specific training (i.e. deliberate practice; Côté, Baker, & Abernethy, in press). Further, Baker and Côté (2006) advocate that reducing the acquisition of expert performance in sport to deliberate practice fails to acknowledge important developmental, motivational, and psychosocial aspects of children's in sport. Finally, a recent study by Côté, MacDonald, Baker, and Abernethy (in press) provides strong support for a sport environment that includes sampling and playing activities instead of specialization and deliberate practice during childhood. An analysis of the birthplace of 2,240 professional athletes in basketball, baseball, ice hockey, and golf, showed a birthplace bias toward smaller cities, with professional athletes being overrepresented in cities of less than 500,000 and underrepresented in cities of 500,000 and more. These findings suggest that children who live in smaller cities may have access to resources that introduce them to sport in different ways than children from big urban centres. Specifically, athletes from large urban centers are more likely to practice their sport in a structured setting such as a league, which is monitored by coaches with specific practice times and games (Kristjansdottir & Vilhjalmsson, 2001). Such organized sport programs require a high level of human resources such as parental involvement, adult supervision, and coaching, which may limit the time children spend playing sports. On the other hand, children in smaller cities are more likely to engage in games without the structure of urban settings, as smaller communities provide children with more space for deliberate play and unorganized physical activities (Kytta, 2002). Moreover, Kytta showed that smaller communities provide a natural environment that is safer for children to move around independently, without adult supervision.

Coach Influence

The DMSP (Côté, et al., 2003; Côté & Fraser-Thomas, 2007; Côté & Hay, 2002) highlights the critical role the coach can play in positively or negatively influencing youths' sport experiences. Smith, Smoll, and Curtis (1978) were among the first to examine youth coaches' behaviors. They found that the best liked coaches were those who demonstrated more technical instructional, reinforcement, and mistake contingent

reinforcement behaviors. In more recent intervention studies (Barnett, Smoll, & Smith, 1992; Smoll, Smith, Barnett, &Everett, 1993) it was found that coaches who were trained to increase these behaviors were better liked, created an atmosphere that athletes perceived as more fun, created more team unity, and had lower dropout rates than untrained coaches. Other studies (Martin, Jackson, Richardson, & Weiller, 1999; Salminen & Liukkonen; 1996) have found that youth prefer coaches who demonstrate child-involved democratic coaching styles.

Unfortunately much research also highlights the potential negative influences of youth sport coaches. Several authors (Gilbert, Gilbert, & Trudel, 2001a, 2001b; Hill & Hansen, 1988; Siegenthaler & Gonzalez, 1997) have suggested that youth coaches who place primary emphasis on winning often exploit their athletes rather than considering their developmental stages and advancing their psychological and social best interests. In particular, dropout and burnout athletes perceived their coaches as less encouraging and supportive, and more controlling and autocratic than other athletes (Gould, Udry, Tuffey, & Loehr, 1996; Pelletier, Fortier, Vallerand, & Briere, 2001; Robinson & Carron, 1982).

Parent Influence

Parent behaviors and parenting styles can also have both positive and negative influences on children's sport experiences (Côté & Fraser-Thomas, 2007; Fraser-Thomas et al., 2005). Numerous studies have found that children who perceive more positive interactions, support, and encouragement, and less pressure from parents experience more sport enjoyment, show more preference for challenge, and display more intrinsic motivation than other children (e.g. Scanlan & Lewthwaite, 1986). In addition, positive parental influence has been associated with greater attraction to sport and physical activity, and higher levels of sport involvement (Brustad, 1993, 1996; Weitzer, 1989). Csikszentmihalyi et al. (1993) found that teenagers from families that were stable and supportive, and that promoted challenge and opportunities were happier, more cheerful, more alert, and showed more excitement towards their home and work experiences than teenagers from other families. In addition, these teenagers felt more often that they were living up to their own and others' expectations, and that they were doing something that had personal and long-term importance.

Most research linking parents to negative sport experiences and outcomes originates in the dropout and burnout literature. Robinson and Carron (1982) found that football players who dropped out perceived themselves to receive less father support than other players. Others (Baker & Robertson-Wilson, 2003; Gould, et al., 1996; Weirsma, 2000) have linked parents' criticisms and high expectations to burnout in youth athletes. Many (e.g. Coakley, 1992; Raedeke & Smith; 2001) suggest that youth often feel obligated to continue training and competing in order to fulfill parent or coach expectations. While this feeling of "entrapment" has been associated with burnout, specific parent behaviors that lead youth to experience this feeling are not entirely understood.

Implications for Practitioners

While youth sport programs are often assumed to foster positive youth development (i.e. physical health and psychosocial skills), as well as expert athletes and lifelong sport participants, this is clearly not always the case. To the contrary, these positive outcomes are dependent upon a multitude of factors that must be considered when planning and designing youth sport programs.

Sport Programmers

It appears that current trends in sport programming are moving towards institutionalization, elitism, early selection, and early specialization (Côté & Hay, 2002; De Knop, Engström, & Skirstad, 1996; Hill, 1988; Hill & Hansen, 1988). Today's sport programs are requiring higher levels of investment from earlier ages and discouraging children from participating in a diversity of activities (Ewing & Seefeldt, 1996; Hill, 1988; Hill & Hansen, 1988). However, there seems to be clear evidence suggesting that sport programs such as these may not be providing optimal environments for youth's overall physical and psychosocial development.

First, sport programmers must be careful not to focus too heavily on early specialization, as young athletes are often not physically, psychologically, socially, or cognitively ready for all that early sport specialization entails. Involvement in a diversity of activities and play during childhood appear to lead to physical competence and enjoyment (Côté & Hay, 2002; Côté & Fraser-Thomas, 2007; Kirk, 2005), which leads to continued motivation for sport participation. Sport organizations may soon need to restrict hours of training based on age, to facilitate children's overall healthy development (Weirsma, 2000).

Second, in recent years there has been a resurfacing of youth sport talent identification in some countries. To date, there is little evidence that talent identification is the "key" to talent development. Recent research indicates that play and sampling during childhood, and deliberate practice, commitment, desire, willingness to work hard, and good coaching during adolescence are more pervasive predictors of expertise. These traits are built throughout a young athletes'career, not identified in childhood. As such, the role of the increasingly popular national training centers for youth in developed nations should be re-examined, particularly given current research on children's psychological readiness for competition and subsequent motivation for sport participation.

Finally, in recent years sport programs have become increasingly elitist and institutionalized (De Knop et al., 1996). Studies in developed nations generally indicate that elite athletes come from middle or upper class families. Developed nations must take steps (e.g. create policies and programs) to assure that all youth have the opportunity to engage in sports and to develop their talent to its potential. Providing opportunities to all children to participate in various informal and organized recreational sports should be the

focus of sport programmers. In order to achieve this, funding efforts must make a shift back to grassroots levels rather than focusing only on elite levels.

In sum, the ultimate goal of youth sport programs should be to nurture children's intrinsic motivation for sport. Programs that focus on deliberate play activities and the sampling of various sports, can eventually promote the development of self-regulation, decision-making skills, and feelings of competence in children. These important skills and feelings are key to the development of future self-determined expert and recreational athletes.

Coaches & Parents

Research to date has also highlighted important implications for youth sport coaches and parents. First, coaches and parents play a critical role in developing young athletes' competence beliefs, which in turn are associated with athletes' motivation for sport participation. As children (ages 6-12) become progressively more concrete thinkers and learn to judge their competence through adult feedback as well as peer comparison and performance outcomes (win/loss), it is important that coaches and parents emphasize self-comparison rather than peer comparison, given that there can only ever be a few "stars" on each team. In addition, coach and parent feedback should be task rather than outcome oriented, and be performance contingent, as children are sufficiently cognitively developed not to take all feedback at face value. During adolescence (ages 13-17), as youth become more abstract thinkers and become better able to self-reference their performances, coaches and parents should help athletes integrate information from multiple competence sources, provide performance contingent feedback, and facilitate athletes' self-referencing (e.g. coaches can conduct goal setting sessions).

Second, coaches play a vital role in implementing the structure and design of sport programs. Specifically, coaches should reinforce reasonable practice schedules to allow for other activity involvement, create fun and motivating climates, delay specialization until athletes are physically, psychosocially, and cognitively ready, provide individual attention to all program participants, and facilitate effective communication with parents (Côté & Fraser-Thomas, 2007; MacPhail & Kirk, 2006; Weirsma, 2000). In a recent review of the literature on coach training, Conroy and Coatsworth (2006) suggest a model of the mechanisms by which coach training programs can positively affect youths' psychosocial development. Coaches' behaviors most likely to positively influence children's psychological growth are: a) appropriate reinforcement and praise, b) encouragement after mistakes, and c) instruction. Conroy and Coatsworth's model should be used to inform best practices and shed light on the components that require more research in youth sport coaching.

Finally, parents must also take initiative in their children's healthy sport development by being aware of their changing roles, providing opportunities for unstructured play, learning to value the benefits of sport diversification during childhood, and being aware of any unintentional pressure that they may demonstrate (Côté & Hay, 2002; Gould et al., 1996; MacPhail & Kirk, 2006; Weirsma, 2000).

Future Directions for Researchers

Researchers must continue to advance understanding and knowledge of youth sport in order to assure positive youth development (i.e. physical health and psychosocial skills), expertise development, and lifelong sport participation. In order for this to occur, it is critical that researchers and practitioners work together collaboratively. Researchers must stay abreast of current issues of importance in youth sport settings, continue to gain understanding of the factors contributing to positive and negative outcomes in youth sport settings, and work to develop more comprehensive models of positive youth development through sport. In turn, policy makers, sport organizations, coaches, and parents must stay abreast of current research, and apply findings to youth sport programs. Future research should focus in a number of specific areas.

First, further research is required to examine exactly what sport structures, designs, and coaching and parenting influences are linked to positive youth development through sport. To date, much research has focused on sport developmental paths that lead to expertise (e.g. Law et al., in press; Baker, Côté, & Abernethy, 2003), while less focus has been placed on understanding the training and psychosocial factors that lead to other positive outcomes such as healthy psychosocial development. While much attention is given to the potential psychosocial benefits of youth sport participation, further research is required to fully understand how to assure these positive developmental outcomes for all youth. Given that only a small percentage of youth athletes ever reach elite status, greater weight should be placed on the masses of youth involved in youth sport programming rather than the few who make it to the top of their sport.

Second, future research should continue examining sport from a developmental perspective using longitudinal and retrospective methods. Given the extensive data collection process associated with these methodologies, research remains limited. However, additional studies will help to determine whether current findings hold in all sport types (team and individual), in all sport contexts (school, club, community), and for all levels of investment (high and low). As findings become increasingly generalizable, intervention research can then be conducted at a programming level, to further understanding of the specific means by which training and psychosocial influences can facilitate positive youth development, expertise, and lifelong recreational sport involvement.

Third, future research should expand on the role of coaches throughout youths' sport development. Much research has focused on coaches' roles in the development of elite athletes, and associations between youth coaches' behaviors and enjoyment, motivation, and dropout in youth sport settings, but limited research to date has examined specific pedagogical issues (e.g. learning settings, general subject matter, and methods of instruction) within the framework of positive youth development through sport. Specifically, exploratory research is necessary to understand exactly how coaches can most effectively teach life skills and foster positive development in youth. Further, future studies should focus on learning more about youth sport coaches' development and required training (Conroy & Coatsworth, 2006; Werthner &Trudel, 2006). According to

Werthner and Trudel (2006), youth sport coaches' learning occurs through mediated (e.g. coaching classes), unmediated (e.g. watching other coaches), and internal (e.g. reflecting on their own coaching) learning situations, all of which are important. However, the relative importance of each type of learning situation in the development of a model youth sport coach remains to be determined.

Fourth, future research should also examine the role of parents in youths' sport development. While research to date indicates that support and pressure are key determinants of sport participation, there is a lack of clarity as to what these behaviors constitute. The development of quantitative tools to prospectively measure specific parent behaviors more accurately is necessary, rather than relying strictly on qualitative or retrospective perceptions of support and pressure behaviors. Researchers should also use longitudinal methods to examine parents' roles throughout development. Specific understanding of parents' roles within the larger socialization process (parents, coaches, peers, siblings), of how parent behaviors contribute to dropout, and of how parent behaviors may lead to positive developmental outcomes are necessary.

Finally, future research in special populations is necessary. Given the institutionalization and elitism in youth sports in developed nations (De Knop, et al., 1996), high socioeconomic status is unfortunately most often necessary for participation in youth sport settings, which has led to limited research of youth sport participants of lower socio-economic status. Steps must be taken to assure that all youth have opportunities to experience quality sport and physical activity programming (Fraser-Thomas et al., 2005; Kirk, 2005). Until this occurs, high socio-economic status will remain a limitation of most youth sport studies. While some research (e.g. Hellison & Cutforth, 1997) has highlighted the critical role youth sport programs can play in promoting the healthy development of "good youth" in underprivileged communities, more extensive studies must examine the unique challenges and requirements of program development and implementation in underserved communities.

Summary and Conclusion

This paper reviewed literature on youth sport programs, coaches, and parents within the framework of positive and negative outcomes. Implications for sport practitioners and future directions for youth sport researchers were outlined. If researchers and practitioners work together in a collaborative manner, it is most likely more youth will experience positive outcomes through sport, in particular, they will experience better physical health, psychosocial development, and lifelong recreational or elite sport participation.

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