# The Benefits of Sampling Sports During Childhood

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***Eight year old Emily looks like a soccer prodigy as she runs down the field displaying dribbling skills that are far superior to her teammates. Unlike the 'beehive' mentality of most of her peers, Emily seems to have a greater understanding of the nuances of soccer strategy as she plays her position and does not simply chase the ball around the field. Emily deftly receives a pass from a team-mate and rockets another ball into the back of the net. For a student who sometimes struggles in the classroom, it is a welcome sight for Emily's teacher to see her excel and enjoy herself in an activity.***

For many children, elementary school is their first chance to take part in physical activity classes or a structured sport program, such as after-school soccer or basketball. Therefore teachers (in physical education classes) and coaches (those involved in after-school sport programs) can play a pivotal role in shaping children's early sport experiences. When confronted with a student such as Emily, teachers and coaches must decide on the best way to foster the child's athletic talent. Should they encourage her to focus solely on soccer because of her obvious abilities, or to participate in a variety of sports/activities throughout development? Simply stated, Emily's teacher must decide whether to advocate early specialization (Ericsson, Krampe, & Tesch-Römer, 1993) or sampling (Côté, 1999; Côté, Baker, & Abernethy, 2007; Côté & Fraser-Thomas, 2007). Early specialization is characterized by investing in one sport on a year round basis from a young age with the goal of developing expertise (Ericsson et al., 1993). In contrast, Côté et al., (2007) defined sampling as engaging in a variety of sports during childhood.

Whether a child takes a specializing or sampling route, sport participation can have implications for physical and psychosocial development. The risks of early specialization have been outlined previously (e.g., Baker & Roberson-Wilson, 2003; Wiersma, 2000) however the numerous benefits of sampling have not been addressed. Therefore, the purpose of this paper is to detail both the early specialization and sampling approaches and propose the psychosocial and sport-related advantages of sampling over early specialization.

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## The Early Specialization Approach

The early specialization method has grown out of the work of Ericsson and colleagues (1993) who studied violinists of varying skill levels. Their study found that expert violinists began training around five years of age and that non-experts started training later in life. It was proposed that non-experts could not catch up to expert violinists since experts had accumulated more total hours of deliberate practice throughout development. Deliberate practice can be defined as practice activities that have the primary goal of improving performance (Ericsson, 2003). Typically, deliberate practice requires a high amount of concentration, is not inherently enjoyable, and must be carried out over time. Further, Ericsson and colleagues (1993) proposed that violinists need to accumulate approximately 10,000 hours of deliberate practice to become experts. Those who advocate early specialization believe that investment in deliberate practice in one activity from a young age distinguishes future experts from non-experts. Advocates of early specialization within the sport domain also propose that the timing at which deliberate practice begins is imperative for elite performance since some skills and movements (e.g. stretching the back when pitching in baseball) are best developed before the body physiologically matures (e.g. bones calcify; Ericsson, 2003). It is apparent that commitment to large quantities of deliberate practice in one sport from a young age (early specialization) is one approach to developing elite athletes. For example, Helsen and colleagues (Helsen, Hodges, Van Winckel, & Starkes, 2000; Helsen, Starkes, & Hodges, 1998) found support for the relationship between the amount of sport-specific practice and the attainment of expertise across a variety of team sports.

## The Sampling Approach

A number of studies (Bloom, 1985; Carlson, 1988; Côté, 1999) have demonstrated that elite athletes participated in various sports throughout their childhood. These athletes described participating in activities during childhood that were characterized by deliberate play rather than deliberate

*For many children, physical education classes or extracurricular activities in schools provide the first opportunity to participate in a structured sport environment. As such, teachers and coaches play an important role in developing students' sport abilities. Research has outlined two methods of developing young athletes, namely early specialization (Ericsson, Krampe, & Tesch-Römer, 1993) or sampling (Côté, Baker, & Abernethy, 2007). Although the Developmental Model of Sport Participation (DSMP; Côté et al., 2007) outlines how both approaches can lead to sport expertise, a sampling approach is more likely to promote sport-related and psychosocial benefits. This article outlines how sampling in youth sport can be effective in developing physical skills along with five psychosocial characteristics: life skills, prosocial behaviour, healthy identity, diverse peer groups, and social capital. Strategies for fostering such an environment are discussed.*

*Il arrive souvent que la première exposition des enfants à un contexte sportif structuré passe par les cours d'éducation physique ou les activités parascolaires organisés à l'école. En ce sens, les enseignants et entraîneurs jouent un rôle de premier plan dans le développement des habiletés sportives des élèves. Des recherche ont fait ressortir deux méthodes utiles pour aider les jeunes athlètes à se développer, soit la spécialisation précoce (Ericsson, Krampe et Tesch-Römer, 1993) et l'échantillonnage (Côté, Baker et Abernethy, 2007). Même si le modèle développemental de participation sportive (Côté et coll., 2007) décrit en quoi les deux approches favorisent l'expertise sportive, celle par échantillonnage offre plus d'avantages sur le plan sportif et plus de bienfaits psychosociaux. Cet article explique en quoi l'échantillonnage de différents sports par les jeunes les aide à perfectionner des habiletés physiques liées à cinq caractéristiques psychosociales : l'autonomie fonctionnelles, la sociabilité, la saine identité, la diversification des groupes de pairs et le capital social. Les auteurs discutent également de stratégies qui encouragent ce genre d'environnement.*

practice (Côté, Baker, & Abernethy, 2003; Soberlak & Côté, 2003). Côté et al. (2007) define deliberate play as activities in which children participate because they are inherently enjoyable but could nonetheless contribute to the development of expertise. Activities that exemplify deliberate play include street hockey and street basketball. These games use adapted rules of traditional sports (e.g. one-on-one basketball) and the children involved and/or adults loosely monitor the game. As a result, highly structured practice may not be necessary for early skill acquisition during childhood, however deliberate practice will be needed to complement an athlete's skill development during adolescence and adulthood. Research has demonstrated that some athletes who had diversified sport backgrounds and engaged in deliberate play during childhood still reached an elite level in sport (Baker, Côté, & Abernethy, 2003; Baker, Côté, & Deakin, 2005; Soberlak & Côté, 2003). Anecdotal evidence also indicates that early specialization is not a prerequisite for an athlete to reach the highest level in their sport. For instance, two-time National Basketball Association (NBA) Most Valuable Player (MVP) Steve Nash reports sampling a variety of sports including lacrosse, soccer and hockey during childhood and specializing in basketball in adolescence.

Côté and colleagues' Developmental Model of Sport Participation (DMSP; Côté & Fraser-Thomas, 2007; Côté et al., 2003, Côté et al., 2007) describes three paths toward elite participation in sport which account for youths' psychosocial and physical development (see Table 1). Within the first two paths of the DMSP, children aged 6 to 12 engage in sampling which consists of participation in a wide variety of sports that involve high levels of deliberate play and low levels of deliberate practice. Children who wish to engage in sport for recreational purposes will continue from the sampling years into the recreational years (ages 13 +). However, youth interested in elite development will continue into the specializing years (ages 13-15) and then into the investment years (ages 16+). During the recreational years, sport programs still have low levels of deliberate practice but now include age-appropriate competition. In contrast, the specializing and investment years are characterized by participation in fewer sports and less time in deliberate play and more time in deliberate practice. The DMSP also proposes that after the sampling years, children can adjust their involvement to play sports recreationally or they may drop out of sports. The third and final path of the DMSP consists of specialization in one sport from approximately age 6, and involves high amounts of deliberate practice and low amounts of deliberate play.

When considering the dichotomy of early specialization and sampling, it is apparent that both approaches can lead to expertise development under optimal conditions. The goal of early sport participation, however, should not be limited to the development of high-level athletes, especially in school sport programs. Young children's sport experiences should ideally foster positive youth development and a healthy and active lifestyle (Fraser-Thomas, Côté, & Deakin, 2005). We have partitioned the benefits of sampling into two categories, namely the benefits related to continued participation in sport, and the contribution of sampling to a child's psychosocial development.

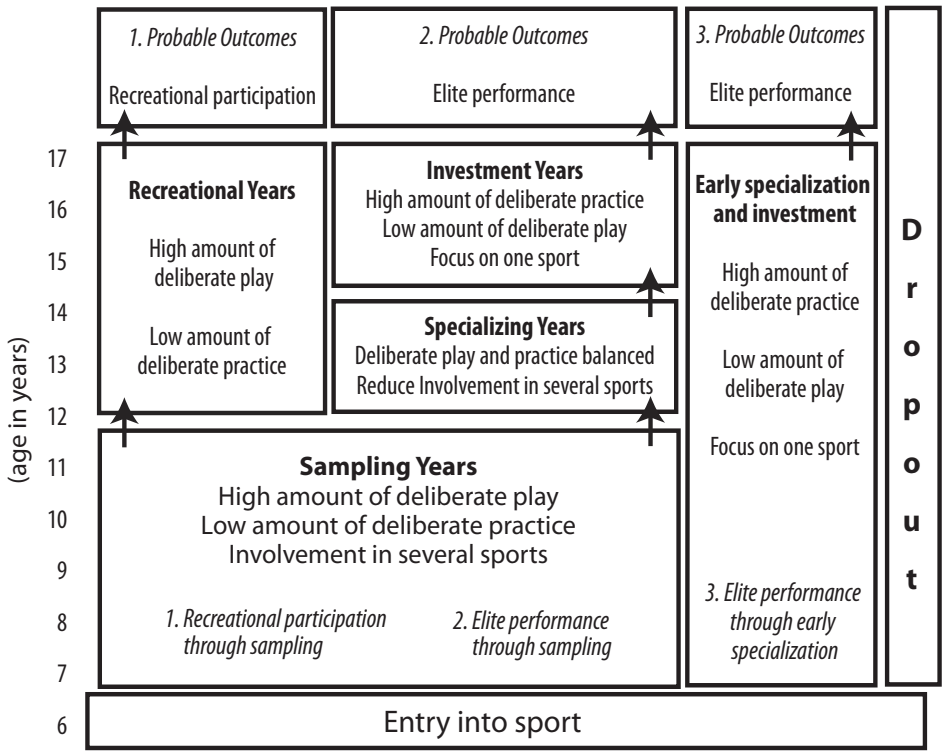
## Sport Participation Benefits of Sampling

Considering the rising rates of childhood obesity (Janssen et al., 2005), keeping children involved in sport and physical activity is of the utmost importance. Empirical evidence has revealed a troubling link between early specialization and increased sport attrition that has been reasonably well established across ability levels (Côté et al., 2007; Gould, 1987; Gould, Undry, Tuffey, & Loehr, 1996; Wall & Côté, 2007). In contrast, Robertson-Wilson, Baker, Derbyshire, and Côté's (2003) study of physically active and inactive adult females indicated that sampling numerous sports and physical activities in childhood was associated with being physically active during adulthood. Therefore, one benefit of sampling is that it may foster a lifelong engagement in physical activity. To date, no study has linked sampling and sport dropout. Sampling is associated with prolonged engagement in sport and physical activity as it tends to provide more enjoyable early athletic experiences and is associated with a lower frequency of athletic injuries than early specialization.

A tenet of the DMSP (Table 1) is that deliberate play during the sampling years is enjoyable (Côté et al., 2007), and children often cite enjoyment or fun as a reason for participating in sports (Scanlan, Babkes, & Scanlan, 2005). Therefore, sampling a variety of sports that have high levels of deliberate play will provide enjoyable experiences for young athletes and potentially foster motivation to continue in sports throughout development and later in life. For those who specialize early, the primary focus is on skill development through high amounts of deliberate practice that is not necessarily enjoyable. Baker and Côté (2006) argue that deliberate play activities provide a context that fosters intrinsic motivation to participate in sports by providing greater amounts of 'time on task' rather than waiting for the next drill to begin, as can be the case with deliberate practice. Coakley (2001) proposed that an action-centred sport environment is important in implementing an enjoyable sport program. Of note, children of all ages often reported lack of fun as the reason they drop out of sports (Butcher, Lindner, & Johns, 2002).

Sampling may promote prolonged engagement in sport by limiting physical injuries (Fraser-Thomas et al., 2005). Overtraining injuries are a concern for young athletes who specialize in one sport and engage in high volumes of deliberate practice (Hollander, Meyers,

**Table 1: The Developmental Model of Sport Participation (DMSP, Côté et al., 2007)**




& Leunes, 1995; Law, Côté, & Ericsson, 2007). For instance, young gymnasts who practice for over 16 hours a week have been shown to have higher incidences of back injuries (Goldstein, Berger, Windler, & Jackson, 1991). A sampling approach in child-controlled play (e.g. deliberate play) rather than highly adult-controlled practice (e.g. deliberate practice) has been proposed as a strategy to limit overuse and other sport-related injuries (Micheli, Glassman, & Klein, 2000). In summary, sampling may protect against sport attrition by limiting sport related injuries and allowing children to have early experiences in sport that are enjoyable.

## Psychosocial Benefits of Sampling

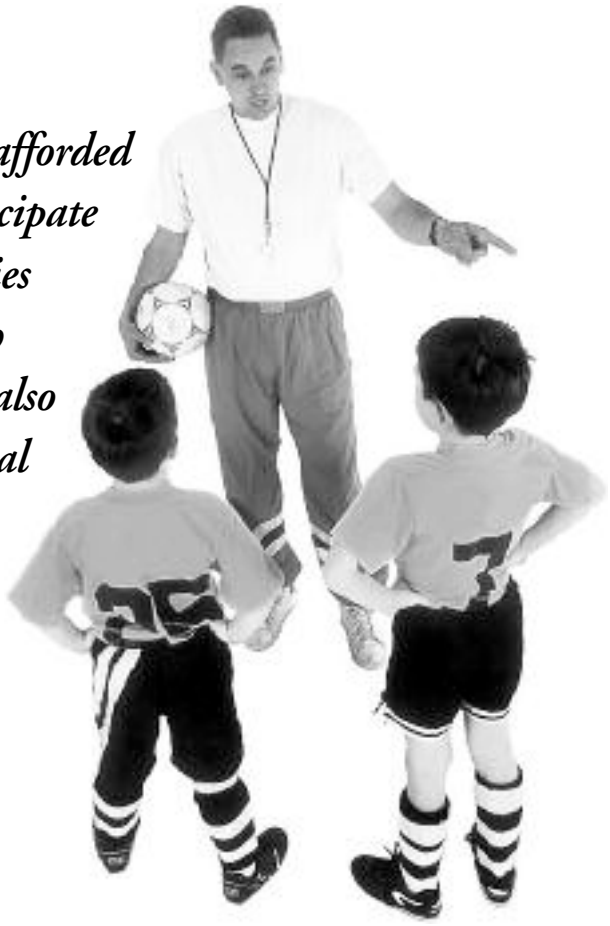
Only a small percentage of children who participate in school sports ever become elite athletes. Therefore, the psychosocial outcomes of sport participation are particularly important to consider. Recent studies with youth between the ages of 11 to 17 have found that those who are involved in a variety of extracurricular activities (e.g. sports, volunteer, arts) score more favourably on outcome measures such as Grade Point Average (GPA; Fredricks & Eccles, 2006a) and positive peer relationships (Fredricks & Eccles, 2006b) than youth who participate in fewer activities. These patterns are thought to exist due to each extracurricular activity bringing its own distinct pattern of socialization experiences that reinforce certain behaviours and/or teach various skills (Fredricks & Eccles, 2006b; Rose-Krasnor, Busseri, Willoughby, & Chambers, 2006). This contention is corroborated by studies of children and youths' experiences in extracurricular activities indicating that youth have unique experiences in each activity that contribute to their development (Hansen, Larson, & Dworkin, 2003; Larson, Hansen, & Moneta, 2006). This has led Wilkes and Côté (2007) to propose that children who sample different activities (through their own choice or by virtue of parental direction), have a greater chance of developing the following five developmental outcomes compared to children who specialize in one activity: 1) life skills, 2) prosocial behaviour, 3) healthy identity, 4) diverse peer groups and 5) social capital.

The first developmental outcome that sampling potentially fosters is life skills, defined as attributes or abilities that contribute to an individual's success in various milieus (Danish, Nellen, & Owens, 1996). These consist of intrapersonal (e.g. time management) or interpersonal (e.g. communication skills, leadership) skills and can be developed in sport programs. For instance, Yoo (2001) found that individual and team sport athletes were different in the extent to which they used various sport-related coping strategies. This suggests that a child would develop more life skills by participating in multiple activities compared to specializing in just one activity.

Second, a sampling approach is better suited to promote prosocial behaviour. Past studies suggest that youth who participate in a number of different activities report higher levels of prosocial behaviour (Fredricks & Eccles, 2006b). The National Research Council and Institute of Medicine [NRCIM] (2002) suggests the social norms that children are exposed to early in life have long-lasting effects, often into adulthood. The reinforcement of norms such as respect and academic achievement in multiple milieus (such as in school and sport programs) was proposed by the NRCIM as important in helping children grow into healthy and productive citizens. Therefore, sampling is a strategy to help ensure that children are exposed to prosocial norms in multiple sport programs. Alternatively, children who specialize are only exposed to one set of norms. A consideration for teachers and parents is that sampling may allow children to be resilient against negative social norms that may exist in one sport program through exposure to prosocial norms in other sport contexts.

Third, sampling stimulates healthy identity development. Identity research

*Children who are afforded the chance to participate in multiple activities will be less likely to drop out and will also gain the psychosocial benefits associated with sampling.*



indicates that exploration and experimentation with multiple roles and identities (e.g. athlete, musician) throughout their development assists youth in achieving an identity congruent with one's true self (Waterman, 1984). Sampling encourages identity exploration by exposing children to different environments which provide opportunities to decide the level at which they wish to participate. Youth involved in a sport or extracurricular activity that supports their emerging identity tend to score more favourably on indicators of positive development (Barber, Stone, Hunt, & Eccles, 2005). In contrast, early specialization may promote the state of identity "foreclosure" which occurs when a child's identity is prescribed to them by parents without sufficient exploration (Harter, 1990). Engagement in one sport from a young age may limit exploration of other sports and promote foreclosure.

The fourth developmental outcome is that sampling can connect children to diverse peer groups. As children enter adolescence, peer acceptance becomes an important aspect of a positive self-concept (Brown, 1990). Youth describe satisfying different needs (e.g. social needs) by having multiple peer networks (Patrick et al., 1999), which can be enhanced through sampling. On the other hand, early specialization limits children's interaction to one peer group. Sampling may benefit children who do not make friends in one program by providing them a chance to be accepted in another.

The fifth developmental outcome is that sampling assists youth in acquiring social capital. Social capital includes the relationships between youth, their parents, other adults, and the community (Smylie, Medaglia, & Maticka-Tyndale, 2006). Children who participate in sport score higher on two indicators of social capital; 1) more self-reported interactions with their parents (Broh, 2002) and 2) greater interaction with other adults (e.g. coaches, teachers) (Eccles, Barber, Stone, & Hunt, 2003). Children involved in multiple sports have the opportunity to garner social capital through developing relationships with a wider range of adults than youth involved in only one activity.

**Implications for Sampling and Specializing**

Although both sampling and early specialization can lead to expertise (Côté et al., 2007) there is evidence regarding the developmental benefits of sampling over specialization. Côté and colleagues describe early specialization as an effective method for developing expertise, however it does not account for the potential costs to development (e.g. psychological, biological). Sampling is described as an efficient path because it can lead to expertise but also takes into account the potential costs. As illustrated, a diversified approach to sport participation is linked to positive sport and psychosocial outcomes.

It is recommended that individuals leading physical education classes and after-school sport programs encourage children to participate in various sports throughout their development and to specialize in one sport only during late adolescence if their goal is to become an elite athlete. Children who are afforded the chance to participate in multiple activities will be less likely to drop out and will also gain the psychosocial benefits associated with sampling. Further, elementary school sports should consist primarily of deliberate play, which fosters intrinsic motivation to participate in sports. In light of the existing literature linking sport participation with positive development (e.g., Broh, 2002; Eccles & Barber, 1999) coaches should weigh the costs and benefits of cutting an elementary aged child from a school team. If a child is not able to participate in interscholastic sports he/she may not have the financial means to play in a community or private club. If possible, alternatives such as intramural programs should be offered in order to maximize participation opportunities for all children. ■

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