



FOUNDATIONS OF *Coaching*

Chapter 4: Growth and Development

Table of Contents

Part 1: Understanding the Basics of Physical Growth and Development

- The maturational process
- Identifying early versus late maturers
- Potential consequences of early versus late maturation

Part 2: Applying the Basics of Growth and Development

- Strategies to deal with early and late maturation of athletes
- Fostering long term development
- Physical readiness for competition

Part 3: Social Development

- Social development of children at various ages
- Recommended strategies

Part 4: Psychological Development

- Perceived competence
- Perspective taking
- Motivation
- Recommended strategies
- Psychological readiness for competition

Part 5: Gender and the Young Athletes

- Puberty
- Sensitive periods of development in males and females
- Psycho-social development of males and females
- Social/affiliation needs of males and females



FOUNDATIONS OF *Coaching*

Part 1: Understanding the Basics of Physical Growth and Development

Topic Questions:

1. Why does a coach need to understand growth and development?
2. What are the average maturational parameters?
3. What are the identifying characteristics of early versus late maturers?
4. What are the potential negative outcomes for both early and late maturers?

Why Study Growth and Development?

Growth and development is a topic that often is not well understood by new coaches. This chapter identifies critical elements of athlete development in a variety of sport science disciplines (i.e., physiology, psychology, growth and development, sociology) in order to arm the coach with knowledge to work more effectively with young people.

First, here are two basic assumptions that serve as the underlying rationale for addressing growth and development:

1. No two individuals are exactly alike.
2. Individuals change in relatively predictable ways as they get older.

Specifically, while no two young swimmers are identical, their physical, psychological, social and physiological development follows a similar pattern. Using this knowledge of the predictable aspects of the developmental process will aid in understanding and training young swimmers and will help to place their behaviors, needs, thoughts and capabilities in context.

Complete textbooks are written on development in each area. We asked experts to identify and explain a few critical elements of athlete development deemed to be crucial information for coaches. On the following pages are the discipline specific summaries of athlete development along with recommendations for applying the information.

What is the Maturational Process?

It is important to remember that a child is not just a miniature adult. Children develop in sequential and predictable ways from young children into fully grown adults.

- During the childhood phase prior to puberty, children, on average, grow about 2.5 inches per year and gain about 5 pounds per year.
- Peak height velocity of growth (the “adolescent growth spurt”) occurs during puberty/adolescence.
- Girls reach peak growth spurts between ages 11-13 and boys between ages 13-15.
- Adolescent awkwardness due to rapid physical growth affects performance.
- Tracking of “outstanding” kids in elementary school found that only 25% were still rated as “outstanding” in later years, suggesting that early success does not predict later success.
- Gender differences in physical growth and in the timing of the growth spurt contribute to the overall difference in the height and body shapes of females and males. These changes are out of the athletes’ control but may impact performance.
- The rate of growth is similar for males and females. At some points of maturation, girls grow even faster than boys. However, boys have more growth at the end of maturation.

While individuals develop in similar ways, the timing of this maturation process can vary greatly. In fact, at any one chronological age, individuals can vary by as much as five years biologically. This means that with two swimmers who are chronologically 12 years old, one may be biologically 10 years old and the other 15 years old. In spite of this huge difference in physical maturity, these differences are often not recognized in training and competition expectations.

Identifying early maturers and late maturers

One way of trying to identify the kids who are going to be early maturers and late maturers is just by eyeballing them. In childhood, early maturers tend to be taller, heavier, and have more muscle mass than their peers. Alternately, late



FOUNDATIONS OF *Coaching*

maturers are generally shorter and very light and lean in childhood. Late maturers may also be fairly tall but lean and without muscle mass. Very often, the late maturers end up being taller as adults because they are in the childhood growth phase longer. In the end, final height depends on individual genes. A good starting point is to look at the biological parents to predict athletes' heights.

Another way to identify early maturers and late maturers is to track the athlete's growth. On average, children grow 2.5 inches a year and gain about 5 lbs. a year until they hit their growth spurt. For girls, this growth spurt occurs roughly around age 12-13 and around age 14-15 for boys. If the growth spurt occurs earlier than this average, you have an early maturer, if it occurs later, you have a late maturer. It is important that young athletes have regular physical check-ups to ensure that growth is on track. Excessive weight gain or loss should be addressed by a physician.

Potential Negative Outcomes

In and of itself, being an early maturer or a late maturer is not a concern. However, the potential short term and long term ramifications if one ignores maturational differences are of concern.

Early maturers, who hit their growth spurt prior to their same aged peers, tend to have an advantage in sports, especially sports requiring speed, power and endurance where body mass is helpful. For biological reasons, not because of greater talent or ability, they are often able to outperform their peers. In childhood, they have much early success for which they receive reinforcement and recognition and, therefore, tend to initially stay with the sport.

Into high school there may be problems as the early maturers, who are used to experiencing success, get frustrated because now peers are catching up with them. Others may ridicule and tease them because they are not experiencing the same outcome success and assume it is because they are not training hard or not putting forth the effort. Part of the dropout from sport we see around age 14 is due to early maturers leaving the sport out of frustration when they are not experiencing the same success as they did when they were younger. In reality, it's the physical changes that are occurring in their peers that are allowing others to catch up with them.

With late maturers, there is a different set of issues. The late maturing kids often experience early failure because they are at a biological disadvantage that affects performance outcomes. They are not as physically strong or developed as their peers. In training, even though they may be working as hard, they often can't keep up which is a huge source of frustration. This may lead to ridicule or embarrassment. These late maturers, who are not demonstrating success relative to their peers, may not get the coaches' attention, encouragement or recognition that the more successful early maturers are getting.

Unfortunately, in developmental sport programs, late maturers often are not given the time to allow their physical maturity to catch up and their skills to develop. Instead, these children may leave the sport early because of lack of success and extreme frustration. This seems to hit late maturing boys the hardest because they are at an extreme disadvantage. Ironically, they may have the potential to be better athletes but they must be kept involved at the younger ages to make sure they continue with their skill development.



FOUNDATIONS OF *Coaching*

Part 2: Applying the Basics of Growth and Development

Topic Questions:

1. What are some strategies to keep both early and later maturers involved in swimming?
2. How are aerobic capacity, anaerobic capacity and muscular strength affected by the growth and development of the athlete?
3. What are some strategies to deal with female athletes who are negatively affected by physical changes to their bodies?
4. How can competition be tailored to make it developmentally appropriate?

Strategies to Deal with Early vs Late Maturers

Keep in mind that early success does not predict later success. This is illustrated in a study looking at growth and development in boys (Medford Boys Growth Study) and its relation to sport abilities. Specifically, coaches were asked to rate boys in terms of their abilities in elementary school and again in junior high. They found that only 25% of the boys who were rated outstanding in elementary school were also rated outstanding in junior high. This suggests that early talent/ability is a poor predictor of future abilities since only one fourth of the boys that demonstrated ability in elementary school also demonstrated ability in junior high.

Given this, be cautious about focusing attention and energies onto only the young athletes who are showing initial talent. The success demonstrated by early maturers is due to a biological advantage and biological maturation is genetic. Late maturers, who are at an initial physical disadvantage, don't have control over biology.

Parents and athletes must be aware of some of the factors involved in why some are experiencing much success (as is the case with early maturers) or limited success (late maturers). An awareness of the situation will aid in keeping both success and failure in perspective while maintaining an eye towards individual skill development. Help athletes focus on long-term development rather than performance today.

With early maturers, who have trouble keeping early success in perspective, think about moving them "up" in competitions, when possible, so they are competing on a more level playing ground and experiencing some defeat along with their successes. They can still practice with their peers (so social development is not affected) but compete against others of a similar maturational age.

Search for strategies to keep late maturers involved in skill development programs since they are the ones getting left behind. Be creative in structuring situations so they can experience success and see improvement. Some examples that have been used include: post and reward personal improvement in training that focuses the athletes on themselves rather than peer comparison; design team competitions that emphasize skill development; find a way to get the athletes to compare themselves to others of the same maturational age.

Gender plays a role in the influence of the maturation process on performance, dropout and self-esteem. Specifically, pay special attention to early maturing females and late maturing males. An early maturing female develops a woman's body at a young age and may become very self-conscious. Conversely, the late maturing male is ridiculed for being small and also becomes very self-conscious. Parents and coaches need to help these athletes with self-confidence, self-image and self-worth.

- Educate athletes regarding growth cycles so they understand what is happening to their bodies. Help manage parental expectations. Explain that rapid growth can lead to awkwardness and that performance may plateau or even temporarily decline.
- Encourage the early maturer to develop good technique and take on new events. Take active steps to keep late maturers involved by encouraging and recognizing individual improvement.
- Understand gender differences and allow time for young athletes to get comfortable (physically and emotionally) with their changed bodies. Adaptation to the growth changes lags behind the actual change.

Fostering Long Term Development Through Structured Training and Skill Development

There are three primary physiological performance components that undergo quantitative changes (increased size or



FOUNDATIONS OF *Coaching*

capacity) and qualitative changes (increased efficiency) with growth and development. The components include aerobic capacity, anaerobic capacity, and muscular strength, power and endurance.

- **Aerobic Capacity**

VO_2 max, the ability to take in, transport, and utilize oxygen, is the common parameter used to measure aerobic capacity. VO_2 max shows significant growth from 11-13 years for females and 12-14 for males. This time frame, when significant growth can occur is also called a sensitive period. It should be maximized in the training program to develop the athlete's long term potential. The athlete is able to rapidly increase workload during this sensitive period. Pre-pubescent athletes show significant improvements in long duration, low intensity events and are able to enhance the utilization of their aerobic capacity.

Recommendation: Coaches should optimize aerobic training during this sensitive period (11-13 years for females/12-14 years for males) to maximize athletes' aerobic development. It is suggested that pre-pubescent athletes (ages 9-12/14) focus on longer distances (i.e., longer repeats and longer competitive events) for reasons related to both skill development and aerobic capacity development. This does not mean that swimmers do not need to train the aerobic system after age 14! Athletes should continue to increase training volumes and train the aerobic system throughout their careers.

- **Anaerobic Capacity**

Anaerobic training involves high intensity, brief activities such as short repeats on long rest or 25 yard or shorter sprints. It has been found that high volume pre-pubescent anaerobic work results in insignificant long-term anaerobic improvement for young athletes (10-13 years). It may result in short-term time drops. However, higher aerobic work during this time results in increased performance across all distances not just longer distances. Early increased anaerobic load leads to potential mal-adaptation in young athletes...it is said to "tax their tank" and their ability to adapt. A gradual increase in the proportion of anaerobic work beginning at ages 12-14 for girls and 13-15 for boys maximizes development and enhances performance, but only if preceded by ample aerobic work.

Recommendation: Coaches must first develop the athlete's aerobic capacity and then gradually increase anaerobic load for maximum development of anaerobic capacity.

- **Muscular strength, power and endurance**

A frequently asked question is whether young athletes should strength train. It is suggested that there can be muscular gains and adaptations but only if strength training is done under the right scenario: with close supervision to ensure proper technique. Prior to puberty, the gains come from neuromuscular changes not changes in muscle size. With increases in steroid hormones (puberty), we see gains due to changes in muscle size, predominantly in males. As muscle size increases, so does strength. But, typically there is a year lag time between size/mass increases and maximum effects of strength gains in young athletes. Additionally, the translation of land-based strength, power and endurance to pool performance can take up to six months. The age of 14-15 is when peak gains occur; quantitative muscular changes can occur with proper training. However, it is not until half a year to two years later that this will be translated into an increase in strength.

Recommendation: First, keep in mind that young athletes are not miniature adults. Because of hormonal and biological differences between children and adults, children will not increase muscle size through strength training. However, neuromuscular adaptations can occur. It is only after puberty that muscle growth occurs. The ability to translate muscular work to swimming velocity is the key, as the concern is helping children swim faster. Therefore, ensure that strength training is implemented or modified to meet this objective.

Physical Readiness for Competition

"Can a child be too young for competition?" The answer is "yes" if we are strictly referring to the adult model of competition such as the organized swim meet. Young athletes often do not have the psychological, social and physical skills necessary for the competitive environment. However, if competition is structured to make it developmentally appropriate for young athletes, they can benefit from the experience and develop the necessary skills.



FOUNDATIONS OF *Coaching*

At the developmental level, the important element is skill. In addition, evaluating performance based strictly on time is an injustice to our late maturing athletes who are at a biological disadvantage relative to their early maturing peers. Be creative in using different evaluation criteria or rewards that recognize areas we want to emphasize i.e., stroke, technique, individual improvement. Following are varied examples of appropriate competitions for developmental athletes:

- Technique meets
- Alter events based on physical abilities, i.e., allow 5 butterfly strokes then 5 butterfly kicks
- Race strategy competitions
- IMX meets
- Intra-squad and inter-squad meets
- Single age events

Set up a sound and appropriate program for entry level swimmers to develop a firm foundation; a foundation that includes proper skill development and the development of self-esteem. This will help to instill in children a love of swimming. Rely on best judgment and knowledge of the swimmer to determine physical readiness for appropriate levels of competition.



FOUNDATIONS OF *Coaching*

Part 3: Social Development

Topic Questions:

1. What are the primary social characteristics of each developmental age group?
2. What can the coach do to guide and encourage positive sociological development?

Sociological Development

Young athletes do not participate in sports in a vacuum. They are greatly affected and influenced by the social and cultural environment in which they live and by the social development challenges they face during childhood and adolescence. To enhance effectiveness in working with young athletes, it is important to take into account this social development as it impacts areas such as the athletes' goals, behaviors, needs and self-concept. Be aware of how the social relationships associated with sport participation are involved in the completion of developmental tasks.

7-10 Years Old

This age group faces the challenge of learning how to get along with peers and how to deal with authority figures apart from their parents. During these years it is important for children to learn how to stand up for themselves among their peers while at the same time understanding that their peers are different than they are. They must learn how to compromise for the sake of getting along, and how to cooperate and compete with their equals. If these social interaction skills are not learned, children may face difficulties when addressing developmental challenges during preadolescence and adolescence.

Recommendation: Recognize that seven-ten year olds are expressive, spontaneous and egocentric. Give them room to express themselves while at the same time establishing clear-cut norms about honesty and playing by the rules. As they seek to get their way, understand that children during this stage are only beginning to develop the ability to see the world from the perspective of others. Because these children are in the process of learning acceptable means of achieving goals, take care to make clearly explained distinctions between what is acceptable and what is not. Teach team loyalty, sportsmanship and self-responsibility.

10-13 Years Old

Pre-adolescents face the challenge of developing "best friend" relationships and gaining acceptance from peers. A development task is figuring out how they are similar to and different from others. In attempting to understand themselves as unique individuals, they go through a stage during which close relations with same-sex "best friends" is very important. During this stage, they are very loyal to friends and greatly influenced by what friends think. Unfortunately, young adolescents can also be very exclusive in their peer groups such that those who are different are shunned or mocked. While this may, at times, be hard to deal with, keep in mind that it is a necessary part of social development and not an expression of disrespect on the part of the young athletes.

Recommendation: Offer young individuals the opportunity to interact socially with same-sex peers on a regular basis. When moving one athlete "up" to the next level it may be necessary that a peer also be moved up. Attempt to create an environment of inclusion and acceptance of differences. Teach conflict resolution strategies such as peer group discussion and emphasize team loyalty over peer group loyalty. Encourage self-responsibility for practice and competition performance.

14-17 Years Old

Adolescents face the challenge of exploring who they are and how they fit into the world in which they live. During this stage, young people try to answer the question "who am I?" They go through processes of identity testing and identity formation. This can be difficult and frustrating for adults, but adolescence is a time during which young people "try on" a variety of different identities in an attempt to discover and clarify values while exploring all the possibilities of who they might become as adults. What may seem like rebellion or acting out, often is a struggle by the athletes to find identities that fit with their emerging sense of how they are connected to the world. We see this search for identity in the clothes they wear, the music they listen to, the activities they are involved in, the language they speak and in the inconsistencies in their lifestyles.



FOUNDATIONS OF *Coaching*

Recommendation: Be tolerant and accepting of the various identities the athlete "tries on." Allow athletes to explore and test new and different identities as long as they do not put themselves in danger and as long as their actions are not in conflict with team goals or team philosophy. It will help if the team goals and philosophy are both clearly stated and openly discussed. Encourage a balanced lifestyle with participation in outside activities but stress the increased commitment required for competitive success. Offer leadership opportunities and encourage peer group discussion and conflict resolution through discussion.

16-19 Years Old

Older adolescents deal with the challenge of seeking independence and autonomy. A primary developmental task of older adolescents is to move closer to being independent, autonomous beings; connected to but separate from others, in control of one's life but aware of limitations and boundaries. While complete independence and autonomy are not possible (nor is the individual ready for it), it is important that the athlete be allowed to make strides. Some autonomy must be allowed and encouraged in order for the athlete to develop toward adulthood. Feelings of independence and autonomy are derived, in part, from the sense that one has control over his or her life.

Recommendation: Allow athletes a voice in their development. This voice in some decisions regarding training helps to develop independence and autonomy while at the same time making the athlete more accountable for his/her training. Encourage leadership opportunities and reasonable input into team policy-making. Continue to be clear about team policies, goals and philosophies. Encourage peer group discussion and conflict resolution and stress the fact that the older swimmers are role models for the younger swimmers.



FOUNDATIONS OF *Coaching*

Part 4: Psychological Development

Topic Questions:

1. What is the role of the coach in developing the athlete's perceived competence?
2. How does the ability to take another's perspective influence a child's behavior in the sport environment?
3. How does the role of extrinsic rewards change during an athlete's career?
4. What are some of the psychological indicators of readiness for competition?

Psychological development includes the development of perceived competence, perspective-taking abilities and motivation.

Perceived Competence

Athletes' perceptions of their athletic competence and sources they use to judge self-competence go through predictable developmental changes:

- At an early age (7-9 years), there is a focus on outcome and effort in judging one's competence. "I won, therefore I am a good swimmer." "I try hard, I'm a good swimmer." Winning and losing serve as an important source of competence information for very young athletes but so does effort, especially for those who are unable to make social comparisons. (See readiness for competition at the end of this topic.)
- At the next stage (8-12 years), there is a gradual decline in the importance of feedback from parents, an increase in coach technical knowledge as a source of competence information and a gradual increase in the importance of peer comparison in making competence judgments. "I beat Joe which means I'm a good swimmer". "My coach said my race was good, therefore it was."
- The young adolescent athlete (12-14 years) recognizes that both ability and effort impact performance. Prior to this, the athlete cannot distinguish between the two concepts. "I realize Joe has more talent than I do."
- The older adolescent (15-18 years) progresses from focusing on peer comparison to focusing on self-comparison as a source of competence information. "My times are improving and I have achieved one of my goals."
- Process goal orientation increases with age while outcome goal orientation decreases with age.

Recommendation: Understand what sources children rely on to provide competence information. Because outcome is so important at a young age, our late maturing athletes are at risk of low competence as they are not experiencing much success. Additionally, coach feedback becomes an increasingly important source of competence information for athletes. Recognize the coach's role in enhancing or tearing down the athlete's sense of self-competence. For example, as opposed to just providing critical feedback ("you missed your last turn"), also reinforce what she did correctly ("you held your streamline and kick out"). It is important to recognize effort ("I appreciate the fact that you tried hard to hold your breathing pattern") as well as outcome ("congratulations, you did a good job on that race").

Perspective-taking

The ability to take another's perspective progresses in a predictable sequence and impacts both how an individual relates to others and overall behavior in the sport environment.

- At a young age (under 8 years), children are not able to take the perspective of others. They have an egocentric perspective. The young athlete's thoughts, feelings, ideas and needs are correct as far as they are concerned. In their view everyone else thinks and feels this same way.
- Gradually, children develop the ability to take others' perspective but still view their perspective as the correct view.
- The latter stage of development occurs when the individual can take and appreciate another's perspective.

Recommendation: Young athletes will often display behavior that is selfish and doesn't take others into account. Remember that they may not yet have developed the ability to understand others' feelings or points of view. As they develop, enhance their perspective-taking abilities by pointing out how their action affects others. This can help them progress along the developmental spectrum.



FOUNDATIONS OF *Coaching*

Motivation

Motivation is defined as the direction and intensity of effort. Ideally, we want to see young athletes motivated to approach success in swimming with great intensity. (Note: extrinsic motivation refers to motivation from the outside; intrinsic motivation refers to motivation that comes from within rather than because of material reward or consequences.) What is it that motivates young athletes?

- Younger swimmers (7-9 years) seem more extrinsically motivated while older swimmers are often more intrinsically motivated.
- Around age 9 years and older, young children begin seeing rewards as bribes. Under some conditions, bribery can negatively affect motivation.
- With age, material rewards (ribbons, medals, gold stars) lose their effect on motivation. If rewards are being perceived as controlling ('you have to swim fast to get a ribbon') it decreases intrinsic motivation.

Recommendation: Although developmentally it may seem that extrinsic rewards undermine intrinsic motivation, this is not necessarily the case. The key is not the reward itself but the message behind the reward. In order to enhance intrinsic motivation the reward must be seen as providing positive competence information rather than as controlling behavior. What is the message behind the award? Does the award signify great improvement or achievement? Tie the material award to the message it conveys to the swimmer.

Psychological Readiness for Competition

- For the competition to be meaningful, the young athlete must be able to conceptualize the competition from an opponent's perspective and engage in social comparison. This ability develops at about the age of 12.
- Prior to approximately age 12, children are not able to distinguish between effort and ability in explaining successes and failures.
- In trying to determine a young athlete's readiness for competition, assess if the athlete has the coping skills to deal with the demands and challenges inherent in the competitive environment. Some of these demands and challenges may include dealing with success and failure, managing time and energy at the competition, getting disqualified and performing in front of others. A young athlete who is found in tears after a race may not have the coping skills to deal with competition and is therefore not "ready" for competition. Coaches need to monitor how the young athlete copes with various situations in practice to determine if he/she has the coping skills to deal with the increased demands and challenges of competition.



FOUNDATIONS OF *Coaching*

Part 5: Gender and the Young Athlete

Topic Questions:

1. What are some strategies to deal with the possible negative affects of physical changes on female athletes?
2. What are sensitive training periods and how can the coach take advantage of them?
3. What are the general differences between young male and female athletes in terms of perceived competence, goal orientation and social affiliation needs?

There are some gender-related differences that coaches should be aware of. Ideally, strike a balance between being sensitive to gender-related differences without forming incorrect stereotypes.

Puberty

Boys reap the benefits of testosterone during puberty. There is an increase in muscle development due to increased testosterone. Concurrent with this increase in muscle mass is a decrease in percent body fat. All these changes are seemingly advantageous to the male swimmer.

For females, puberty brings about an increase in the hormone estrogen. This increased estrogen will aid in laying down more fat and breaking down protein. Unlike males, development during puberty for females may initially have a negative effect on swim performance.

Recommendation: Make sure that the training programs for girls help to maintain their muscle and offset the natural physiological changes that are occurring in their bodies. Additionally, remember that the increased fat deposits are nature's way of preparing a woman's body for childbirth. It is not necessarily a change in her diet, changes in her training or lack of willpower. The changes in her body are, to a large degree, out of her control. Following are a few practical strategies for dealing with this common challenge:

- Be proactive by educating the athletes early on about why their performances may falter or plateau; prepare them for the growth and development and natural changes that will occur.
- Teach coping skills to deal with adversity.
- Be careful in not letting the highs get too high or the lows too low; keep it in perspective. It is crucial to not make a big deal out of success or failure.
- A female coach may help relate to the female athletes.
- Don't give up on the females as they are struggling with development.
- A strong aerobic base is beneficial when dealing with maturational changes.
- Focus on training and consider decreasing the number of competitions until the athlete adjusts to her body. It doesn't make sense to have the athlete "beat her head against the wall," struggle with confidence and experience failure and frustration.
- Make necessary changes to stroke technique and emphasize skill development.
- Find a role model or older athlete who had similar struggles and can talk to the younger athletes about how she coped.

Sensitive Periods

Sensitive periods are windows of opportunity for athlete development. From a physiological and growth perspective, boys and girls are different in terms of the timing of their 'sensitive periods' with girls maturing physiologically about two years ahead of boys. Remember, this sensitive period is a time when significant growth (aerobic development) can occur. The growth spurt is really what should determine when to increase the aerobic phase. However, it is easier to understand and use this information when one knows that females tend to hit this growth phase at age 11-13 and males around age 13-15.

Recommendation: Take advantage of these sensitive periods when training young athletes in order to maximize development. When entering this growth phase, which tends to happen earlier for females, coaches need to think about increasing aerobic training to maximize their capacities.



FOUNDATIONS OF *Coaching*

Psycho-social Development

There are numerous psycho-social developmental differences between young males and females that may impact interaction with the athletes or the training environment the coach establishes.

Perceived Competence: In general, males tend to have higher perceptions of athletic competence than females. This means that they view themselves as more competent or able as athletes. One's perception of competence influences such things as participation, enjoyment, and motivation.

- Extra steps may need to be taken to develop, bolster and reinforce young females' perceptions of competence; help them recognize and appreciate their abilities as swimmers.

Goal Orientation: Findings are fairly consistent in showing that females are more task-oriented and males are more outcome-oriented. An outcome orientation suggests focus on comparing performance with and beating others. With a task orientation one is focused on comparing one's performance to personal standards and personal improvement. Task orientation has been tied to positive achievement related behaviors in young athletes.

- Given that only one athlete can "win" encourage males to also compare performance relative to themselves as it greatly increases their chances of experiencing success and is much more within their control.
- Females tend to value the training process more highly since it is highly task oriented. Males tend to value the opportunity to race and compete. Build such opportunities into your training environment.

Social/Affiliation Needs. Females seem to have greater needs for affiliation (identification with the group) and are more motivated to participate for social reasons whereas males tend to be more motivated by individual and competitive factors. As an oversimplified generalization, the girls will appear to be team focused, while the boys appear to be focused on themselves!

- Make sure this need for social affiliation among females is being met. Incorporate time for social interaction for the girls in the training environment.
- Also recognize that young males generally want to be with other young males, while young females prefer to be with other females. Single sex training groups for swimmers aged approximately 9-13 seems to meet this social affiliation need. Alternately, single sex training lanes can accomplish the same objective.