



## **The Development of Expertise for Elite Competitive Golfers and the Related Probability of Advancing to the PGA Tour – Key Information for Athletes, Parents, Coaches, Golf Professionals and Administrators.**

**Submitted By:** Henry Brunton, BPE; CPGA in Partial Fulfillment for Canadian PGA Master Professional Status

**Submitted To:** Canadian PGA Membership and Education Committee

**Date:** June 21, 2007

### ***Objective***

The objective of this paper is to positively impact the sport of golf by providing aspiring competitive golfers and their supporting stakeholders including parents, Canadian PGA Professionals/coaches, referees, event officials, and sports administrators with pertinent information that leads directly to the enhanced enjoyment and performance for all those involved as well as improved design and delivery of related programs and services.

More specifically, it is hoped that this paper provides aspiring competitive golfers and all those who support their pursuits with a clearer understanding of the stages of development of expertise. This paper includes information on the changing patterns of behavior and the environment necessary to facilitate optimal sports skills development and motivation at each stage, the time and effort required to reach the upper echelons of performance, and the related probability of advancing to the PGA Tour.

In this paper, sports science research will be drawn upon to highlight: the time and effort required to reach the world class professional level; how rare and statistically improbable it is for any top level competitive junior, collegiate or amateur competitive golfer to become a PGA Tour Member; how participating in competitive golf programs can foster youth development and future success as an adult; potential negative experiences and outcomes from sport involvement; the stages of

development of elite athletes and how the roles of the coach, parents and peers evolve.

The information contained in this paper can certainly have a positive effect on the game and its participants when stakeholders become aware of it and govern themselves and the sport accordingly.

### ***Background - The Dream of Playing on the PGA Tour***

Millions of people have a fascination with becoming a world class athlete. It is very common for youngsters to dream of playing for the New York Yankees, Montreal Canadiens, Manchester United, or in The Masters. In most sports, by late adolescence virtually all of the aspiring competitors in a sport have a clear understanding of the probability of their dreams becoming reality. This is not always the case in golf.

In my work as the National Men's Coach for the Royal Canadian Golf Association (1999-Present), I observe and interact with scores of aspiring elite level junior, collegiate, amateur and professional golfers who desire to become world-class tournament professionals. Incredibly, very few people interested in high performance in golf are aware of the accepted scientific principles of long-term athlete development. As a result, many athletes, parents, and coaches involved in competitive golf unintentionally have training, competing, coaching, and development patterns that lead them to fall short of their goals and potential.

In the culture of competitive golf, it is common to see players, parents, and coaches who have adopted an attitude of entitlement. Many people have expectations for future success in the sport because they experience success through positive results on some level in the junior, collegiate, or amateur ranks. A startling number of these athletes expect to become top-level professional class touring professionals in the future. The statistics show that this notion is clearly not realistic. In fact, Dr. Steve Norris, a world expert on long-term athlete development from the Canadian Sports Centre in Calgary, Alberta states: "83-85% of the age group champions – youngsters who are the winners in high level sport competitions in their teens – do not become the champions of their sports when adult professional competitions are contested". Norris also adds: "the reality is that many of the age champions have left the game when the highest level competitions are conducted in the sport when it means the most, when

the competitors are adults and the top players in the games are professionals playing for money and related acclaim”.

The overwhelming majority of aspiring elite level golfers, parents, coaches, and golf officials are well intentioned; however, most do not have a clear understanding of the key variables and stages involved in the development of world class performers in golf. Very few truly grasp how incredibly rare and statistically improbable it is for any top level competitive junior golfer to advance to the world class level of professional golf – the PGA Tour. As a result, many athletes and their supporters make questionable decisions concerning their future as individuals. Often education and life planning outside of sport are not given their due attention and consideration.

### ***Time and Effort – What Does it Take to Get to the World Class Professional Level in Golf?***

#### ***Golf – A 20-Year Developmental Sport***

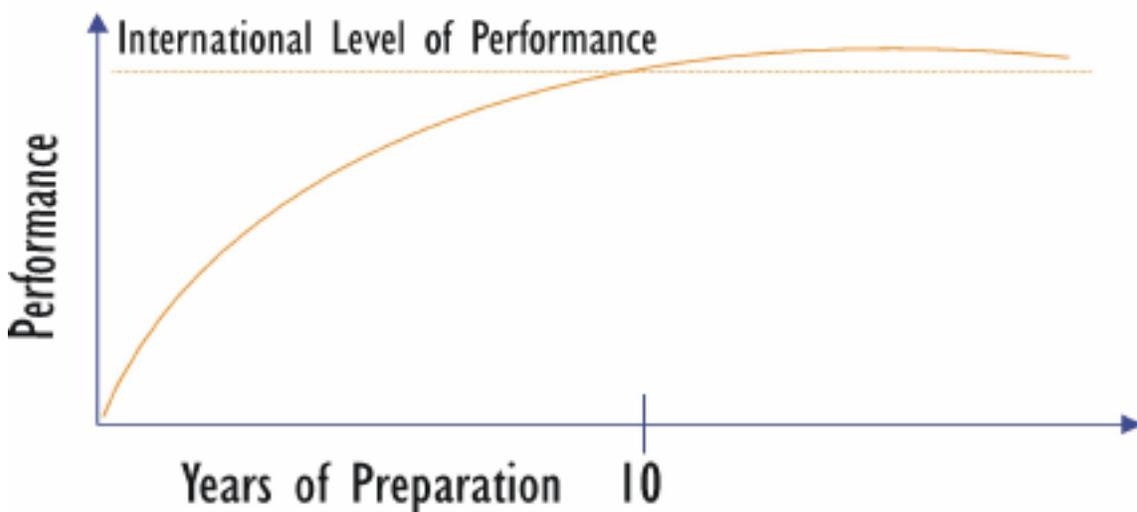
The development path for high performance golf is lengthy. In research conducted by Sport England, it was determined that golf is a 20-year sport. An analysis of the best male and female players going back to the days of Bobby Jones revealed that it took an average of 20 years from entry point to winning a major. The average starting age was 8.3 for males and 9.1 for females. The average age of winning that first major according to the study was 31.3 for males and 25.6 for females. It is about 20 years from the time that these athletes begin their experience in golf to reach the point where they are in position to win major professional championships.

#### ***Time to Become a World Class Professional Golfer- 10 Years+***

Dr. Anders Ericsson is a renowned psychologist and researcher at Florida State University. He has studied practice and expert performance across many domains (sport, music, writing, chess, medicine etc.) for years. He wrote and edited the highly acclaimed sports science text *The Road to Excellence*. In this book, Ericsson and other contributing authors present scientifically based findings on the acquisition of expert performance in the arts and sciences, sports and games.

“The central research finding is that no one becomes a world class expert without ten years or more of intense attention to training and practice in the area of expertise. World class experts may be defined as the top few hundred persons in any domain: Olympic winners in sports, concert pianists who win international prizes, strong chess Grandmasters, Nobel Prize winners in science, and members of national academies, and the like” (Bloom, 1985; Hayes, 1988).

The following is a schematic illustration of the relation between attained performance as a function of the number of years of serious preparation and training (The Road to Excellence – Dr. Anders Ericsson, 1993).



*The research is very clear and conclusive. It suggests that it takes at least 10 years of intense involvement of deliberate practice to attain international levels of expert performance (Ericsson, 1993)*

### **Effort - 10,000 Hours of Deliberate Practice Required**

Deliberate practice is defined as being engaged in activities, specifically designed to improve performance with full concentration. Deliberate practice refers to practice activities done with the specific instrumental goal of improving performance and which are: performed in a daily, work-like manner; require effort and attention; do not lead to immediate social or financial rewards; and are frequently not enjoyable to perform.

In a 1993 study by Ericsson, Krampe, and Tesch-Romer, it was determined that it takes about 10 years and 10,000 hours of deliberate practice to attain world class levels of expertise. Subsequent studies strongly support the contention that deliberate practice is a major determinant in developing expertise in sport (Helsen, et al.;, 1998; Hodges and Starkes, 1996; Starkes et al. 1996; Hodge and Deakin, 1998).

The findings of this research suggest:

- It takes at least 10,000 hours of deliberate practice over 10 years to attain international levels of expert performance.
- Many experts engage in deliberate practice for about 4-5 hours per day.
- Finding the appropriate balance between strain and rest is one of the major challenges for individuals pursuing the limits of their performance.
- Most individuals never achieve very high levels of performance in a domain because they are unacquainted with highly refined, intense deliberate practice and the complex mechanism mediating expert performance.
- The evidence does not support the myth that hard work at the start will enable one to coast into future success, and it most likely reflects confusion between merely maintaining a performance at a high level and continued further improvement of performance.

To date, research examining the application of the theory of deliberate practice to sport in general and team sports in particular has been limited. Researchers have examined figure skating (Starkes, Deakin, Allard, Hodges, & Hayes, 1996), karate (Hodge & Deakin, 1998), wrestling (Hodges & Starkes, 1996), middle distance running (Young & Salmela, in press), soccer (Helsen et al., 2000; Helsen et al., 1998), and field hockey (Helsen, Starkes, & Hodges, 1998). These studies provide support for many of the contentions of Ericsson and his colleagues, including the strong relationship between accumulated hours of practice and level of performance. In the Helsen et al. (1998, 2000) investigation of deliberate practice in the team sports of field hockey and soccer, they noted that athletes had performed approximately 10,000 hours of training at the time of data collection and that this accumulated training was a key distinguishing factor between athletes at various levels of expertise (i.e., international, national, and provincial level of play).

"The position advanced by Ericsson, Krampe, and Tesch-Römer (1993)—that it may require a minimum 10 years/10,000 hours of practice to attain expertise status—is certainly a position I support, based on my knowledge of training patterns in elite athletes. Within the continuum of expertise development in sport, the role of the coach is to accelerate the learning process and to shorten the duration of the journey to expertise. The 10 years/10,000 hours of practice is a benchmark that in my experience holds firm across various sport domains, and it is certainly one that applies to freestyle wrestling. Regardless of the activity, though, it appears that a 10-year period is the minimum time requirement for athletes to do the following: learn and perfect the technical-tactical skills of any sport; gain experience for high-level competition; develop volitional qualities that will sustain a prolonged effort; and cultivate biological adaptations that meet the physical demands of the sport."

-Nick Cipriano

Canadian National Wrestling Team Coach since 1985

Veteran Coach of three Olympic Games

Faculty Member – McMaster University Department of Kinesiology

***Deliberate Practice is Critical but Does Not Guarantee Success***

In *Road to Excellence*, Dr. Robert J. Sternberg from Yale University has published a paper entitled The Costs of Expertise. In this dissertation, Sternberg says: "The truth is that deliberate practice is only part of the picture. No matter how hard most psychologists work, they will not attain the eminence of a Herbert Simon. Most physicists will not become Einstein. And most composers will wonder why they can never become Mozart."

In *Road to Excellence*, Dr. Janet Starkes from McMaster University et al, say:

*"The point is that in sport, deliberate practice is often not enough to ensure success: There are factors of character, of luck, of the environment, and of avoiding injury that inevitably affect the outcome of competitions. These factors are one reason why sports are so interesting to perform and watch: You just never know."*

Developing into the best golfer you can be is an exciting and challenging endeavor. There are no guarantees to anyone who is in pursuit of becoming one of the chosen few who make a living playing the game professionally on the PGA Tour. PGA Tour Professionals are gifted people who have developed their talents, gained a tremendous

amount of experience, and have performed successfully under extreme pressure of Tour School or the like. Athletes interested in the challenge of becoming touring professionals are strongly encouraged to pursue their golf goals with unbridled passion and professionalism; however, it is advisable for them to be cognizant of the preceding scientifically based information. No one, no matter how gifted is necessarily guaranteed a spot in the Big Leagues.

### **The Odds – The Probability for a Competitive Male Golfer to Become a PGA Tour Player**

It is my intention in this section of this paper to present athletes, parents, coaches, and golf officials with information and objective data on the relative odds for competitive junior, collegiate level, and amateur players to make it to the PGA Tour. It is my hope that these athletes equipped with this information will be inspired to strive to reach the highest heights possible in the sport. Congratulations to them if they happen to make it onto the PGA Tour. If not, they can take pride in their efforts, be applauded, and then transfer the lessons that high performance golf has taught them and move onto other challenges and possibilities in their careers and lives outside of the sport. Hopefully, golf will remain a passion throughout their lives.

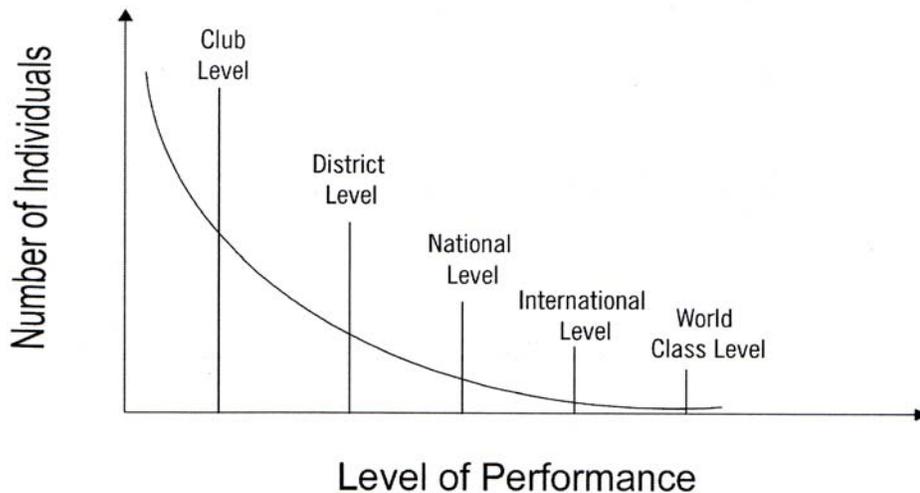
Many outstanding young golfers play the game primarily for extrinsic reasons – the tangible rewards- personal accolades; status, trophies; and scholarships that they believe will lead them to the realization of the dream of becoming a golf star in the future on the PGA Tour. As a result almost all of these outstanding young athletes are setting themselves up for disappointment and perceived failure because the probability for any outstanding competitive young golfer to ascend to the PGA Tour level is very remote.

“Those people who play golf for the love and passion of the game will always achieve more than those who play for fame, glory, and money.”

-Johnny Miller

World Golf Hall of Fame

Dr. Anders Ericsson is a world expert and renowned researcher on how people develop expertise. Ericsson’s graph below illustrates the relation between a given level of competition and the number of active individuals at that level. This illustration shows how rare world class performers are in any activity.



*This diagram clearly illustrates that superior expert performance is uncommon and extraordinary (Ericsson, 1993).*

Virtually everyone involved in competitive golf knows that it is difficult to make it to the PGA Tour. But just how difficult is it? The following information has been gathered so people interested in high performance competitive golf can gain a clear understanding of the realities and probabilities of competitive male player becoming a PGA Tour Player.

The PGA Tour is an extremely exclusive club. No one is entitled to join or stay. Only the finest high performance golfers in the world earn membership or playing privileges. There are only about 300 players in the world who are PGA Tour Members. There are very few openings for newcomers to the PGA Tour and thousands of qualified applicants. It generally takes top level collegiate and amateur players several years to ascend to the PGA Tour after they turn professional. The odds are remote for any international class high performance golfers to advance to the PGA Tour.

All PGA Tour Members earn and maintain their status based upon rigid standards of performance. The statistical reality is that precious few high achieving junior and collegiate golfers will rise to the PGA Tour level. Champions who reach the pinnacle of competitive performance – the PGA Tour - are professional and dogmatic in their approach to excellence. There are precious few exceptions to this. No one should expect to become world class or feel entitled to assume such status because they are high performers in junior, collegiate, or amateur golf.

Hundreds of outstanding young players leave golf each year when they fall short of their goals as professional golfers and give up on their dreams of making the PGA Tour. They leave a game for which they have tremendous passion after finishing their experience with junior, collegiate, amateur, and Professional Minor Leagues. When they don't advance to the PGA Tour many feel that they have failed. They are often unfulfilled by the sport and leave the game in many cases disappointed. In their quest to become world class professional golfers many suffer significant emotional and financial trauma. Most did not recognize how much of a remote possibility it was for them to get to the PGA Tour before they began their quest.

"If you work hard enough, sacrifice enough, then you will win. That's what many coaches teach, or should we say preach? It might be honest and healthier to say that if you work very hard, you will become excellent, and because of that excellence you may do great deeds and win great prizes. Unless, of course, you don't, in which case, you simply have to be satisfied with your excellence and the dignity of your effort"

-Boswell, T (1992). *Game Day*. New York: Penguin

### ***PGA Tour Data – Who are these Pros?***

The following data was collected using the 2006 PGA Tour Media Guide and from [pgatour.com](http://pgatour.com) as reference resources.

- In 2006, there were 301 total members of the PGA Tour.
- The average age that these PGA Tour Players turned pro is 22.2 years of age.
- The average age of these players when they earned their PGA Tour Cards was 26.8 years of age.
- The 2006 PGA Tour Member who was the youngest when he earned his PGA Tour Card is Sergio Garcia – 19 years of age
- The 2006 PGA Tour Player who was the youngest to turn pro was Bernhard Langer – age 16. Steve Flesch was 27 when he left the amateur ranks to turn professional making him the oldest 2006 PGA Tour Member to turn professional.
- 75% of PGA Tour players are Americans – 25% are international players
- 77% of PGA Tour players played NCAA golf at some point.
- 71% of PGA Tour players have competed on the Nationwide Tour (or its predecessors Buy.Com Tour, Nike Tour, or Hogan Tour).
- 37% of all PGA Tour players have won an event on the Nationwide Tour
- 15% of PGA Tour players have won a professional major.

### ***PGA Tour – International Players***

The following nations were represented on the 2006 PGA Tour.

Argentina – 1 player  
Australia -23 players  
Canada – 3 players  
Colombia- 1 player  
England- 6 players  
Fiji – 1 player  
France – 1 player  
Germany – 2 players  
India- 1 player  
Ireland – 3 players  
Japan – 4 players  
Mexico – 1 player  
Namibia – 1 player  
New Zealand -3 players  
Norway – 1 player  
Paraguay – 1 player  
Scotland – 1 player  
South Africa – 8 players  
Korea – 2 players  
Spain – 2 players  
Sweden – 7 players  
Trinidad and Tobago – 1 player  
Zimbabwe – 1 player

### **The Odds of making it to the PGA Tour**

The data shows that USGA National Amateur Champions, USGA Junior Boys Champions, AJGA All-Americans, and NCAA All-Americans are somewhat predisposed to advance to the PGA Tour in time; however, even players who have attained these levels of performance excellence are more unlikely than likely statistically to become PGA Tour players in the future. The statistics also show that there is very little correlation to winning the Canadian Junior or Canadian Amateur Championships and making it to the PGA Tour.

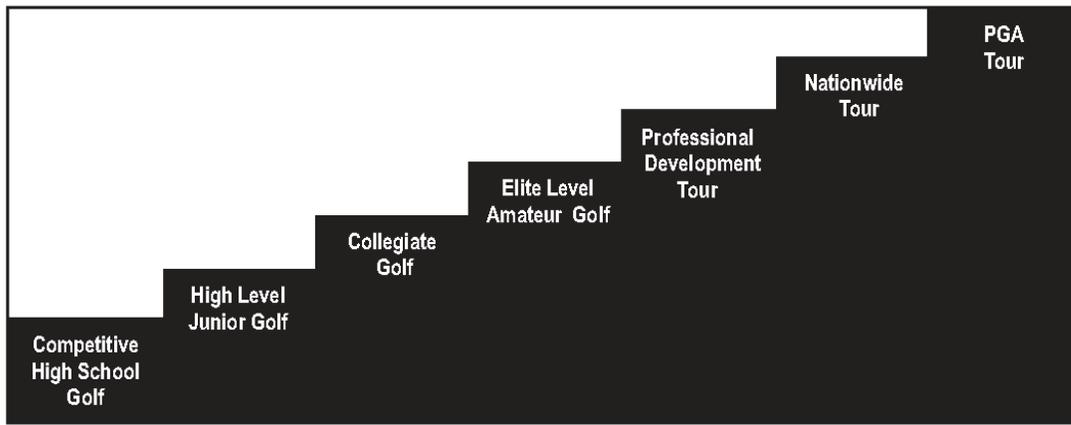
### **The Best Odds to Make the PGA Tour: Win the U.S. Amateur and the NCAA Individual Championship in the Same Year**

All of the players who have won the U.S. Amateur and NCAA Individual Championship in the same season have become PGA Tour Players. Only four players in history have accomplished this feat: Jack Nicklaus

(1961); Phil Mickelson (1990); Tiger Woods (1996); and Ryan Moore (2004).

### **Climbing the Ladder from Junior Golf to the PGA Tour**

PGA Tour players typically climb the ladder of success from competitive high school golf to high level junior golf (State/Provincial, AJGA, RCGA/USGA) to collegiate golf (NCAA), to elite level amateur golf, and then onto professional golf (Mini-Tours and developmental tours- I.E. Canadian Tour, Gateway Tour, or Hooters Tour) to the Nationwide Tour, and then finally to the PGA Tour.



### ***The Odds of a U.S. High School Player Making it Eventually to the PGA Tour – About 1 in 5,104***

In the U.S. there are about 163,341 males who compete on high school golf teams. The odds for an individual who competes in high school golf in the United States to make it to the PGA Tour is about 1 in 5,104.

### ***Canadian Junior Golf – The Odds of a Canadian Male Junior Competitive Golfer making it to the PGA tour – About 1 in 10,200***

According to the 2006 Ipsos/Reid study on Canadian golf, there are about 379,000 total junior golfers in Canada. There are about 17,000 boys in Canada who actively participate in competitive junior golf. There are currently two Canadian born players who are PGA Tour Members (Mike Weir and Jim Rutledge). Since 1990, eight Canadians earned their PGA Tour Cards for the first time (Jerry Anderson, Mike Weir, Ian Leggatt, David Morland, David Hearn, Glen Hnatiuk, Jon Mills, and Jim Rutledge). The odds of a Canadian junior golfer making it to the PGA Tour is about 1 in approximately 10,200 for boys involved in competitive junior golf. It should be noted that since the

establishment of the PGA Tour in 1968, six of Canada's ten provinces – Alberta, Saskatchewan, Nova Scotia, New Brunswick, Prince Edward Island, Newfoundland and Labrador have yet to produce a PGA Tour Player.

***The American Junior Golf Association (AJGA) - The Odds of an AJGA Player making it to the PGA Tour – About 1 in 101***

The American Junior Golf Association (AJGA) is an organization that is operates an elaborate 72 event national junior tour. The AJGA conducts the highest level junior golf competitions in the world. These events are simulated PGA Tour events for junior golfers. They attract the most talented competitive junior golfers in the USA as well as many of the most outstanding junior golfers in the world. The AJGA has about 5160 members of who about 4050 are males. About 2% of U.S. High School male competitive golfers advance to the AJGA Tour.

***AJGA All- Americans- The Odds of an AJGA All-American Making it to the PGA Tour – About 1 in 6***

The AJGA names an "All-American Team" at the conclusion of each season recognizing the top performers throughout the year. 24 players are named AJGA All- Americans at the conclusion of each season. The ODDS are 1 in 6 (17%) for an AJGA All- American to make it to the PGA Tour during their golf careers.

The players named to the AJGA All-American teams are all world-class performers for their age group. By studying the AJGA All-American teams named in the 10 year period from 1991 – 2000, it is apparent that establishing oneself as a world class junior male player does not necessarily guarantee future success as an NCAA competitor or a PGA Tour Player.

In the 10 year period 1991-2000, a total of 269 players achieved AJGA All American status. 10 of these players (4%) have won on the PGA Tour – Tiger Woods, Chris Couch, Chris Riley, Ted Purdy, Charles Howell, Ben Curtis, Charley Hoffman, Matt Kuchar, David Gossett, and Sean O'Hair.

Two players from this group (less than 1%) have become Major Champions as PGA Tour Professionals –Tiger Woods and Ben Curtis.

***U.S. Collegiate Golf – NCAA DI, DII, DIII, NAIA, and NJCAA***

In the U.S. there are about 12,364 males who compete in intercollegiate golf at the NCAA DI, DII, DIII, NAIA, and NJCAA levels combined. Therefore about 6% of the competitive high school golfers

in the U.S. will play in a post- secondary golf program at a junior college, college or university. Less than 2% of competitive high school golfers in America will advance to the NCAA DI level.

<u>NCAA Men's Golf</u>	
	<u>#of teams</u>
div1	290
div2	199
div3	270
NAIA	172
NJCAA	193
<p style="text-align: center;">Total number of Teams=1124                      Total number of Golfers=12,364 (11Players per team)</p>	

***U.S. College Golfers- DI, DII, DIII, NAIA, and NJCAA - The Odds of a U.S. College Golfer- DI, DII, DIII, NAIA, and NJCAA Player making it to the PGA Tour – About 1 in 386***

Each year there is a total of about 3,091 male seniors who play intercollegiate golf at the NCAA DI, DII, DIII, NAIA, and NJCAA levels. If eight players in this group eventually earn PGA Tour Cards then the Odds for any of these players to make it to the PGA Tour during their career are about 1 in 386

***Making the Jump from NCAA Golf to the PGA Tour – The Odds of making the jump from NCAA D1 to the PGA Tour in the Year immediately following graduation- About 1 in 1,139***

A common belief/dream held by hundreds of collegiate golfers is that they will turn professional immediately after being graduated from university and then jump onto the PGA Tour after earning privileges at PGA Tour School in the immediate fall thereafter. The statistics show that this is a rare occurrence.

In the past 10 years (1995- 2006), 7 players have jumped directly from the NCAA ranks to the PGA Tour – Tiger Woods, Ryan Moore, JB Holmes, Jeff Overton, Anthony Kim, Matt Kuchar, and Matt Davidson.

***Making the Jump from NCAA Golf to the PGA Tour – The Odds of making the jump from-NCAA DI, DII, DIII, NAIA, and NJCAA to the PGA Tour in the Year Immediately Following Graduation- About 1 in 4,416***

***NCAA Division I Players - The Odds of an NCAA Division I Player making it to the PGA Tour – About 1 in 100***

There are 290 teams at the most elite level of NCAA men's golf - Division I. There are approximately 3190 male players who are members of an NCAA DI men's golf team.

Each year there are about 797 male D1 seniors who play on intercollegiate golf teams. The odds for an NCAA D1 player to make it to the PGA Tour in their career are about 1 in 100.

***NCAA All-Americans- The Odds of an NCAA DI All-American Making it to the PGA Tour – About 1 in 3***

At the conclusion of each season, the Golf Coaches Association of America (GCAA) recognizes the top performers nationally in NCAA competition. These players are named to the All-American Team. The All-Americans are the All-Star Team of collegiate golf. These players are truly outstanding. Less than 1 % of NCAA DI male golfers (about 1 player in 133) will be recognized as an All-American.

In the 10 year period 1994-2003- The Golf Coaches' Association of America named a total of 206 players to the NCAA All- American Team (D1-1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> Teams)

- All Americans are the All-Stars of DI NCAA golf. They are at the top of their class. They represent better than the top 1% of the NCAA D1 golf performers.
- 33% (67/206) of these All-Americans in this period have earned PGA Tour Cards at some point in their careers.
- 10% (21/206) of these players have won a PGA Tour Event
- 4% (8/206) have won multiple times on the PGA Tour – Woods, Leonard, Cink, Curtis, Donald, Sabbatini, Campbell, and Slocum.
- 3% (6/206) have competed in the Ryder Cup – Tiger Woods, Chris Riley, Justin Leonard, Stewart Cink, J.J. Henry, and Luke Donald.
- 1.5% of these players (3/2006) have won a professional Major – Tiger Woods, Ben Curtis, and Justin Leonard.

***NCAA DII, DIII, NAIA, and NJCAA All-Americans***

Since 2001 the NCAA DII, NCAA DIII, NAIA, and NJCAA have named All-American Teams for their leagues. There are about 6500 players in total who compete at these levels of collegiate golf. Many of these players have the same dreams and aspirations concerning professional golf that the NCAA DI players have. Only three players on the 2006

PGA Tour attended schools and participated on golf teams at these levels – Paul Azinger, Stephen Ames, and Arjun Atwal. Advancing to the PGA Tour for golfers who play at these levels is an unlikely possibility.

***NCAA DI Individual Champions- The Odds of an NCAA DI Individual Champion Making it to the PGA Tour – About 1 in 1.22***

Winners of the NCAA DI Men's Individual Championship have the best odds of making the PGA Tour versus the winners of any other single amateur/collegiate event. In the 25 year period- 1976-2000, 22 players won the NCAA DI Individual Championship – Phil Mickelson won three titles and Scott Simpson won twice. Of these 22 champions, 18 players earned PGA Tour Cards at some point in their careers (82%); 13 (59%) have won on the PGA Tour. Four of these players (18%) have won professional majors – Tiger Woods, Justin Leonard, Scott Simpson, and Phil Mickelson.

***NCAA DII Individual Champions- The Odds of an NCAA DII Individual Champion Making it to the PGA Tour – About 1 in 3.1***

In the 25 year period- 1976-2000, 23 players won the NCAA DII Individual Championship – Jeff Leonard and Briny Baird each won twice. Of these 23 champions, 7 players earned PGA Tour Cards at some point in their careers (30%); three (13%) have won on the PGA Tour- Mike Nicolette, Bob Burns, and Lee Janzen. One player- Lee Janzen (4%) has won a professional major.

***NCAA DIII Individual Champions- The Odds of an NCAA DIII Individual Champion Making it to the PGA Tour – About 1 in 25***

Mike Bender is the only NCAA DIII Men's Individual Champions in the 25 year period- 1976-2000 to have earned a PGA Tour Card to date.

***How Often Will an NCAA DI Men's Golf Team Produce a PGA Tour Player? The Odds are about 1 player every 24 years.***

***Mini-Tours***

The Mini-Tours is professional golf's answer to the minor leagues. Mini-Tour players essentially compete for a percentage of their event entry fees. There are over 1,500 players who compete on Mini-Tours in the USA. It is a rarity when a Mini-Tour Player who was not a top ranked amateur or collegiate player beforehand ascends to the PGA Tour. At PGA Tour Q-School in 2006, George McNeill seemingly came out of nowhere to win medalist honours and earn his PGA Tour Card for 2007. Although McNeill worked as an Assistant Professional at a golf

club in Fort Myers, Florida in 2006, he is not a rookie who emerged from nowhere. He is a former NCAA DI All-American (Florida State, 1998) and he was a Member of the Nationwide Tour in 2003.

***U.S. Amateur Champions- The Odds of a U.S. Amateur Champion American Making it to the PGA Tour – About 1 in 1.47(68%)***

The U.S. Amateur Championship is the most prized amateur golf tournament in the world. In the 25-year period- 1976-2000, 22 players were crowned as U.S. Amateur Champions – Tiger Woods won three titles and Jay Sigel won twice. Of these 22 champions, 15 players earned PGA Tour Cards at some point in their careers (68%); 10 (48%) have won on the PGA Tour. Five of these players (23%) have won professional majors – Woods, O’Meara, Mickelson, Sutton, and Leonard.

Of the eight winners crowned in the period 1991- 2000, four players are full PGA Tour Members in 2007. Of this group, only Tiger Woods is ranked in the Top 90 in the world of this group – Woods (#1), Quinney (#93) Kuchar (#175), and Leonard (#194).

***U.S. Junior Champions- The Odds of a USGA Junior Champion Making it to the PGA Tour – About 1 in 3***

The U.S. Junior Championship is considered the most prestigious title in the world for junior golfers. The champions in this event have clearly established themselves as world class players for their age group.

In the 25 year period 1976-2000, 22 champions were crowned. Tiger Woods won this event three consecutive times. Of these 22 champions: eight players earned PGA Tour Cards (36%) at some point in their careers; four of these players are currently members of the PGA Tour in 2007 (18%) - Tiger Woods, David Duval, Brett Quigley, and Hunter Mahan. Their world ranking as professionals as of May 2, 2007 is:

- Tiger Woods - #1
- Brett Quigley- #56
- Hunter Mahan - #200
- David Duval - #371

***Canadian Amateur Champions- The Odds of a Canadian Amateur Champion Making it to the PGA Tour – About 1 in 6***

There were 20 different Canadian Amateur Champions crowned in the period 1976-2000. Brent Franklin (3), Doug Roxburgh (2), Warren Sye

(2), and Han Lee (2) won multiple championships during this time. Three of these champions went on to play as PGA Tour players - Jim Nelford, Richard Zokol, and Garrett Willis. The approximate odds of a Canadian Amateur Champion to make it to the PGA Tour are about 1 in 6.

### ***Canadian Junior Champions- The Odds of a Canadian Champion Making it to the PGA Tour – About 1 in 26***

The Royal Canadian Golf Association (RCGA) has conducted the Canadian Junior Championship since 1938. This championship was held a total of 57 times in the period 1938-2000. During this period, 52 different champions were crowned. Two champions of this event earned PGA Tour Cards in their careers- George Knudson and Jim Rutledge. The approximate odds of any RCGA Canadian Junior Champion making it to the PGA Tour are about 1 in 26.

### ***Summary***

It is an incredible challenge for any aspiring competitive golfer to reach the PGA Tour. It takes a very high level of inherent talent that is developed over 10-15 years and thousands of hours of training and tournament experience. There are no guarantees for even the most outstanding and high achieving junior, collegiate, and amateur golfers to make it to the PGA Tour. The odds are stacked remarkably against this to anyone who endeavors to realize this goal.

### ***What Are The Benefits of Participating in Competitive Golf?***

“What is the purpose of hitting the ball with a club”? Really, what is the meaning of it all? I didn’t ask myself this question until after I played in over two-hundred golf tournaments.”

-Fred Shoemaker

Renowned Golf Coach

Author of Extraordinary Golf

There are many benefits to participating in competitive golf. Studies have clearly shown that being involved in sport and physical activity provides youth with opportunities to experience challenge, fun, and enjoyment, while increasing their self-esteem and decreasing their stress (Csikszentmihalyi, 1975; Long, 1985; Health Canada, 2003).

In addition, research supports the following as being positive benefits from participation in sport:

### ***Social Development***

Sport experiences foster citizenship, social success, positive peer relationships, and leadership skills (Evans & Roberts, 1987; James, 1995; Manjone, 1998; Elley & Kirk, 2002; Wright & Cote´, 2003).

### ***Adult Career Development***

Youth sport and physical activity participation has been positively correlated with adult career achievement (Larson & Verma, 1999) and negatively correlated with school dropout and delinquent behavior (Segrave, 1983; Sheilds & Bredemeier, 1995; Eccles & Barber, 1999; McMillan & Reed, 1994); Wankel and Berger (1990).

### ***Social Skills Development***

Cote´ (2002) suggests that sport provides an arena for the development of social skills such as cooperation, assertion, responsibility, empathy, and self-control.

### ***Discipline and Commitment***

Youth involved in sport often demonstrate discipline and commitment (Scanlan et al., 1993; Shogan, 1999); preliminary evidence suggests that these traits carry over into other domains of life such as school and community (Marsh, 1993).

### ***Intellectual Development***

Youths' involvement in physical activity has been positively correlated with academic performance in numerous studies (Dwyer et al., 2001; California Department of Education, 2002), while participation in high school sport has been positively linked to school grades, school attendance, choice for demanding courses, time spent on homework, educational aspirations during and after high school, and college attendance (Snyder & Spreitzer, 1990; Marsh, 1993; Eccles & Barber, 1999; Carpenter, 2001).

### ***Emotional Development***

Gilman (2001) found that participation in structured extracurricular activities was associated with higher life satisfaction among youth, and that the more structured activities youth participated in, the higher their life satisfaction.

### ***Cognitive Development***

It has been suggested that physical activity and sport can play an important role in fostering cognitive development in youth (Mize, 1991; Stevens, 1994).

### ***Normal Growth and Development***

Physical activity is essential for youths' optimal development, as it facilitates normal growth and development in children and adolescents (Bar-Or, 1983).

### ***Health benefits***

While cardiovascular fitness and weight control are among the most evident health benefits of physical activity (Health Canada, 2003; Taylor et al., 1985), skill development, improved muscular strength, muscular endurance, flexibility, and bone structure are additional benefits (Wankel & Berger, 1990; Cote & Hay, 2002).

### ***Smoking***

Adolescents involved in regular physical activity are less likely to smoke than adolescents not involved in regular physical activity (Aaron et al., 1995).

### ***Diseases***

Physical activity habits developed during youth are associated with physical activity habits in adulthood (Dishman et al., 1985; Baronowski et al., 1992; Curtis et al., 1999; Robertson-Wilson et al., 2003), active youth are less likely to develop numerous diseases later in life including heart disease, obesity, diabetes, osteoporosis, stroke, depression, and cancer (Taylor et al., 1985; Paffenbarger et al., 1986; Powell et al., 1987; Berger & Owen, 1988; Health Canada, 2003).

### ***Youth experiences and outcomes in Competitive Golf - Potential Negatives***

There is no question that participating in competitive golf offers participants a multitude of positives in terms of their development as people. For those interested in the sport, it is fun and offers tremendous challenges and experiences. However, it is necessary to recognize that positive youth development through competitive golf is not automatic. Unfortunately, the literature highlights the fact that many sport programs designed to foster positive youth development are in fact doing just the opposite.

The following are potential negatives for youngsters involved in competitive golf. These three major areas: poor program design, negative adult influences, and burnout/ dropout can hinder rather than enhance positive youth development.

## ***I - Poor Program Design***

### ***Early Specialization***

Specialization has been defined as the 'limiting of participation to one sport that is practiced, trained for, and competed in on a year-round basis' (Hill & Hansen, 1988). Recently, early specialization has become popular, as children are starting their sport participation at earlier ages (Ewing & Seefeldt, 1996), and the availability of sports camps, instructional clinics, and other off-season programs is increasing (Hill & Simons, 1989). Côté (2004) suggests that if specialization occurs at a developmentally inappropriate age, benefits (e.g. improved skills) are outweighed by physical, psychological, and social disadvantages (e.g. overtraining, injury, failure to develop transferable skills, decreased enjoyment, burnout, depression, decreased self-esteem, increased sensitivity to stress, fear of competition, sense of failure, missed social opportunities etc.: Hill, 1988; Hill & Hansen, 1988; Raglin, 1993; Hollander et al., 1995; Boyd & Yin, 1996; Seppa, 1996; Beamer & Côté, 2003).

Early specialization has also been linked to early withdrawal from sport. Wall & Côté (2004) Barynina and Vaitsekhovskii (1992) found that Russian national team swimmers who specialized earlier took more time to reach international status, did not stay on the national team as long, and retired younger than late specializers.

"I could not agree more with Côté, Baker, and Abernethy's point of view. My generation of athletes did all the sports—soccer, swimming, baseball, hockey, basketball, track and field, badminton, you name it. We had a variety of motor experiences, each of which had elements that transferred to other situations. We were good athletes first and specialists second, much later in life. I am very concerned about the trend in Canada toward specialization at an earlier age."

-Dr. Therese Brisson

10-Year Veteran Member of Canadian National Women's Hockey Team  
Five-time World Champion and Olympic Champion

"You see kids specialize in golf. I think that is idiotic. To play all sports is great. I played everything. I think that kids should be playing everything, doing everything. Eventually, if you want to specialize in something, that's fine. But go out and enjoy, and be happy to play other things."

-Jack Nicklaus

Golfer of the 20<sup>th</sup> Century

## ***II - Negative adult influences***

Bronfenbrenner's (1999) model suggests that in order for effective development to occur, youth must experience long-term reciprocal relationships with others, such as parents, coaches, and peers.

### ***(A) Parents***

Parents who are physically active, play or coach have a positive effect on their child's enjoyment of and involvement in physical activity (Weiss, 2003, Babkes and Weiss, 1999).

Parent behaviors and parenting styles can have both positive and negative influences on children's sport experiences. 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 (Scanlan & Lewthwaite, 1986; Brustad & Weigand, 1989). It has been suggested (Brustad) that parents often play a role in children's paths to early specialization (associated with less positive sport outcomes and experiences) by funding their involvement in camps, clinics, and lessons, and by providing sport-specific facilities in the home (Hill & Hansen, 1988).

### ***(B) Coaches***

Numerous studies have highlighted the role the coach can play in positively or negatively influencing youths' sport experience. Smoll et al. (1993) found that coaches who were trained to increase reinforcement and technical instruction behaviors, and to decrease nonreinforcement punishment, and control behaviors were better liked, created an atmosphere that athletes perceived as more fun, and created more team unity than untrained coaches. Other studies (Salminen & Liukkonen; 1996; Martin et al., 1999) have found that youth prefer coaches who demonstrate child-involved democratic coaching styles. Hill & Hansen, 1988; Siegenthaler & Gonzalez, 1997 Gilbert et al., 2001a, and 2001b have suggested that coaches who place primary emphasis on winning often exploit their athletes rather than considering their athletes' developmental stages and advancing their athletes' psychological and social best interests. Peterson (2004) points out that the personal characteristics of group leaders are critical for the success of all youth development programs.

### ***III- Burnout and Dropout***

Athletic burnout is another psychological concern that has gained attention in recent youth sport literature (Smith, 1986; Coakley, 1992). Wankel and Mummery (1990) highlighted that 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 team mates. Experiences such as these have led youth to experience low self confidence and low self-esteem (Wankel & Kreisel, 1985; Martens, 1993). Burnout studies have shed light on the role coaches can play in contributing to negative youth sport experiences and outcomes. For example, studies with dropout swimmers and football players (Robinson & Carron, 1982; Pelletier et al., 2001) found that dropouts perceived their coaches as less encouraging and supportive, and more controlling and autocratic than non-dropouts.

Cote (2005) suggests that the challenge for sport associations, administrators, coaches, coaches, parents, and volunteers is to assure that youths' experiences and outcomes are positive rather than negative. Programs need to be explicitly designed to teach the five 'C's of positive development as outlined by the National Research Council and Institute of Medicine (2000) - Competence, Confidence, Character, Connections, and Compassion. Coaches need to play an active role in appropriate implementation of organized programming.

### ***The Development of Sports Experts - Changes in the Behaviors and Social influences from Childhood to Adulthood***

A comprehensive understanding of the development of expertise in sports requires the awareness of the changes in behaviors and social influences at various stages of an athlete's involvement in sport.

The roles of parents, coaches, and peers follow predictable changes throughout the development of expertise that help golfers make the transition from play like activities to more serious types of training.

### ***Stages of Sport Development – Sampling Years – Specializing Years – Investment Years (Cote, 1999)***

In studies concerning the development of elite athletes, Cote (1999) found that there were clear patterns to their development. He identified three stages of sport development from childhood to late adolescence; the *Sampling Years (ages 6-12)*; the *Specializing Years (ages 13-15)*; and the *Investment Years (age 16+)*.

The Sampling, Specializing, and Investment years are differentiated by and based on the amount of the participant's deliberate practice

(structured formal training and organized competition) and deliberate play (neighborhood play using the general rules of the game without being an organized league)- I.E. pick-up basketball or street hockey.

### **Sampling Years – ages 6-12**

- Low frequency of deliberate practice and a high frequency of deliberate play.

### **Specializing Years – ages 13-15**

- Similar amounts of deliberate practice and deliberate play.

### **Investment Years - age 16+**

- High frequency of deliberate practice and a low frequency of deliberate play.

The Sampling, Specializing, and Investment years are identified by an age range that is consistent with general theories of child development, such as those developed by Piaget (1962) and Vygotsky (1978).

In the development of sports expertise, sensitive periods appear to exist where important decisions about participation have to be made, which include a reduction in playing activities and an increase in more serious training activities (Kalinowski, 1985; Monsaas, 1985). These periods of transition seem to concur with certain developmental factors that influence the acquisition of expertise during childhood and adolescence.

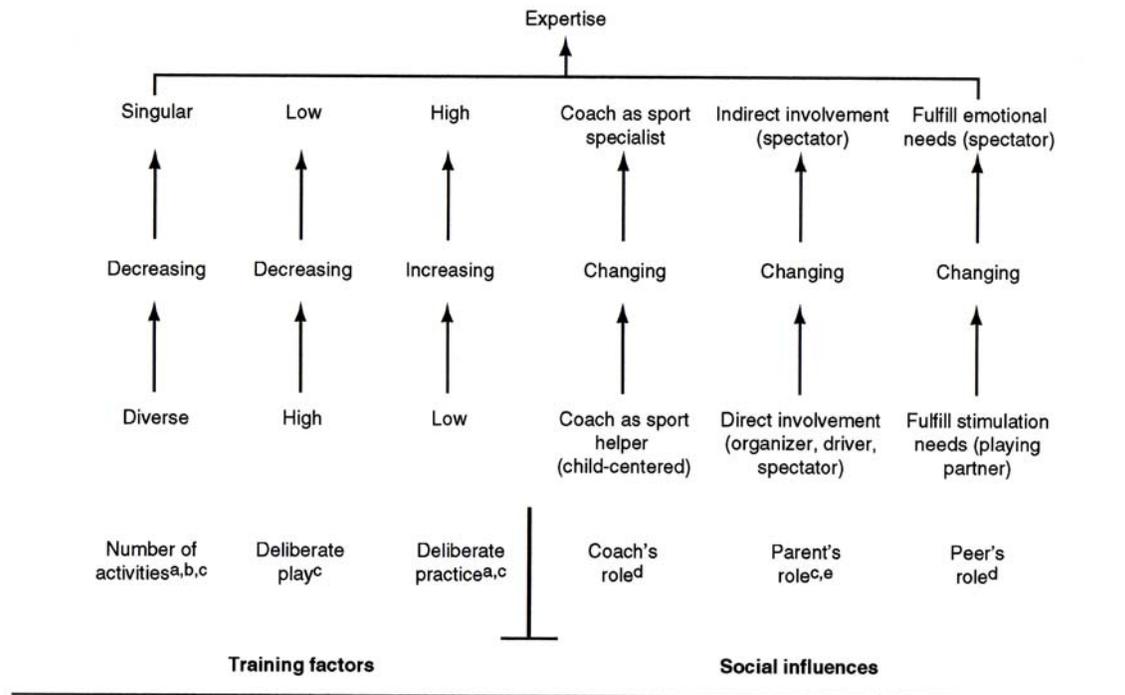
The developmental changes that marked the careers of the expert players are in agreement with the Sampling, Specialization, and Investment years as distinct stages of sport participation (Cote et al., 2001).

The findings of Cote's research concerning the three stages of sport development will be applied to the development of aspiring competitive golfers, parents, coaches, and peers.

### ***Social Influences throughout the Development of Expert Athletes***

Children have three main sources of influence as they progress through their development in sport: coaches, parents, and peers. From the Sampling years to the Specializing Years and on to the Investment Years, each group's role of influence changes. Some

evolve into more complex roles; others fade into more supportive roles.



**Figure 4.1** Changes in social influences and training factors during the sampling, specializing, and investment stages.

a = Baker, Côté, & Abernethy, in press a; b = Baker, Côté, & Abernethy, in press b; c = Soberlak 2001; d = Abernethy, Côté, & Baker 1999; e = Côté, 1999.

### ***Role of the Parents***

Cote's research (1999) showed that the parental belief that sport is an important factor in the child's overall development resulted in the parents assuming a leadership role and encouraging their children to be involved in various types of enjoyable sporting activities. His study also showed that the role of the parents changed from a leadership role in the Sampling Years to a follower/supporter in the Investment Years.

### ***Role of the Coach in Developing Young Athletes***

Due to the changing cognitive, physical, and emotional needs of children at the various stages of their sport participation, it is important that the role of coaches changes accordingly. In general, expert coaches have been shown to provide both physical (e.g. training facilities and equipment) and social resources to overcome the effort and motivational constraints associated with deliberate practice (Salmela, 1996).

### ***Role of Golf Administrators/ Officials in Developing Young Athletes***

Golf administrators and officials should ideally create programming, training, and competitive opportunities that respect the stages of development identified by Cote. It is important for these leaders to not endeavour to accelerate development. Athletes need to pass naturally through the stages.

### ***Role of Peers in Developing Young Athletes***

Reviews of youth sport motivation literature have consistently listed peers as one of the main reasons why children participate in sport (e.g. Brustad et al., 2001; Weiss&Petlichkoff, 1989).

### **The Sampling Years Ages 6-12**

Cote and Hay (2002) suggested that the "Sampling Years" are characterized by a low frequency of deliberate practice and a high frequency of deliberate play. Simply said, these researchers have determined that athletes in this stage develop most effectively when they are provided with the opportunity to play informal neighborhood type games for hundreds of hours (deliberate play). In these games and activities, the players can use their creativity to modify the rules of the sport to suit the situation. As well, they require very little structured practice and drills (deliberate practice) led by coaches or parents.

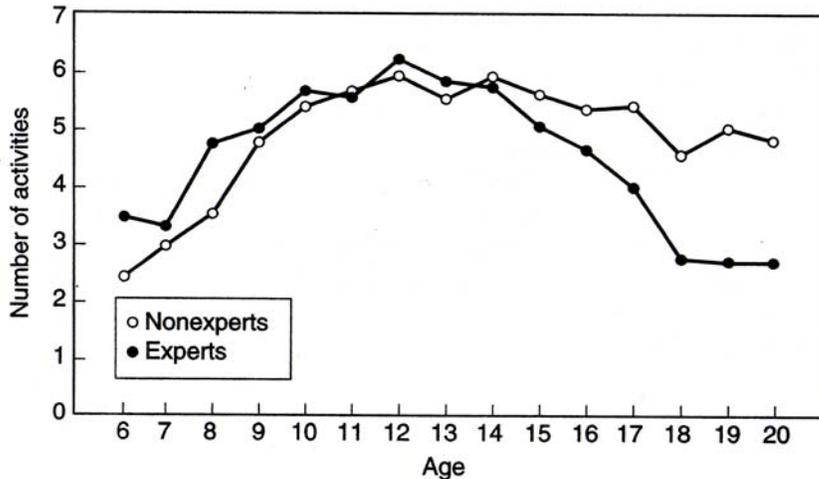
Children are motivated to participate in deliberate play because of their own interest in the activity. This type of early involvement in sport may actually help children gain a better appreciation of their ability and subsequently affect their decision to stay involved in sport (Brustad, Babkes, and Smith, 2001).

Most of the elite athletes studied by Kalinowski (1985) and Monsaas (1985) started their involvement in sport by trying out different sports in a playful and fun environment. A playful environment during the early years of a child's involvement in sport may explain the early learning and exceptional motivation of expert athletes because it appears to lead to subsequent learning and involvement in deliberate practice.

### ***How Many Sports Should a Child Play in the Sampling Years?***

In this stage youngsters are given the opportunity to sample an array of sports and activities. The goal is for them to experience fun and excitement through participating in sport. Children in this stage are

generally participating in 3-6 sports/activities. In this stage, Cote's research suggests that participants should ideally develop the "ABC's" of physical literacy- the fundamental motor skills, such as running, jumping, and throwing. These fundamental skills can be transferred to any sports or activities of interest in the future.



*Cote (1999)*

***How much structured practice do they need?***

Children in this stage need very little structured adult led formal practice. Gould, Udry, Tuffey and Loehr (1996) showed that early specialization in and highly structured training in which control is passed to an outside agent (parent or coach) reduces intrinsically motivated behavior and can ultimately lead to more burnout and dropout among youths in sport.

***Role of the Coach during the Sampling Years***

It is important not to see young golfers as miniature adults with small-scale skills, attitudes, and abilities (Brustad et al., 2001; Weiss, 1995).

The ideal role for a coach in the Sampling Years is to be a "sport helper" and to be "child centered". The coaches should create a safe environment (physically and psychologically) and then let the kids play. The basics – key fundamentals should be taught in a child friendly fashion. Improvisation and creativity should be encouraged. Coaches should consciously keep sport non-competitive at this stage. Everyone should be seen as a winner for participating and putting their best effort forward.

Kalinowski (1985) and Monsaas (1985) describe the coaches' role in the early years as being kind, cheerful, and caring. Athletes' descriptions of their coaches' intervention in the first stages of their career focused on opportunities to move, to be engaged in motor activities, and to learn fundamental movement skills that eventually became the foundation for learning more complex sports skills later in their development.

Monsaas (1985) made the following statement about the first coaches of world- class tennis players:

“While these were not exceptional coaches, they tended to be very good with young children. They were regarded by the tennis players as extremely nice people who sometimes took on the role as father figure.”

In qualitative interviews, Australian expert team sport athletes (Abernathy et al., 2002) discussed the types of coaches they had in their first few years of involvement in sport. When the athletes were between the ages of six and 12, coaches' intervention style and the teaching context was straightforward – they let children play and focused on their basic skill development.

From a coaching perspective, involving children in deliberate play activities without imposing a rigid structure on their experience during the sampling years may have a unique and vital role in the child's development in sport.

### ***Role of the Parents during the Sampling Years***

Parents are responsible for getting their children involved in sports during the Sampling Years. A common characteristic of the Cote (1999), Bloom (1985), and Soberlak (2001) studies is how the role of the parents changes from the Sampling Years through to the Investment Years. Generally, parents have a direct involvement in their child's sporting activities during the Sampling Years, which consists mainly of coaching and playing/training with their child.

As a follow up to Cote's study, Soberlak (2001) assessed how the formal roles of parents of professional hockey players changed as athletes progressed from the Sampling to the Investment years. During the sampling years, parents' involvement consisted of the following: coaching their child; helping to structure their child's deliberate play activities (building a back yard rink); involvement without actual input on activities (driving the child to the practice

site); observing and giving feedback; and participating with their child as a playing/training partner.

### ***Role of Peers during the Sampling Years***

In their study of Australian elite team sport athletes, Abernethy et al. (2002) found that in the early stage of the expert athletes' career, all mentioned having a group of friends who were involved in sport. Interacting with friends who have an interest in sport allows the expert athletes to play sport whenever free time was available. When they are with their friends, expert athletes described playing sports as their main activity. Overall, expert athletes were mainly influenced by peers who were involved in sport during childhood and adolescence. This type of relationship allowed them to spend a considerable amount of their free time playing sport.

During the Sampling Years, the origin of the interaction with peers is driven by the young athlete's need for stimulation through deliberate play.

### ***What Does this Research Suggest to Children and Adolescents Interested in Golf in the Sampling Years?***

Golf should be introduced to children who show interest in the sport when they are in the Sampling Years. It should be one of several of the activities that they explore. Ideally, children interested in the sport should participate in an organized golf skills development program that is fun and appealing. This program should be ideally conducted by an individual who is specifically trained in junior golf coaching and program execution. Children at this stage need to gain as much experience as possible by playing the game. They should be taught the basic fundamentals and then given the opportunity to play the sport. They should not be overly concerned with competing in highly organized tournaments at this stage.

### ***What does this Research suggest to the Parents of Children Interested in Golf in the Sampling Years?***

In the Sampling Years, parents should expose their child to the game if they show any interest in the sport. Enroll them in a high quality golf instructional program designed for novice juniors if possible. Golf should be one of 3-6 of the key chosen activities of the individual.

Play and practice golf with your child if you play and if they are interested in the game. Let it be all about fun.

Parents should guard against early specialization in golf and over exposure to organized competition. This can lead to burn-out and overuse injury issues in later stages.

***What Does this Research Suggest to the Coaches of Children Interested in Golf in the Sampling Years?***

Coaches and junior golf leaders responsible for junior programming for children in the Sampling Years should do their utmost to ensure that the environment is conducive for the participants to have fun, develop sound sports fundamentals, and be non-threatening.

The coaches should create a child centered environment where the children are safe physically and psychologically. They should be encouraged to explore and discover the skills of the game on their own terms.

***What Does this Research Suggest to Golf Officials and Administrators Who Serve Children in Golf in the Sampling Years?***

It is not necessary or advised to have adults organize elaborate leagues or high-level competitions for children in the Sampling Years. Players develop optimally at this stage when they engage in an abundance of deliberate play and have child friendly guidance from parents and coaches on the basic fundamentals and rules of the game.

Golf is a long-term developmental sport. The development of an elite golfer is paced more like a marathon than a sprint. Adults need to be careful not to predict who the eventual adult champions will be in the early stages of development when players are learning the basics of the sport and their bodies and minds are far from full maturation. Instead golf leaders are encouraged to create and implement scientifically sound player development programs which provide interested athletes with the appropriate stimulus, support, and opportunities.

Competitive events for players in the Sampling Years should be low key. The emphasis should be on participating in the activity and having fun. Alternate formats should be explored (i.e. scramble, better-ball, alternate shot). The competition should ideally be combined with an educational/coaching component and a social component. For example, nine hole team scramble format for small prizes followed by a coaching clinic, and then a BBQ. There is no need for top performers in this age group to be publicly recognized in the media.

Competitive events for players in the Sampling Years do not need to exceed 18 holes. The most advanced competitors have usually identified themselves after the first few holes in the competition.

Training camps and tournaments should be conducted separately for each of the three stages. These groups should not be mixed as is the case generally in the Canadian golf culture at present. Children aged 12 and under, players aged 13-15, and 16+ should all be served separately in respect to tournaments and training camps. These groups should not compete in the same competitions at the same event venues. The course set up needs to be modified and set up specifically for each group (rough height, course length, and hole locations). As well, the coaching and training environment needs to be customized to meet the needs of the athletes.

### **Specializing Years – ages 13-15**

In the development of elite athletes, an important transition point occurs at approximately age 13 when the athletes begin secondary school. They reduce their involvement in other sports, and began to compete at the provincial or national level in their primary sport (Cote et al., 2001).

Cote found that the Specializing Years marked a transition in which athletes gradually decreased their involvement in various extracurricular activities and focused on one or two sporting activities. While fun and excitement remained central elements of the sporting experience, sport-specific development emerged as a characteristic of the child's sport involvement

Critical incidents that made a child pursue one activity over others included positive experiences with a coach, encouragement from an older sibling, success, and simple enjoyment in the activity.

### ***Role of the Parents in the Specializing Years***

During the Specializing Years, parents become committed supporters of their child-athlete's decision to be involved in a limited number of sports.

In all of the families studied, parents did not put any kind of pressure on children regarding what type of sport they should be specialized in.

During the Specializing Years, parents stopped coaching their children, and instead of helping them structure their deliberate play activities, they started helping them structure their deliberate practice activities

(i.e. setting up a weight room at home or putting a synthetic putting green in the backyard); becoming involved with them and their activities without giving them actual input; observing and giving feedback; and participating with their child as a playing/training partner.

### ***Role of the Coach in the Specializing Years***

Athletes started to develop a closer relationship with their coaches at approximately age of 13. At the same time, coaches became more technical and “serious” regarding the athletes’ involvement in practice and training.

### ***Role of Peers in the Specializing Years***

Interacting with friends who have an interest in sport allows the expert athletes to play sport whenever free time was available. When they are with their friends, expert athletes described playing sports as their main activity.

### ***Specializing Years - What Does This Research Suggest?***

The research suggests that if a child is passionate about golf and has the desire and aptitude to potentially advance as an elite level player in the sport then at the age of about 13, he should make golf one of his “top 2” sports. He should align himself with a professional coach who is trained and specializes in developing competitive players. He should develop peer group relationships with other athletes who have the same interests. He should practice, play, and compete in the same fashion as other top aspiring high performance athletes in all sports. Elite golfers should follow periodized annual plans and be aware of and respect the recommended practice to competition ratios.

In the specializing years, athletes need to shift to about equal amounts of deliberate play and deliberate practice. They need to learn effective practice habits and training regimens.

### ***What Does this Research Suggest to the Parents of Children in Golf in the Specializing Years?***

At approximately age 13 the parents should let athletes reduce their involvement in other sports, and begin to compete at the provincial/national level in their primary sport. Annika Sorenstam is an example of this. She took up golf at the age of 12. She began competing seriously at age 13.

During the specializing years, parents should stop coaching their children in golf. Parents should introduce their child to a Canadian PGA

Professional who is a trained “Coaching Specialist” who works primarily in the area of athlete development for juniors.

Parents should do their best to provide their child with appropriate facility access and equipment. Expert athletes develop with hundreds of hours of deliberate practice combined with about equal amounts of deliberate play in this stage of development.

***What Does this Research Suggest to the Coaches of Children in Golf in the Specializing Years?***

Coaches serving these players should consider more advanced technical and tactical coaching and training methodologies after the athlete reaches 13 years of age.

Coaches should provide committed elite level golfers with a multi-faceted professional coaching and training program that is in alignment with their future goals.

Coaches should play with these players from time to time to observe their on course patterns and provide them with specific feedback. They should also watch them compete whenever possible and subsequently give them feedback on their performance after the round.

***What Does this Research Suggest to Golf Officials and Administrators in the Specializing Years?***

Competition is healthy for athletes in this stage of development. It is crucial that golf officials/administrators provide suitable programming and appropriate competitive golf opportunities for all of these players. Junior golfers aged 13-15 should be provided with competitive opportunities that mirror their future goals.

Aspiring collegiate players should enter “rep” type events -stroke play and match play tournaments. These events should be conducted like the game that people watch on television with modified course length and conditions (length of rough and hole locations). Rules officials and scoring should be conducted in an official fashion. There is no need for competitions to exceed 36 holes at this age. The winners have been decided by this point in most 54 and 72 events for players in this age group. Players in this stage need a balance between competition and structured practice. The trend at present is for players in this age group to generally compete too much and train too little. Events/leagues should ideally have a structured training/ feedback and education component as part of their offerings. Trained coaches should be onsite at events supporting the athletes in competition, providing

feedback after the round, and instructing the players in their training following play whenever possible.

Golfers in this age category who want to experience competitive golf on a recreational level should not be forced into traditional golf tournaments. These players are not as competitively inclined or perhaps not as inherently talented as the highest performers in this sport. These players want and need a "house league" type of competitive golf opportunity. These players will enjoy and benefit from events where handicaps are utilized and a variety of formats are explored (better-ball, scramble, and alternate shot). They would also benefit from professional coaching and instructional opportunities.

Forcing recreationally motivated children into high pressure stroke play events designed to challenge competitively minded young golfers and vice-versa oftentimes proves to be a negative experience for these players and it detracts from their interest in the sport. This contributes to drop out with players in this category.

### **Investment Years - age 16+**

As elite athletes continue to develop, another transition point occurs at approximately age 16, when athletes make a decision to be elite athletes and consequently invest all of their leisure time into training (Cote et al., 2001)

In this stage, the child becomes committed to achieving an elite level of performance. These athletes are focused on their chosen sport and usually one or two off-season sports/activities.

### ***Role of the Parents in the Investment Years***

In this stage, the parents' role consisted mainly of providing financial support to the athlete. The role of the follower and supporter became more apparent in the investment years when parents made sacrifices in their personal lives and in their family lives to allow their children to have optimal training conditions.

During the Investment Years, parents responded to the various demands and expectations put on their child-athlete by fostering an optimal learning environment, rather than creating new demands or pressure.

The role of the parents consists mainly of being a spectator at games and providing opportunities at home for their child to be involved in deliberate practice activities.

### ***Role of the Coach in the Investment Years***

The coach becomes a Sports Specialist at this stage. This may strengthen athletes' commitment to increasing the quantity and intensity of their training and to pursuing their sport to a higher level.

### ***Role of Peers in the Investment Years***

As athletes move from the Sampling to the Investment Years, they establish a network of peer relationships that satisfy their more complex adult needs.

As athletes progress to the investment years, peer relationships grow more intense and fulfill motivational and emotional needs that may facilitate involvement in deliberate practice activities.

When sport became more serious at approximately age 16, the athletes mentioned that it was beneficial to have friends outside of sport as well as athlete- friends. This type of peer interaction during the later stages of an athlete's involvement in sport may fulfill relationship needs that are driven by more complex emotional issues.

### ***Investment Years - What Does This Research Suggest?***

If an athlete is committed to developing his skills as an elite level golfer, he should make golf his primary sport by the age of 16. He should train and compete in a professional fashion under the guidance of a highly trained golf coach who specializes in player development. He should be enrolled in an Olympic type of coaching, training, and development program with other like-minded athletes if possible. He should invest the vast majority of his free time to developing his skills as an aspiring elite level golfer –deliberate practice (3-5 hours per day).

### ***What Does this Research Suggest to Parents of Athletes in the Investment Years?***

If a parent has a child in this stage (age 16+) that is committed to developing into an elite level competitive golfer, they should do their best to provide an optimal learning environment, competition schedule, and appropriate access to high level coaching.

Parents should do all that they can to allow the athlete to focus on training and competing. They should ideally not create new demands or pressure.

***What Does this Research Suggest to Golf Administrators and Officials who Serve Players in the Investment Years?***

In the Investment Years, competitively minded players should have the opportunity to compete in a full schedule of multi- day events throughout the season. The course length and set up for these events should be more challenging than for players in the Specializing Years. The courses should be almost as demanding as what they will face in top level collegiate and championship amateur golf. The course length, hole locations, and severity of rough should all be in alignment with this level of play.

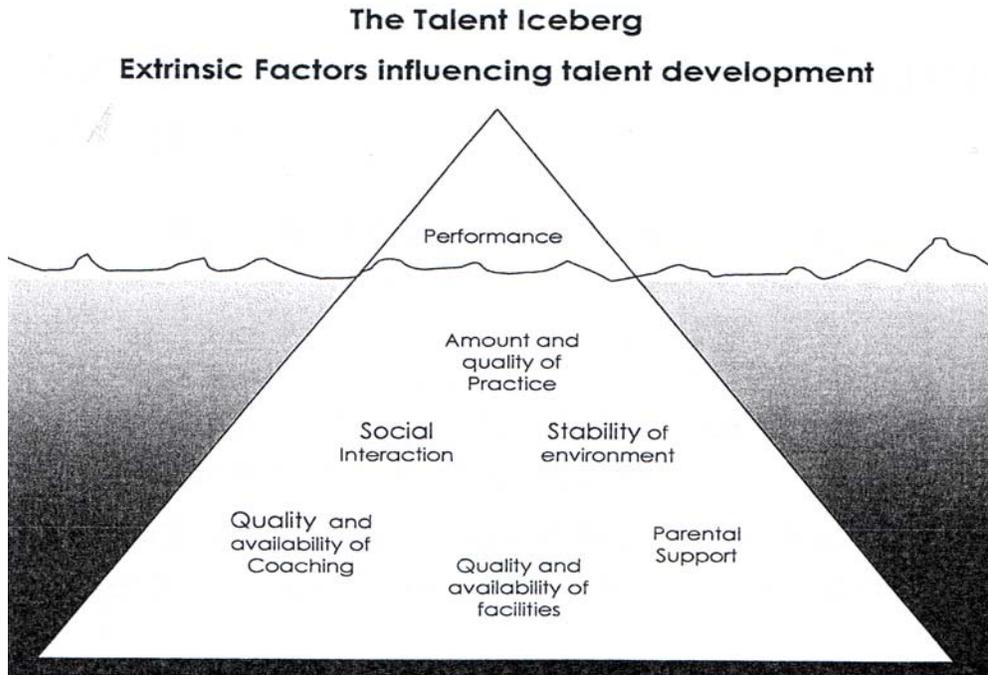
Recreationally minded athletes in the *investment years* should have the opportunity to continue participating in “house league” golf. These players have needs and wants. They should be appropriately served and not ignored or treated like second class citizens.

***What Does this Research Suggest to Golf Coaches Who Serve Players in the Investment Years?***

Athletes in this stage who are committed to competitive excellence need to be served by coaches who can provide them with an “Olympic Style” holistic coaching and training program. These coaches need to be prepared and equipped with an array of specific skills, tools, and experiences in order to capably meet the needs of these players. In addition, these coaches need to have the time, energy, and interest to truly invest in the development of these players along with appropriate facility access and equipment. As well, they need to be able to observe these players in on course situations both in training and competition.

Coaches assist these athletes in establishing comprehensive annual plans which detail all facets of training and competition throughout the year. They assist in monitoring and modifying these plans as necessary. Coaches who cannot adequately serve players in the Investment Stage as outlined above are encouraged to act in the best interest of the athlete and “pass them up” to coaches who specialize in this area.

The Talent Iceberg illustration below is utilized by Golf England. It shows the key variables that influence the development and competitive performance of an elite golfer.



### **Summary**

The objective of this paper is to positively impact the sport of golf by providing aspiring competitive golfers as well as all of the supporting stakeholders directly involved with the development of these athletes: parents; Canadian PGA Professionals/coaches; referees; event officials; and sports administrators with pertinent information gathered from the sports science community that leads directly to the enhanced enjoyment and performance for all those involved in the activity as well as improved design and delivery of the programs and services offered to these athletes.

In this paper, research was presented showing that the sport of golf is considered a 20-year developmental sport in that it takes about 20 years from the time an individual has their first exposure to the sport until they are likely to have the opportunity to win a major professional championship. In addition to the time that it takes for aspiring elite level male competitive golfers to develop to the world class professional level, Dr. Anders Ericsson's work was highlighted illustrating that it takes a tremendous amount of focused effort - 10 years minimum and about 10,000 hours of deliberate practice in order to develop the skills and expertise necessary to become a bona fide world class potential professional competitor.

The odds for making it to the PGA Tour are chronicled in this paper. It was shown that there are no guarantees for anyone to make it to the PGA Tour even if they have outstanding results in junior, collegiate, and amateur golf. The research shows that the odds are remarkably stacked against anyone who aspires to become a member of the PGA Tour. The reality is that precious few of the most outstanding and high achieving high school, AJGA, and NCAA golfers will ever reach this level of performance. On average an NCAA DI Golf Program will produce a PGA Tour Player about once every 24 years.

If making to the PGA Tour is such a remote possibility for anyone, then why play the sport? The benefits of participating in competitive golf were outlined in detail. The sport of golf and the pursuit of excellence provide participants with tremendous opportunities for enjoyment, challenge, and personal development. The skills which golf teaches and demands often transfer into other areas of life.

Research from Dr. Jean Cote and his colleagues was drawn upon in detail showing the stages of development of expertise, the changing patterns of behavior and environment necessary to facilitate optimal sports skills development. This information applied to the sport of golf can be very beneficial to parents, coaches, and golf administrators. Adopting ideas presented in this paper may lead to a more positive experience for participants in the game and lead to long term growth of the sport.

This paper is not intended to shatter dreams or hope for any golfer interested in making to the major leagues of golf. Instead, it is intended to inspire aspiring elite level golfers by providing them with scientific information so that they formulate a sound strategy that leads to their long-term development in the sport.

"I believe that success comes to you as an individual only when you acquire the peace of mind, which is a direct result of self-satisfaction in knowing you did your best to become the best that you are capable of becoming".

- Coach John Wooden  
ESPN "Coach of the Century"

### ***Taking Action – What Does the Research Presented in this Paper Suggest?***

Golf leaders at all levels and the supporting stakeholders directly involved with the development of junior golfers: parents, Canadian PGA Professionals/coaches, referees, event officials and sports

administrators are challenged to be apprised of the information/research presented in this paper and act as follows in the best interests of the participants, the advancement of the sport, and the golf industry as a whole.

- (I)** Educate all stakeholders involved in junior golf especially parents about the potential negative consequences of Early Specialization (see p.20). This growing trend is dangerous. It can be very harmful to the children and families involved as well as the long-term growth and health of the sport.
- (II)** Stop junior golf promoters/golf administrators from organizing and executing high profile, high pressure golf tournaments and tours for children under the age of 13. The research clearly shows that these events are unhealthy for the children and the sport. Furthermore, these activities in many cases lead to burnout and drop out for some individuals who may have otherwise enjoyed the sport throughout their lives. Competitions for youngsters in this stage are recommended to be organized and executed as outlined on pages 32 and 33 of this paper.
- (III)** Create and implement a mandatory educational program for golf industry individuals involved directly/indirectly with junior golf- Canadian PGA Professionals/coaches; referees; event officials; sports administrators; club level junior chair people; and volunteer board members. This program needs to be designed to disseminate the research information on: the key principles of long-term athlete development applied to golf; the stages of development; the evolving roles of the coaches, parents, and peers; the 10 Year/10,000 Hour Rule; and the importance of embracing and providing excellent programming and services to youngsters who may not be interested or suited to high performance/ competitive golf. Everyone involved needs to be on "the same page" in order to seize the potential opportunities. Otherwise unwanted outcomes may come about.
- (IV)** For the Canadian PGA to continue its leadership role by providing Member Professionals/Coaches who are involved or interested in junior golf with comprehensive training and resources so that they may better serve golfers, their families, and the game in the future.

- (V) Golf administrators/junior golf promoters are encouraged to change their paradigms and their ways as it relates to junior golf organization by creating programming and competitions which are specifically designed for children in the Sampling Years; Specializing Years; and Investment Years. These people are challenged to create new "leagues" and a new "system" within junior golf which reflects the stages of development, the principles of long-term athlete development, and the role and importance of coaching. The information presented in this paper clearly shows that youngsters in various stages of development have unique wants and needs. Having 12-year-olds competing and interacting with 18-year-olds directly and indirectly at competition sites flies in the face of research and is not the best possibility for the participants or the sport.
- (VI) Develop a detailed industry-wide strategy to better identify and serve youngsters who may not desire to compete in the high performance stream of competitive golf but who are attracted to the game and predisposed to participate in it for fun. Effectively serving the masses who reside in this category by investing in programming and services and showing interest in their development and enjoyment with the sport is likely to have a long-term positive affect on all facets of the golf industry. These are the people as a group that in the future can support and grow the game with their collective purchasing power and interest in the sport. These are the individuals who are likely to consider buying green fees, club memberships, equipment and clothing, lessons, and golf vacations as adults. At present, this group is all but ignored or ill-served at best. A disproportionate amount of money, resources, and expertise is being spent on the relative few who are interested in high performance competition in Canada at this time.
- (VII) Aspiring high performance golfers along with their families and coaches need to be educated and counseled on the importance and ramifications of post-secondary school education choices and training. The research in this paper shows that it is an unlikely possibility for a player to make it to the big leagues of professional golf. Therefore,

virtually all of the athletes in this category will likely be involved in careers outside of the PGA Tour/LPGA Tour at some point in the future. These people need to be encouraged to follow their dreams in respect to exploring their limits as competitive golfers and be given every opportunity to succeed if this is their desire; however, they need to do so with a cautious optimism and realism. Currently, there is an alarming and disturbing trend in the Canadian golf culture whereby each year scores of outstanding young people who are passionate about competitive golf and who dream of playing on tour in the future compromise their post-secondary school choices, focus, and training to go for it as aspiring professional golfers. This proves to be very costly to many over time. Too often, many of these individuals have unwittingly mortgaged their futures on a possibility that was romantic and exciting. These individuals should be made aware of the harsh realities of advancing to the PGA Tour or LPGA Tour and encouraged to make their own best choices regarding their futures both on and off the course.

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