An analysis of Alpine Skiing 2016
Three Phases of Project

- **Statistical Analysis**
  - Looked at World Cup Top 30 as juniors to establish a 25\textsuperscript{th} percentile benchmark
  - Looked at men vs. women, speed vs. tech, today’s junior athletes
  - All data as of end of 2015 season

- **Thought Leader Interviews**
  - Interviews conducted with European coaches and officials to gain understanding of European development system
  - Looked for commonalities

- **World Cup Athlete Survey**
  - 37 question survey conducted to look at more qualitative variables and trends
  - ~130 responses
  - Specific analysis of WC Top 15 and Americans versus the broader group
Overarching Findings

1) Ski racing is an inherently rewarding sport.
2) There are many roads that lead to Rome…but not all roads lead to Rome.
3) Ski racing is a skill sport.
4) Success is found at a young age.
5) Parents are the biggest influencers.
6) Skiing is cultural to Europeans.
7) Volume is critical to development.
8) Concentration, not specialization.
9) Speed skiers are also very good tech skiers.
10) USA juniors trail competitors.
Ski racing is an inherently rewarding sport.

Finding #1
What were the most important priorities in your life prior to becoming a professional?

Inherently rewarding motivational factors make up 85%

Ski racers are NOT driven by winning, celebrity status, financial status...

Ski racers are DRIVEN BY family, friends, fun, lifestyle...
There are many roads to Rome…but not all roads lead to Rome.

Finding #2
There are many roads that lead to Rome…

- In ski racing, not all paths to excellence are the same

- Range of development paths among top 30 supports the individual and dynamic nature of the journey

- Early developers → Late bloomers
- Parental involvement → No parental involvement
- Buck Hill → Squaw Valley
- Ski Academy → Independent program
- Gate training → Free-skiing
...but not all roads lead to Rome.

- Studying current World Cup Top 30 as juniors shows the paths athletes took to reach World Cup
  - There are important universal commonalities

- Establishing **25th percentile** benchmark includes the **top 75% of the field**
  - 22 of 30 athletes progressed within range

- Progression that still yields a high probability of world cup success
World Cup Top 30 Men’s Slalom – World Ranks as Juniors

Outliers
- Khoroshilov didn’t have a WC start until 20 and first podium at 30
- Chodounsky first WC start at 25
World Cup Top 30 Women’s GS – World Ranks as Juniors

Outliers

- Curtoni first WC start 22, no podium until 27
Ski racing is a skill sport.

Finding #3
Ski racing is a skill sport.

Based on thought leader consensus:

- Requires massive volume to reach the top (adaptability, balance, agility, come from volume)
- Nurture not nature
- Unlikely to reach the top if pursued recreationally
- Requires an environment of challenge
- Variety is critical (gates, drills, free-ski, terrain, surface, etc.)
- Purposeful skiing is most beneficial
- Good coaching at young ages is critical
Success is found at a young age.

Finding #7
Age at each development milestone…

80% skiing by 3...

88% ski racing by 8...

First started skiing

First started ski racing
There are some outliers, but women tend to reach high-performance earlier than men.

<table>
<thead>
<tr>
<th></th>
<th>1st WC start</th>
<th>1st Points</th>
<th>1st Podium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>18</td>
<td>19</td>
<td>22 (SG21)</td>
</tr>
<tr>
<td>Men</td>
<td>20</td>
<td>21</td>
<td>24 (GS23)</td>
</tr>
</tbody>
</table>
Parents are the biggest influencers.

Finding #9
How involved were your parents when you decided to concentrate on skiing as your primary sport?

85% of parents were involved when athletes decided to pursue the next level...
Skiing is cultural to Europeans.

Finding #5
Skiing is cultural to Europeans

- Families, communities, even entire nations revolve around ski racing
- “20 Buck Hill’s in Oslo”
- Hundreds of small hills in Alps
- “If I didn’t ski I wouldn’t have had any friends.”
- Kids ski every day

Lots of volume young!
Volume is critical to development.

Finding #8
Growing up, how long was your drive to the mountains?

79% lived within one hour of the mountains.
What does volume look like?

Total On-snow Days per Year: Winter and Offseason

- **Winter**
  - U8: 50
  - U10: 90
  - U12: 113
  - U14: 120
  - U16: 130
  - U18: 150
  - U21+: 170

- **Offseason**
  - U8: 0
  - U10: 10
  - U12: 13
  - U14: 20
  - U16: 30
  - U18: 50
  - U21+: 70

Legend:
- Winter
- Offseason
Concentration, not specialization.

Finding #4
Specialization or Not?

- Wrong Question!
- Clearly high volume of ski specific training is required. More than recreational.
- Answer is to Concentrate
  - Ski when there is snow on the ground
  - Do not let other sports interfere with skiing
Did your family encourage participation in other sports?

83% said their families encouraged multiple sports.
At what age did ski racing become your primary activity?

By age 16, 83% of athletes identified themselves as ski racers above all else...
Speed skiers are good tech skiers too.

Finding #6
Speed skiers are good tech skiers too.

- Ski racing is becoming more technical
- SL/GS skills are paramount
- Introduction to speed elements early is good
- Mastering fundamentals early is critical for any event
World Cup Top 30 Downhill Men 25th Percentile World Rank with 25th Percentile Best Tech Rank as Juniors

75% of today’s top DH skiers were sub-30 point tech skiers as juniors!

*75% of current Top 30 WC DH Men had a SL or GS world rank below this level as juniors

*2015 points are included for illustrative purposes but are not a consistent measurement over time
World Cup Top 30 Downhill Women 25th Percentile World Rank with 25th Percentile Best Tech Rank as Juniors

*75% of current Top 30 WC DH Women had a SL or GS world rank below this level as juniors*

75% of today’s top DH and SG skiers were sub-20 point tech skiers as juniors!

*2015 points are included for illustrative purposes but are not a consistent measurement over time*
USA juniors today trail our competitors.

Finding #10
Men SL
Current 16-22 Year-olds Who Meet World Cup 25th Percentile Criteria

- USA 8th out of major countries
- 45 athletes (age 16-22) worldwide meet 25th Percentile

USA:
2. AJ Ginnis (1994)

*based on end of 2015 season
Women SL
Current 16-22 Year-olds Who Meet World Cup 25th Percentile Criteria

- USA 6th out of major countries
- 29 athletes (age 16-22) worldwide meet 25th Percentile

USA:
2. Paula Moltzan (1994)

*based on end of 2015 season
Men GS
Current 16-22 Year-olds Who Meet World Cup 25th Percentile Criteria

- USA 7th out of major countries
- 56 athletes (age 16-22) worldwide meet 25th Percentile

USA:
2. Ryan Cochran-Siegle (1992)

*Based on end of 2015 season
Women GS
Current 16-22 Year-olds Who Meet World Cup 25th Percentile Criteria

- USA 8th out of major countries
- 40 athletes (age 16-22) worldwide meet 25th Percentile

From USA:

*based on end of 2015 season
USA is at a disadvantage to other ski racing nations

- Financial sacrifice is high barrier to entry/continuation
- USA is short on volume at young ages
- Skiing culture not as prevalent

What can we do to improve?
Financial Sacrifice is High Barrier to Entry/Continuation

- Bad news/good news…
  - Self funding model allows for late bloomers
    - Can NCAA be a pipeline for USA?
  - Need for awareness and education
    - Is so much racing and travel really necessary?

- Programs to lower cost
  - Local spring/fall camps for off-season
  - Investment in state of the art snowmaking
  - Cultivation of alternative training sites

- Prioritization of NorAm’s
  - Critical USST supports high quality, low point series.
  - Create high quality racing opportunities close to home
USA behind on volume at young ages

- Improve access
  - night skiing
  - state-of-the-art snowmaking
  - quick turnaround
  - school collaboration
  - proximity to mountains

- Structure programs around best practices:
  - Focus on mastery of fundamental techniques. Disciplined practice matters most.
  - Create skiing and racing opportunities as early in life as possible.
  - Educate about international best practices pathway.
  - High quality programs and coaching at all age groups.
  - Create inclusive, yet high-performance training environments.
  - Encourage other sports, but concentrate on skiing.
  - Structure younger development teams to focus on tech over speed.
Skiing culture not as prevalent in USA

- Create **micro-cultures**. Community by community.
  - Educate and engage parents
  - Importance of best practices
  - Engage media
  - Celebrate hero’s
  - Engage school systems
  - Access and quality of training environments
  - Cultivate donors
Overarching Conclusion: Ski racing is a no-lose sport.

- Pursuing ski racing at ANY level of commitment is positive.
- Inherently rewarding in and of itself
- No apologies or sacrifices needed…fun activity
- Generations of ski racing shows lifelong positive values
- Promotes personal development, maturity, confidence, accomplishment and physical well-being
Thank you for your time and to the athletes for their participation.

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