

Mindsets and Running Performance

Various anecdotes exist that suggest a link between the mind and physical performance.

The story of Reid Coolsaet

The Race against Time

By Alex Hutchinson
(thewalrus.ca)

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The Sub-4:00 Mile

1931-1954:

- once world record was set in 1931, broken 9 times before Bannister's record
- world record dropped from 4:06 to 4:01
- John Landy ran 4:02 on 7 occasions and claimed sub-4:00 not possible for him
- Bannister ran 3:59.4 on May 6, 1954
- Landy ran 3:58.0 on June 21, 1954

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Bannister stuns world with 4-minute mile

By Bruce Lowitt

© St. Petersburg Times, December 17, 1999

For years, the 4-minute mile was considered not merely unreachable but, according to physiologists of the time, dangerous to the health of any athlete who attempted to reach it.

For Roger Bannister, it was vindication.

When he crossed the finish line with a time of 3 minutes, 59.4 seconds, he broke through a psychological barrier as well.

John Landy, considered one of the great milers of that era, never had gotten closer than within 1.5 seconds of the 4-minute barrier before. Within 46 days of Bannister's breakthrough, Landy surpassed the record with a 3:57.9 in Finland. Bannister and Landy raced later in the year in the "Mile of the Century" at Vancouver, a runoff to decide who was the faster miler. Bannister won in 3:58.8 to Landy's 3:59.6, the first time two men in one race had broken 4 minutes. By the end of 1957, 16 runners had logged sub-4-minute miles.

IAAF era: World Record Mile (1913-1975)

Time	Athlete	Date	Venue
4:14.4	John Paul Jones	31 May 1913	Allston, Mass.
4:12.6	Norman Taber	16 July 1915	Allston, Mass.
4:10.4	Paavo Nurmi	23 August 1923	Stockholm
4:09.2	Jules Ladoumègue	4 October 1931	Paris
4:07.6	Jack Lovelock	15 July 1933	Princeton, N.J.
4:06.8	Glenn Cunningham	16 June 1934	Princeton, N.J.
4:06.4	Sydney Wooderson	28 August 1937	Motspur Park
4:06.2	Gunder Hägg	1 July 1942	Gothenburg
4:06.2	Arne Andersson	10 July 1942	Stockholm
4:04.6	Gunder Hägg	4 September 1942	Stockholm
4:02.6	Arne Andersson	1 July 1943	Gothenburg
4:01.6	Arne Andersson	18 July 1944	Malmö
4:01.4	Gunder Hägg	17 July 1945	Malmö
3:59.4	Roger Bannister	6 May 1954	Oxford
3:58.0	John Landy	21 June 1954	Turku
3:57.2	Derek Ibbotson	19 July 1957	London
3:54.5	Herb Elliott	6 August 1958	Dublin
3:54.4	Peter Snell	27 January 1962	Wanganui
3:54.1	Peter Snell	17 November 1964	Auckland
3:53.6	Michel Jazy	9 June 1965	Rennes
3:51.3	Jim Ryun	17 July 1966	Berkeley, Cal.
3:51.1	Jim Ryun	23 June 1967	Bakersfield, Cal.
3:51.0	Filbert Bayi	17 May 1975	Kingston
3:49.4	John Walker	12 August 1975	Gothenburg

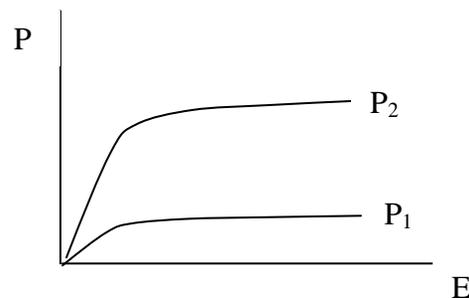
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Dweck: <http://mindsetonline.com>

Schein/Dweck: <http://howieschein.com/uniswimming/Developing%20Swimming%20Talent%20Through%20a%20Growth%20MindsetMS.pdf>

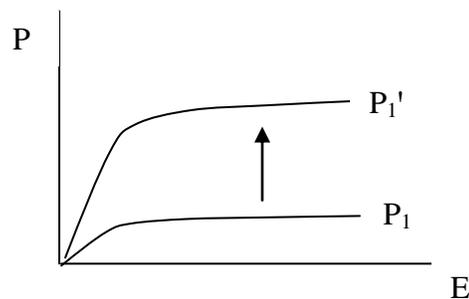
$$P = f(T_0, E)$$

Performance (P) is affected largely by some fixed amount of talent (T_0), where effort (E) has a minor impact on performance. Performance is considered static and largely dependent on talent.



$$P = f(T(T_0, E), E)$$

Performance (P) is affected by effort (E), but talent is also a function of effort, as well as some fixed amount of talent (T_0). Performance is considered dynamic and effort can have a potentially strong impact on performance.



Fixed Mindset

Talent: known, pre-determined/static

Challenges: avoid

Obstacles: quit

Effort: pointless

Helpful Criticism: deflected

Success of others: threatening

Coaching: doesn't listen or take advice

- More likely to quit or fade away,
- Never reach full potential
- Deterministic view of the world

Growth Mindset

Talent: unknown, affected by effort

Challenges: embrace

Obstacles: endure

Effort: work hard, path to success

Helpful Criticism: accepts

Success of others: inspiring

Coaching: listens, incorporates lessons

- Desire for constant improvement
- Greater long term success
- Greater sense of free will

Fixed mindset:

Rule #1: Look talented at all costs, avoid anything that makes you look bad.

Rule #2: I don't need to work as hard in practice, because talent will get me good results.

Rule #3: When faced with setbacks, blame others or something else for failure, and/or refocus and look down on others who've done even worse

(Schein/Dweck) Relationship between Swim coach and fixed mindset swimmers:

- Wanting to be put on a pedestal;
 - Expecting to be the favorite because his/her times are the fastest;
 - Wanting to be made to feel perfect and/or special;
 - Having a very public tantrum after a disappointing race and expecting the coach's sympathy.
- (a) Early success w/o effort is followed by plateau and ultimate frustration
 - (b) Early in career, peg themselves into an event and refuse to try other events that may threaten their self-image, even when those events may help them
 - (c) Every race has to be a PR or a win
 - (d) Focus on outcomes (finishing place, time)
 - (e) Fear of failure in some situations can lead to low effort level
 - (f) Avoids the idea of fighting through pain

Growth mindset:

Rule #1: Learn and take risks.

Rule #2: Work hard, effort is the key to success.

Rule #3: When faced with setbacks, confront your deficiencies and learn from them.

(Schein/Dweck) Relationship between Swim coach and growth mindset swimmers:

- Wanting weaknesses to be seen and wanting the coach to help the swimmer to work on these problems;
 - Wanting to be challenged to become better;
 - Wanting coach to offer encouragement to learn new things.
- (a) Tend to analyze race and practice, attempting to learn
 - (b) Willing to at least try new training or adopt training that enhances race effort
 - (c) Focus on process over product
 - (d) Accepting the idea of fighting through pain

Coaches:

- make athletes practice drills/skills, work on areas where the athlete does not excel
- appoint team leaders who exhibit effort, not necessarily the fastest runner
- refocus away from times/places and on improving specific components of a race
- use some races to try new race strategy or techniques (encourage risk-taking)
- if athletes coast through practice, then end practice
- note that not paying attention doesn't necessarily mean the athlete is avoiding feedback
- kids may learn better in a fun environment than in one that's not so fun