

The evolution of strength in climbing

Questions

- main
 - are climbers getting stronger or are there more strong climbers?
 - what is strength in climbing?
- secondary

To determine the possible gains in strength development provided by a more comprehensive approach to finger strength training over time

What other sports necessitate a high level of grip strength? for which the evolution of strength in climbing can apply

are climbers getting significantly stronger or just a little more?

where are the strongest climbers coming from? (eg East African Runners)

are climbers getting stronger at sport vs boulder vs both?

the gap between famous first ascents and repeats? how many people are actually achieving this?

gender on first ascents? hardest climbs?

is there an age for strength? — think "old man strength"

when does the published research start building up?

cross pollination from/to other sports?

how are climbs graded?

strength tailored for olympics (eg including speed climbing in olympics) vs strength according to actual sport

limit to first 3 ascents for details? then list how many total attempts on route?

goal

a comparison of the world's hardest climbs vs the rise in popularity (# of gyms, # events, etc) + scientific research

Share and provide practical applications/elements for an ongoing discussion

what is climbing?

- bouldering (focus)
- sport/lead (focus)
- others (ice, dws, top rope, etc)
- explain why bouldering/sport are focus

types of pro climbers (comp vs outdoor heavy)

how is strength measured/tested?

- outdoors
- comps
- how are climbs graded?

intro

how do climbers get stronger?

- HB
- campus
- general strength conditioning (tension focus?)
- core
- flexibility

misc terms

- ascent
- onsite/flash
- red point
- grips + holds (half/full crimp, open hand, pockets, slopers, etc)

research

- internet
- books
- papers
- comp recordings/results

design

- xd
 - visual map of the world's hardest climbs (cf mountain project) + timeline of first (2nd 3rd ascents)
- publication timeline (mags, research papers, books, etc)
- VR/top world climbs progression/plateau — https://en.wikipedia.org/wiki/Marathon_world_record_progression
- can i add a guide (on the side), presupposes down scrolling thesis presentation
- grips legend from setting journal

guide represents edge (in mm), as you progress down the study, the edge reduces (strength capability to hold on has increase)

design/dev

dev

- vue
- d3
- input max level achieved to see what percentile you fall in?
- informal survey (anonymous): do you think climbers are getting stronger or there are more strong climbers?

analysis

how am i analyzing the results of my research? basically just stats?

results/statistical analysis

- just state the facts
- display as grid (cf rona and me thesis)

discussion/thesis analysis

- <https://www.enago.com/academy/discussion-conclusion-know-difference-drafting-manuscript/>
- discuss timelines
 - climbs/FA's/benchmarks — map?
 - research/publications — lollipop chart?
 - training methods — lollipop?
 - comparison of those benchmarks with the rate of plateau braking — line/rate increase chart
- visual analysis/comparison
 - visual analysis of 1-3 hard climbs (eg action direct)
 - visual analysis of a comp problem?
- interactivity? — what percentile do i fall under based on my max grade?

conclusions

- sum up branch out
- mention future research to tackle
 - eg original question of finger strength
 - theory of grip + core + tension + flexibility

references

audiences

- primary
- secondary
- context
- response

climbing athletes, climbing researchers, climbing coaches/trainers

knowledge: average/above average knowledge of the sport of climbing

coaches/trainers vs climbing athletes => might constitute slightly different audiences

- misc researchers
- olympic enthusiasts

rock-climbing is gaining popularity. Similar to racing athletes trying to shave off seconds, methods have been developed to increase grip strength and technique

- gain a better understanding of how the sport has evolved
- provide a starting point for additional/more in-depth research

data

- analysing performance data
- olympic setting is good for the rules/nomenclature/how its going to be evaluated
- mountainproject.com
- # of world records
- first ascents lists/hardest climbs list
- dates
- re-grading
- olympic teams
- per sport? — # of sponsored climbers
- approx # worldwide climbers — # of gyms in the world
- # of mags/books/research papers/etc
- # of climbs on sites like mountainproject
- who are the strongest climbers