NKB entry report analysis Apr 2025

y_bib

Outlines of NKB swimmers' performance

Introduction

There is a very well known fact that male swimmers swim faster than female swimmers. And there is a well known fact that Canadian female swimmers win sufficiently more Olympic medals compared to male swimmers.

We will check what are the trends in the Ottawa biggest swimming club named NKB. And ALSO see how age and style preferences effect results. To (possibly:) predict our future winners we will cluster swimmers based on all their results (properly normalized) and see who appeared in the first cluster (but no names here :)).

Data source: NKB SwimMeets Apr 2025 entry report (1470 records, 233 swimmers) (other entry reports soon to be added.)

Stats you will see

- Gender and age structure of NKB swimmers
- Distance and Style assigned to age groups
- Best and mean times among styles, gender & age groups
- Clasterization of swimmers based on their best time results

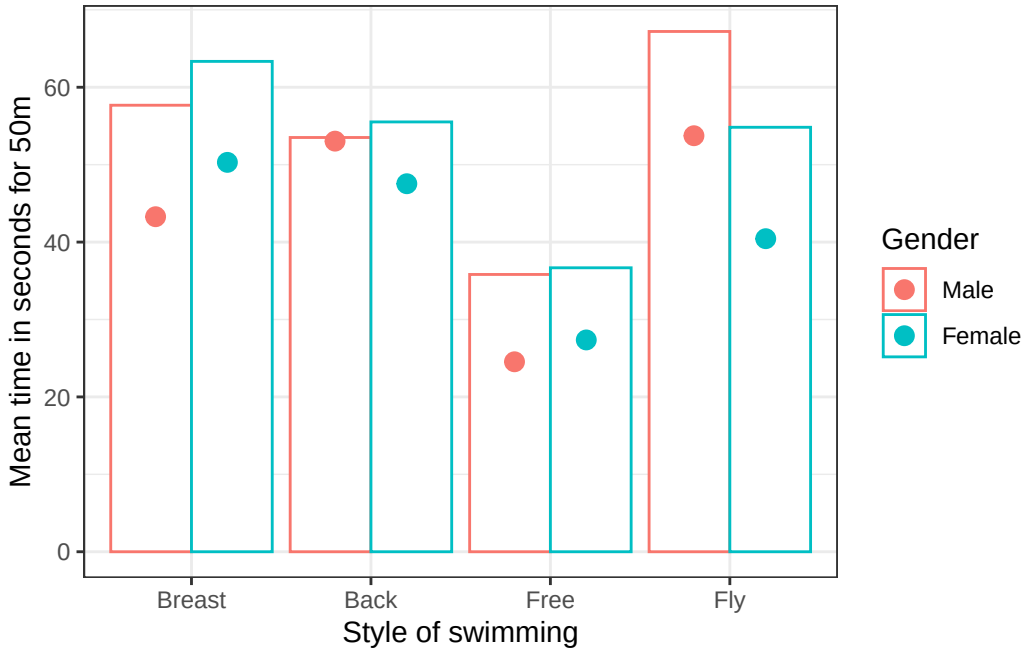
Methods

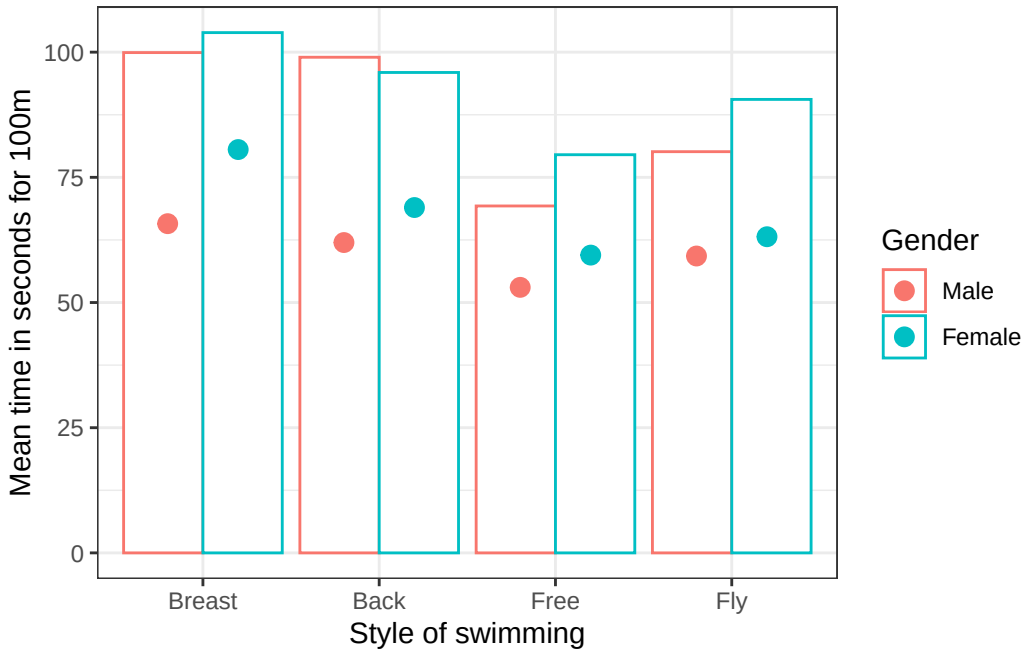
Raw data organization; descriptive statistics; scaling and commutative description for clustering.

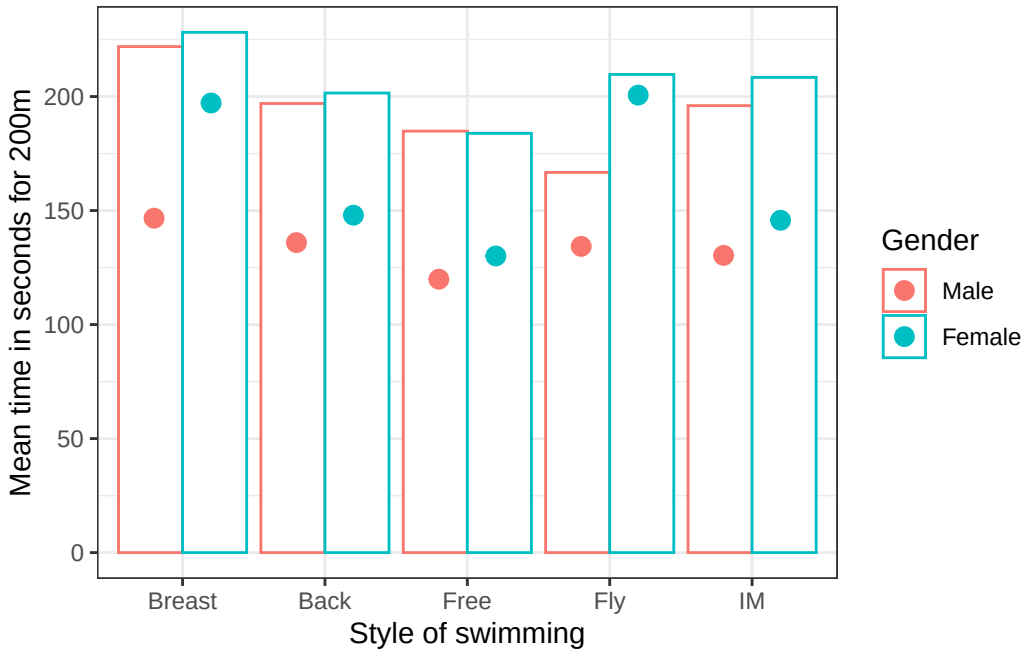
Results

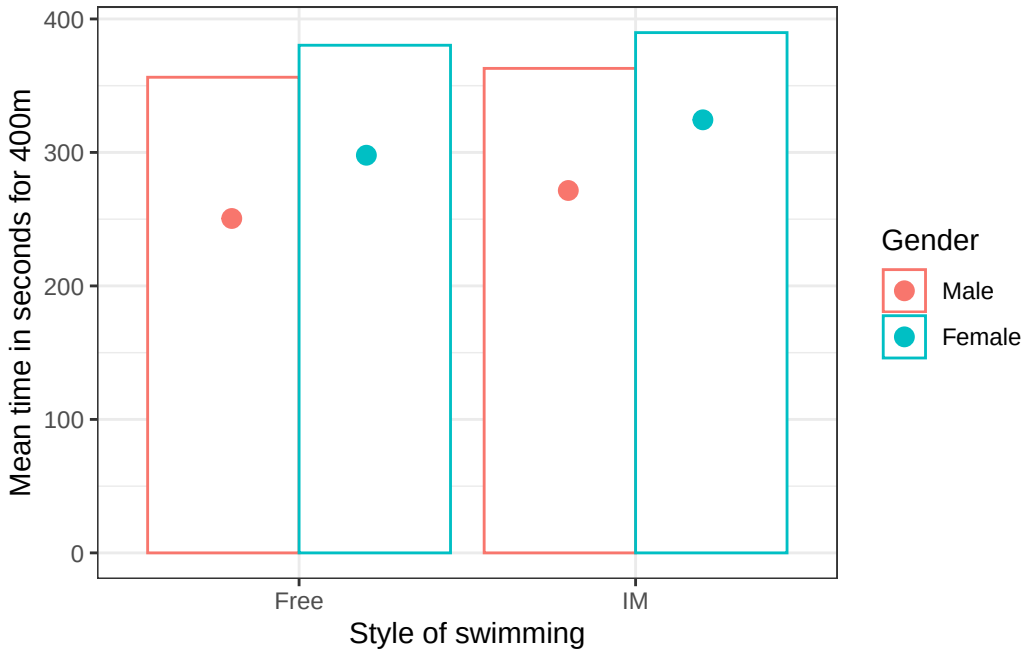
Gender and age structure of NKB Assigned style&distance to swimmers of different age groups

The diagrams below show what style is the fastest among NKB swimmers (for the same distance): columns show mean time (average time among each gender) and points show the best time.




Mean time in seconds for 100m
100
75
50
25
0
Breast
Back
Free
Fly
Style of swimming
Gender
Male
Female


Mean time in seconds for 200m
200
150
100
50
0
Breast
Back
Free
Fly
IM
Style of swimming
Gender
Male
Female

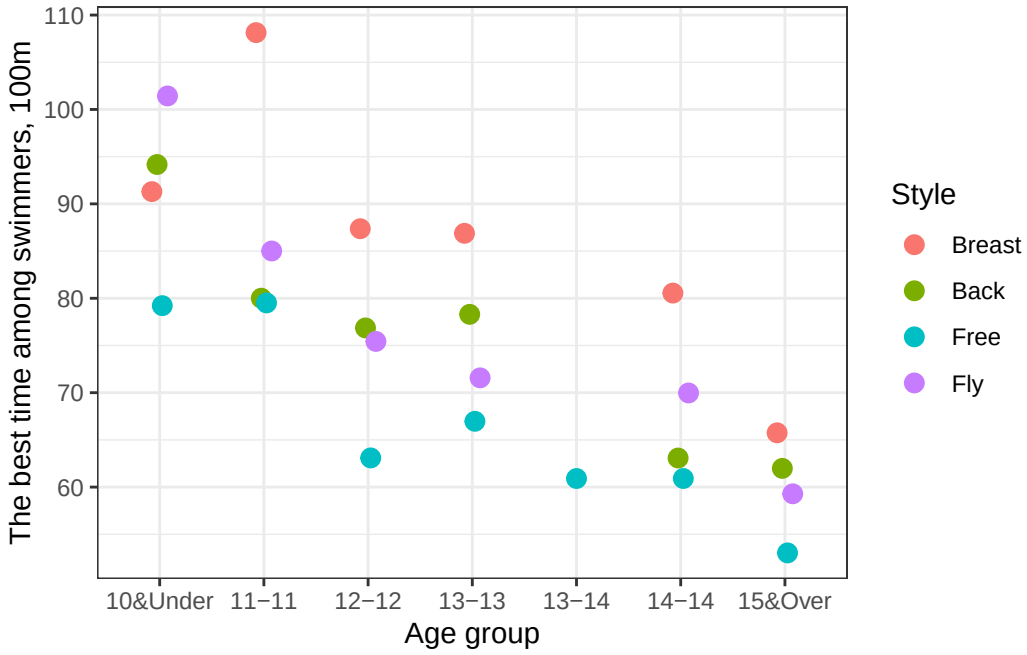


Conclusion:

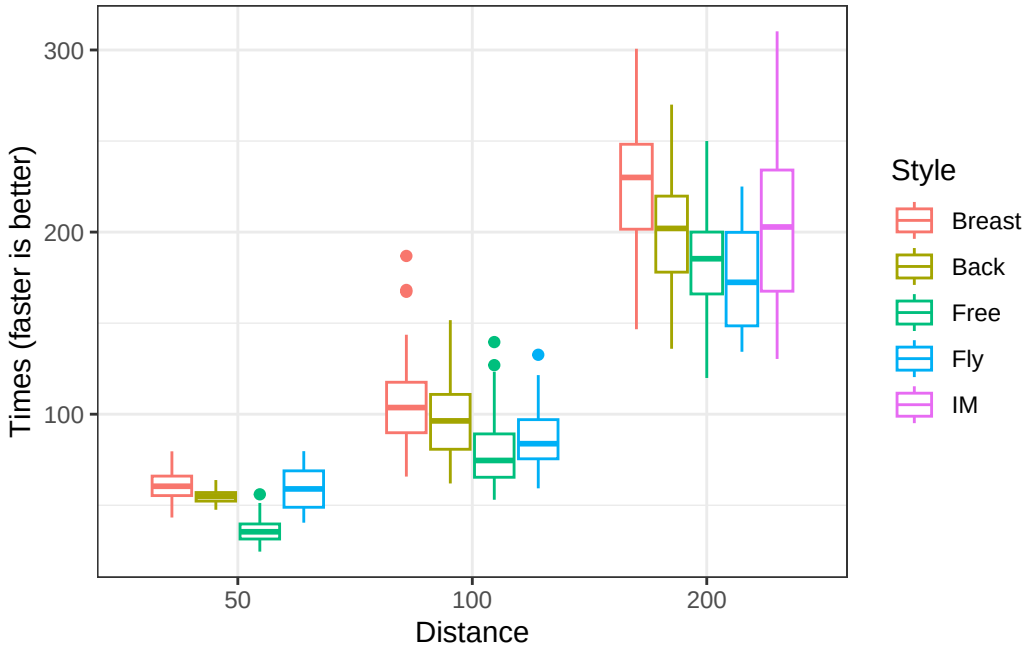
We see that boy show better results though free style allow girls to minimize the gap.

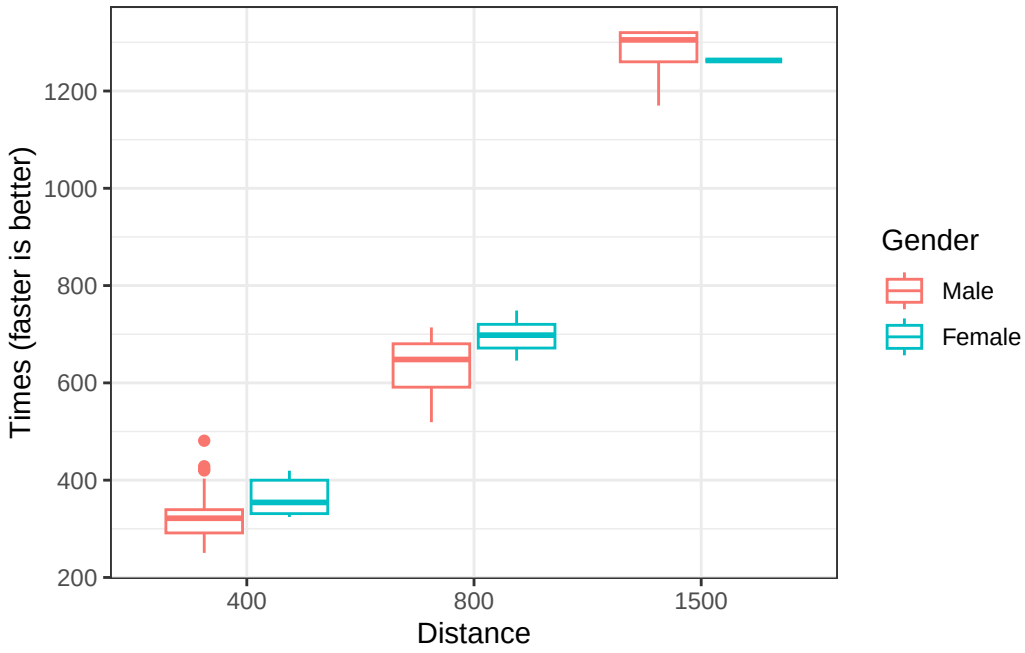
In terms of of age groups distribution Free style works better for time results though NKB has at least two exceptional swimmers on back.

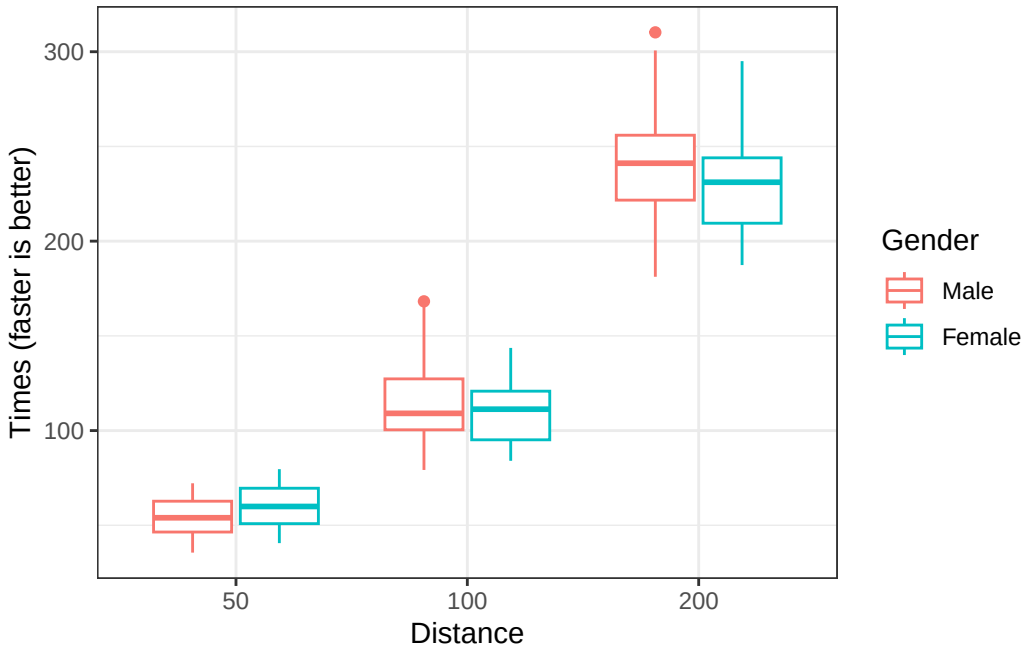
Now let us see box plots (best) time per Style, both genders together, 100m (very popular distance!)



And below the distribution of swimmers' results for various distances is presented.




Times (faster is better)
1200
1000
800
600
400
200
400
800
1500
Distance
Gender
Male
Female

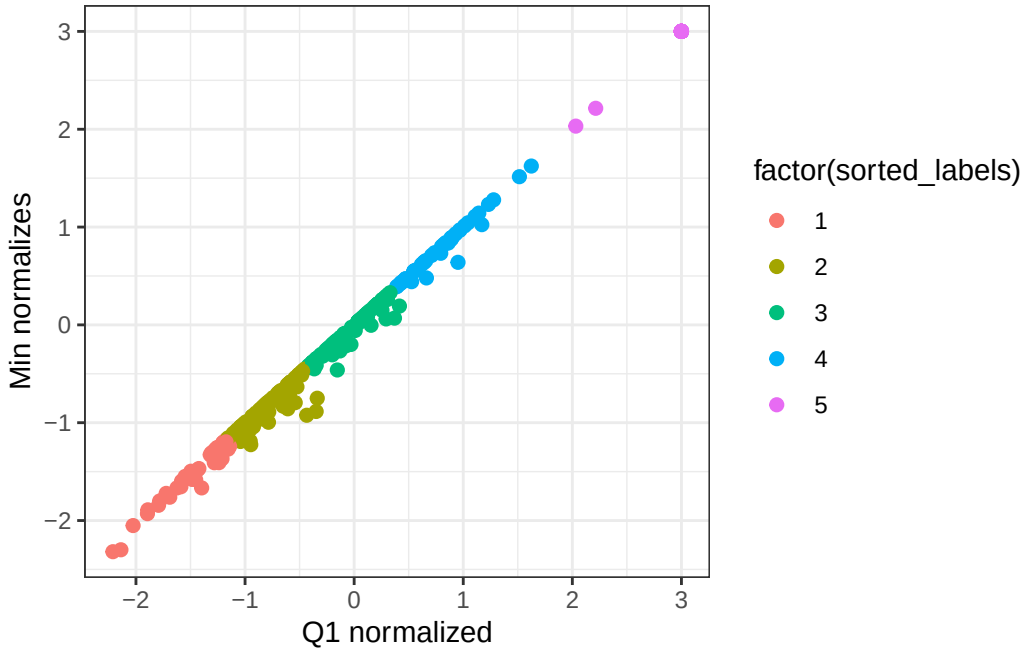

Times (faster is better)
300
200
100
50
100
200
Distance
Gender
Male
Female

Swimmer Count in Cluster 1 by Gender and Age Group

Gender	10&Under	11-11	12-12	13-13	13-14	14-14	15&Over
Male	1	0	1	2	1	4	19
Female	1	0	1	1	0	0	5

Clustering based on the best results. All results are normalized first within the distance&style.

Of course we can cluster swimmers within specific age group or oone gender but let us see who appears in the most productive group of all ages and both genders.



The table below compares best (minimal) time and Q1 for combinations of distance&style

Here is one more table comtaining some normalized data statistics: it shows normalized minimal values and first quartils among all swimmers and among the Cluster 1. So we may be shure Cluster 1 picks the swimmers with better etry times.

RowName	All_min	All_Q1	Cl1_min	Cl1_Q1
200IM	Min. :130.3	1st Qu.:176.5	Min. :130.3	1st Qu.:142.9
200Free	Min. :119.9	1st Qu.:167.2	Min. :119.9	1st Qu.:130.7
100Breast	Min. : 65.75	1st Qu.: 91.25	Min. : 65.75	1st Qu.: 77.67
200Back	Min. :135.9	1st Qu.:178.0	Min. :135.9	1st Qu.:147.2
100Back	Min. : 61.98	1st Qu.: 85.14	Min. : 61.98	1st Qu.: 66.86
50Breast	Min. :43.28	1st Qu.:55.31	Min. :43.28	1st Qu.:43.28
100Free	Min. : 53.03	1st Qu.: 67.05	Min. :53.03	1st Qu.:57.51
400IM	Min. :271.5	1st Qu.:327.9	Min. :271.5	1st Qu.:306.9
400Free	Min. :250.5	1st Qu.:330.7	Min. :250.5	1st Qu.:274.9
200Breast	Min. :146.7	1st Qu.:201.6	Min. :146.7	1st Qu.:171.7
50Back	Min. :47.54	1st Qu.:52.29	Min. :47.54	1st Qu.:47.54
50Free	Min. :24.54	1st Qu.:31.84	Min. :24.54	1st Qu.:26.73
800Free	Min. :519.2	1st Qu.:687.4	Min. :519.2	1st Qu.:578.2
200Fly	Min. :134.3	1st Qu.:148.5	Min. :134.3	1st Qu.:147.0
100Fly	Min. : 59.29	1st Qu.: 75.51	Min. : 59.29	1st Qu.: 66.17
50Fly	Min. :40.44	1st Qu.:48.97	Min. :40.44	1st Qu.:40.48
1500Free	Min. :1129	1st Qu.:1215	Min. :1129	1st Qu.:1150