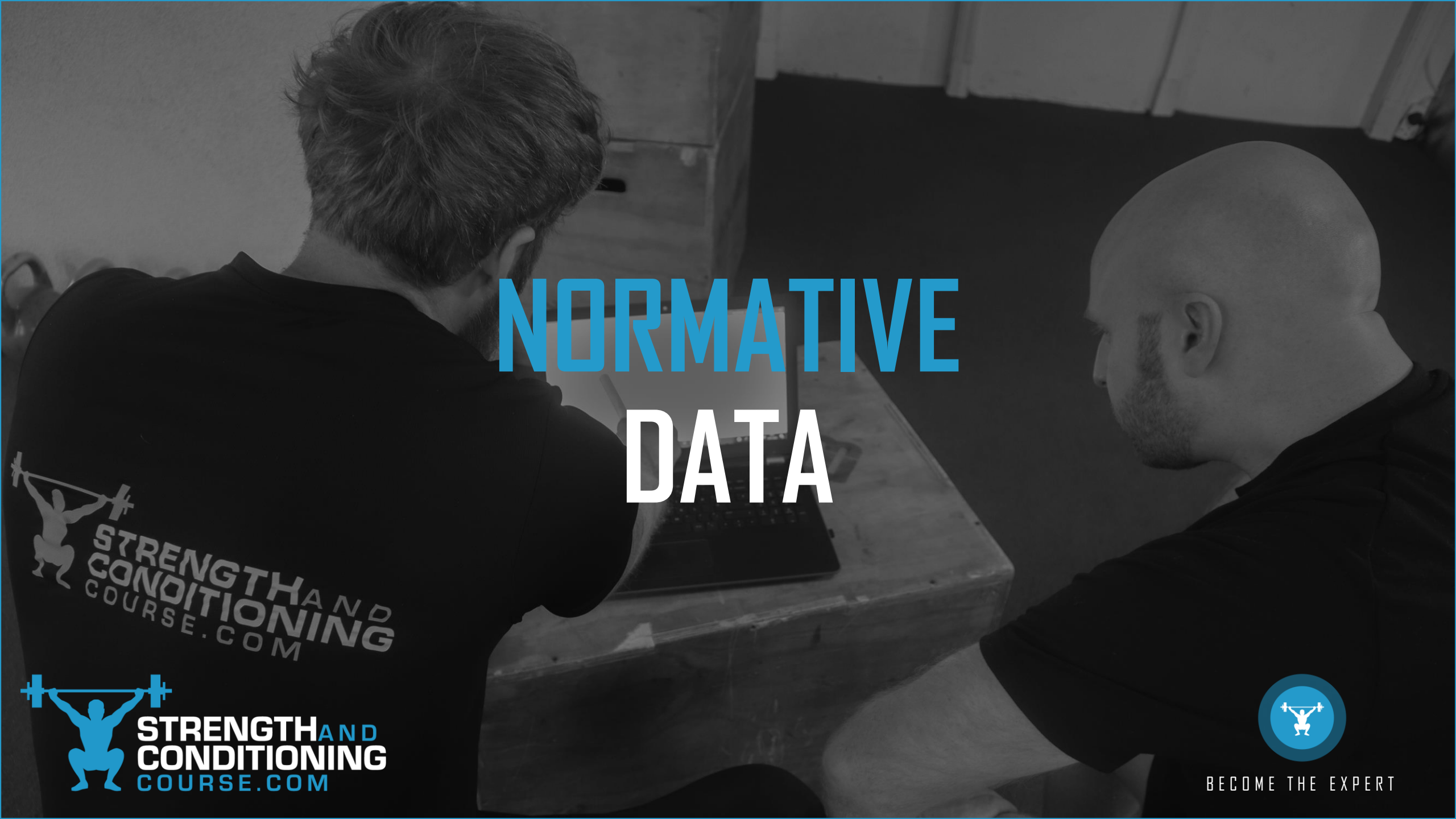
NORMATIVE
DATA
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INTRODUCTION

Normative data is data from a reference population that establishes a baseline distribution for a score or measurement, and this data can be compared against. However, there are a few things we must consider.

If using “norms” or “rating tables” to interpret your test results, you must consider whether the tests were carried out using the same protocol – many tests have a number of variations but are still given the same name.

- Is the equipment different in anyway?
- Are the distances the same: Metric or imperial system – is the test laid out in meters or yards?
- Was the same starting stance used?
- Was the same starting command given? i.e. 3-2-1 Go!
- Were the weather conditions the same?

It is also important to consider what population group the normative data was derived from. For example, the age group or ability level – many studies have been carried out with college/university students/athletes.

Published norms are generally based on the range of scores around the mean. However, this doesn’t necessarily mean the above average score is good. For example, the test group may have achieved poor results across the board and therefore, an above average score is still fairly poor.

VO2 MAX
NORMATIVE DATA

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VO2 MAX MALE NORMS

The below table shows normative scores for various male age groups.

Rating	18-25yrs	26-35yrs	36-45yrs	46-55yrs	56-65yrs	65+
Excellent	>60	>56	>51	>45	>41	>37
Good	52-60	49-56	43-51	39-45	36-41	33-37
Above Average	47-51	43-48	39-42	36-38	32-35	29-32
Average	42-46	40-42	35-38	32-35	30-31	26-28
Below Average	37-41	35-39	31-34	29-31	26-29	22-25
Poor	30-36	30-34	26-30	25-28	22-25	20-21
Very Poor	<30	<30	<26	<25	<22	<20

Topend Sports

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VO2 MAX FEMALE NORMS

The below table shows normative scores for various female age groups.

Rating	18-25yrs	26-35yrs	36-45yrs	46-55yrs	56-65yrs	65+
Excellent	>56	>52	>45	>40	>37	>32
Good	47-56	45-52	38-45	34-40	32-37	28-32
Above Average	42-46	39-44	34-37	31-33	28-31	25-27
Average	38-41	35-38	31-33	28-30	25-27	22-24
Below Average	33-37	31-34	27-30	25-27	22-24	19-21
Poor	28-32	26-30	22-26	20-24	18-21	17-18
Very Poor	<28	<26	<22	<20	<18	<17

Topend Sports


THE BLEEP TEST
NORMATIVE DATA
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NORMATIVE DATA MALES

The below table shows normative data for male bleep test scores, aka Multistage Fitness Test (MSFT).

L = Level
S = Shuttle.

Age	Excellent	Above Average	Average	Below Average	Poor
14-16	L12 / S7	L11 / S2	L8 / S9	L7 / S1	<L6 / S6
17-20	L12 / S12	L11 / S6	L9 / S2	L7 / S6	<L7 / S3
21-30	L12 / S12	L11 / S7	L9 / S3	L7 / S8	<L7 / S5
31-40	L11 / S4	L10 / S4	L6 / S10	L6 / S7	<L6 / S4
41-50	L10 / S4	L9 / S4	L6 / S9	L5 / S9	<L5 / S2

Brizley et al. (2010)

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NORMATIVE DATA FEMALES

The below table shows normative data for female MSFT scores, aka Multistage Fitness Test (MSFT).

L = Level
S = Shuttle.

Age	Excellent	Above Average	Average	Below Average	Poor
14-16	L10 / S9	L9 / S1	L6 / S7	L5 / S1	<L4 / S7
17-20	L10 / S11	L9 / S3	L6 / S8	L5 / S2	<L4 / S9
21-30	L10 / S8	L9 / S2	L6 / S6	L5 / S1	<L4 / S9
31-40	L10 / S4	L8 / S7	L6 / S3	L4 / S6	<L4 / S5
41-50	L9 / S9	L7 / S2	L5 / S7	L4 / S2	<L4 / S1

Brizley et al. (2010)

COOPER RUN TESTS
NORMATIVE DATA

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COOPER 1.5 MILE RUN

The below data shows test scores recorded in minutes.

Gender / Age	Very Poor	Poor	Fair	Good	Excellent	Superior
Male / 13-19	>15:31	12:11-15:30	10:49-12:10	9:41-10:48	8:37-9:40	<8:36
Female / 13-19	>18:31	16:55-18:30	14:31-16:54	12:30-14:30	11:50-12:29	<11:49
Male / 20-29	>16:01	14:01-16:00	12:01-14:00	10:46-12:00	9:45-10:45	<9:44
Female / 20-29	>19:01	18:31-19:00	15:55-18:30	13:31-15:54	12:30-13:30	<12:29
Male / 30-39	>16:31	14:44-16:30	12:31-14:45	11:01-12:20	10:00-11:00	<9:59
Female / 30-39	>19:31	10:30-19:01	16:31-19:00	14:31-16:30	13:00-14:30	<12:59
Male / 40-49	>17:31	15:36-17:30	13:01-15:35	11:31-13:00	10:30-11:30	<10:29
Female / 40-49	>20:01	19:31-20:00	17:31-19:30	15:56-17:30	13:45-15:55	<13:44
Male / 50-59	>19:01	17:01-19:00	14:31-17:00	12:31:14:30	11:00-12:30	<10:59
Female / 50-59	>20:31	20:01-20:30	19:00-20:00	16:31-19:00	14:30-16:30	<14:29
Male / >60	>20:01	19:01-20:00	16:16-19:00	14:00-16:15	11:15-13:59	<11:14
Female / >60	>21:01	21:00-21:31	19:31-20:30	17:30-19:30	16:30-17:30	<16:29

Cooper (1982)

COOPER 12 MINUTE RUN: MALES

The below data shows test scores recorded in meters – (commonly performed on the track).

An estimation of your V02 max can be calculated from your Cooper test score:

(Distanced covered in metres – 504.9) / 44.73

Age	Poor	Below Average	Average	Above Average	Excellent
13-14	<2100	2100-2399	2200-2399	2400-2700	>2700
15-16	<2200	2200-2299	2300-2499	2500-2800	>2800
17-19	<2300	2300-2499	2500-2699	2700-3000	>3000
20-29	<1600	1600-2199	2200-2399	2400-2800	>2800
30-39	<1500	1500-1999	1900-2299	2300-2700	>2700
40-49	<1400	1400-1699	1700-2099	2100-2500	>2500
>50	<1300	1300-1599	1600-1999	2000-2400	>2400

Cooper (1968)

COOPER 12 MINUTE RUN: FEMALES

The below data shows test scores recorded in meters – (commonly performed on the track).

An estimation of your V02 max can be calculated from your Cooper test score:

(Distanced covered in metres – 504.9) / 44.73

Age	Poor	Below Average	Average	Above Average	Excellent
13-14	>1500	1500-1599	1600-1899	1900-2000	>2000
15-16	>1600	1600-1699	1700-1999	2000-2100	>2100
17-19	>1700	1700-1799	1800-2099	2100-2300	>2300
20-29	>1500	1500-1799	1800-2199	2200-2700	>2700
30-39	>1400	1400-1699	1700-1999	2000-2500	>2500
40-49	>1200	1200-1499	1500-1899	1900-2300	>2300
>50	>1100	1100-1399	1400-1699	1700-2200	>2200

Cooper (1968)


VERTICAL & BROAD JUMPS
NORMATIVE DATA
BECOME THE EXPERT

BECOME THE EXPERT

THE VERTICAL JUMP (CMJ)

The below data is taken from testing performed on world class athletes. Therefore, it is unlikely that general clients will attain jump heights in the upper percentile.

Normative Data		
Performance % Rank	**Female Height (cm)**	**Male Height (cm)**
91-100 (World Class)	76-81	86-91
81-90	71-75	81-85
71-80	66-70	76-80
61-70	60-65	71-75
51-60	55-59	66-70
41-50	50-54	60-65
31-40	45-49	55-59
21-30	40-44	50-54
11-20	35-39	45-49
1-10	<35	<45

Chu (1996)

BECOME THE EXPERT

THE VERTICAL JUMP (CMJ)

The table below shows national norms for adult athletes (20+).

Grade	Female Height (cm)	Male Height (cm)
Excellent	>60	>70
Above Average	46-60	56-70
Average	31-45	41-55
Below Average	21-30	31-40
Poor	<20	<30

Arkinstall (2010)

THE VERTICAL JUMP (CMJ)

The table below shows national norms for 16-19 years olds.

Grade	Female Height (cm)	Male Height (cm)
Excellent	>58	>65
Above Average	47-58	50-65
Average	36-46	40-49
Below Average	26-35	30-39
Poor	<26	<30

Davis (2000)

BECOME THE EXPERT

THE BROAD JUMP (CMJ)

The below data is taken from testing performed on world class athletes. Therefore, it is unlikely that general clients will attain jump heights in the upper percentile.

Normative Data		
Performance % Rank	**Female Distance (m)**	**Male Distance (cm)**
91-100 (World Class)	2.94-3.15	3.40-3.75
81-90	2.80-2.94	3.10-3.39
71-80	2.65-2.79	2.95-3.09
61-70	2.50-2.64	2.80-2.94
51-60	2.35-2.49	2.65-2.79
41-50	2.20-2.34	2.50-2.64
31-40	2.05-2.19	2.35-2.49
21-30	1.90-2.04	2.20-2.34
11-20	1.75-1.89	2.05-2.19
1-10	1.60-1.74	1.90-2.04

Chu (1996)

BECOME THE EXPERT

THE BROAD JUMP (CMJ)

The table below shows norms for >16 year old athletes.

Grade	Female Distance (m)	Male Distance (m)
Excellent	>1.91	>2.44
Above Average	1.78-1.91	2.29-2.44
Average	1.63-1.77	2.16-2.28
Below Average	1.62-1.50	1.98-2.15
Poor	<1.50	<1.98

Hede et al (2011)


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