

The background is a deep blue gradient. On the left side, there are several interlocking gears of different sizes, some with a glowing effect. To the right and extending across the top, there is a complex network graph with numerous nodes (small circles) connected by thin white lines. The overall aesthetic is technological and scientific.

# Sports and Performance Science Portfolio

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Christian Monteferrante, MSc., CSCS

- Project 1: Volleyball anual report – National University of La Matanza
  - Tools: Excell, Powerpoint, Jamovi (R)
  - Dataset: Real volleyball data
- Project 2: Edith Cowan University – Master of Exercise Science
  - Tools: Excel, Visual Basic
  - Dataset: ECU – Monitoring unit assignment
- Project 3: Big Data – Data Science course
  - Tools: Google Sheets, Google Looker Studio, Python, Deep Note
  - Datasets: “Services”, “Internet”, “Exams”

# Project 1: University of La Matanza 2023

## Anual Report



Volleyball D1 – Female

Christian Monteferrante, MSc., CSCS  
Universidad Nacional de La Matanza



# Personal Report



Excel



Powerpoint



# Personal Report

1RM Estimated from Multiple Max Repetitions (xRM) - April to November 2023

Player

Assistance  
92%

Bodyweight

66.7 kg ↓ -0.80

Absolute Values for Estimated 1RM

Back Squat  
82.7 Kg ↓ -2.9

Deadlift  
103.6 Kg ↑ 7.9

Lat Pulldown  
66.7 Kg ↓ -3.1

Press  
34.4 Kg ↑ 1.8

Pull Ups: 0.00

Relative to Bodyweight Values

The relative index refers to the relation between bodyweight (bw) and weight lifted. An index of 1 indicates 100% bw, 1.5, 150%bw

If any value is equal to 0, it means that the exercise was not tested

The last test was performed at the end of the Metropolitan Tournament and it corresponded to a maintenance phase

Very Good

Good

Acceptable

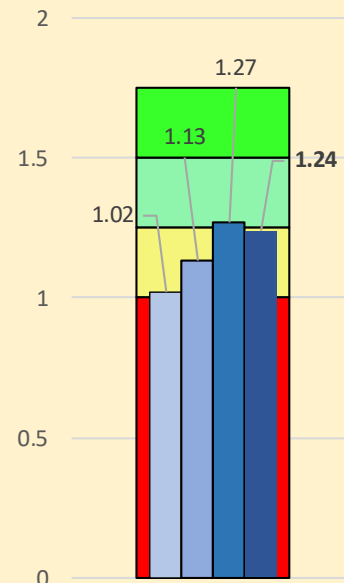
Poor

June

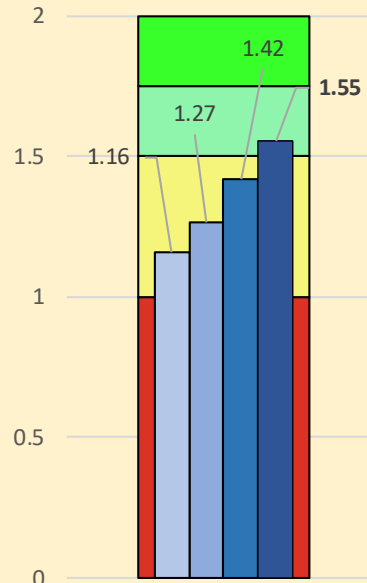
August

November

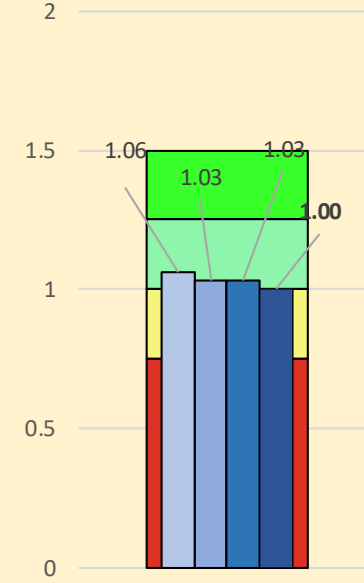
Back Squat



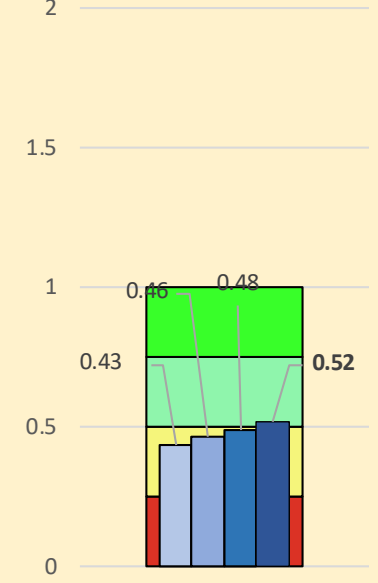
Deadlift



Lat Pulldown



Press



# Backroom

Noviembre 2023

| Fuerza |       |       |       |        |          |       |       |       |       |          |            |  |
|--------|-------|-------|-------|--------|----------|-------|-------|-------|-------|----------|------------|--|
| Sent   |       |       | Tiron |        | Despegue |       | Press |       |       |          |            |  |
| Atleta | PC kg | S 1RM | S rel | TP 1RM | TP rel   | D 1RM | D rel | P 1RM | P rel | Dominada | Asistencia |  |
| C      | 60.2  |       |       |        | 0.00     |       |       |       | 0.00  | no       | 77%        |  |
| C      | 66.7  | 82.7  | 1.24  | 66.7   | 1.00     | 103.6 | 1.55  | 34.4  | 0.52  | si       | 92%        |  |
| D      | 69.9  | 88.0  | 1.26  | 76     | 1.09     | 111.6 | 1.60  | 36.4  | 0.52  | si       | 99%        |  |
| G      | 72    | 91.9  | 1.28  | 55.6   | 0.77     | 90    | 1.25  | 34.0  | 0.47  | no       | 76%        |  |
| L      | 61.3  |       | 0.00  |        | 0.00     |       | 0.00  |       | 0.00  |          | 78%        |  |
| L      | 64.4  | 81.5  | 1.27  | 74.9   | 1.16     | 87.9  | 1.36  | 36.1  | 0.56  | si       | 91%        |  |
| N      | 59.1  | 71.0  | 1.20  | 59.8   | 1.01     | 88    | 1.49  | 31.3  | 0.53  | no       | 98%        |  |
| R      | 61.3  | 83.3  | 1.36  | 64.5   | 1.05     | 92.4  | 1.51  | 30.1  | 0.49  | si       | 86%        |  |
| S      | 61.2  | 100.6 | 1.64  | 79.8   | 1.30     | 98.3  | 1.61  | 40.0  | 0.65  | si       | 97%        |  |
| S      | 89    | 103.5 | 1.16  | 73.7   | 0.83     | 151.8 | 1.71  | 39.2  | 0.44  | no       | 88%        |  |
| V      | 79.5  | 104.4 | 1.31  | 81.4   | 1.02     | 132.7 | 1.67  | 40.0  | 0.50  | no       | 94%        |  |
| F      | 72.5  | 98.9  | 1.36  | 84.3   | 1.16     | 111.1 | 1.53  | 40.0  | 0.55  | si       | 87%        |  |
| V      | 63.9  | 88.4  | 1.38  | 63.9   | 1.00     | 83.3  | 1.30  | 34.9  | 0.55  | si       |            |  |
| N      | 79.5  | 103.3 | 1.30  | 77.8   | 0.98     | 105.3 | 1.32  | 33.3  | 0.42  | no       | 90%        |  |

# Personal Report - Anthropometrics

**Athlete:**

## **muscle-bone index**

Ideally, we are looking for the green zone and as far as the red zone as possible. The cut-off point for female university volleyball players is 3.8 (arbitrary units)

## **sum of 6 skinfolds**

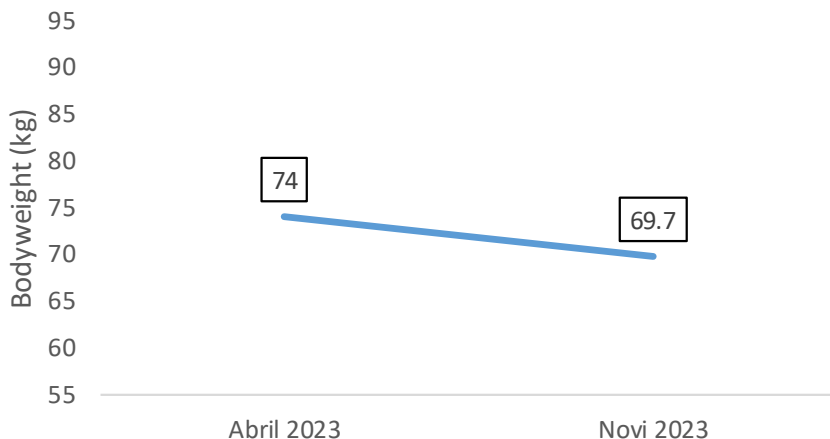
In this case, we aim to be below the 85 millimeters mark, indicated by the green zone

## **Important!!!**

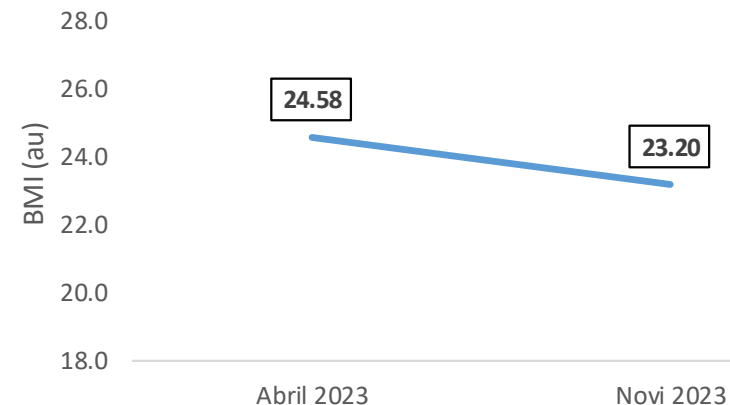
None of the markers indicated on the graphs is a predictor of performance

## Anthropometric Data Evolution during 2023

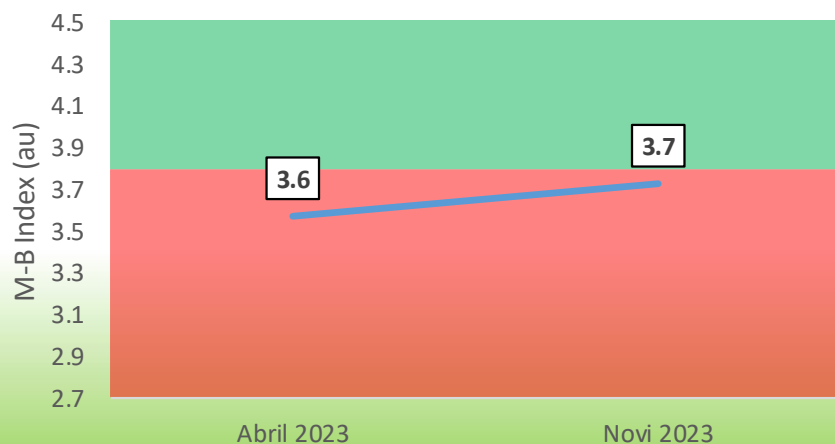
Bodyweight Evolution



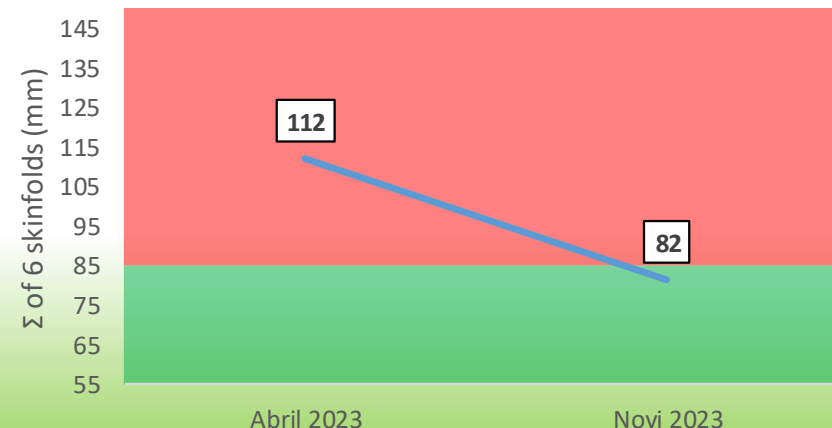
BMI Evolution



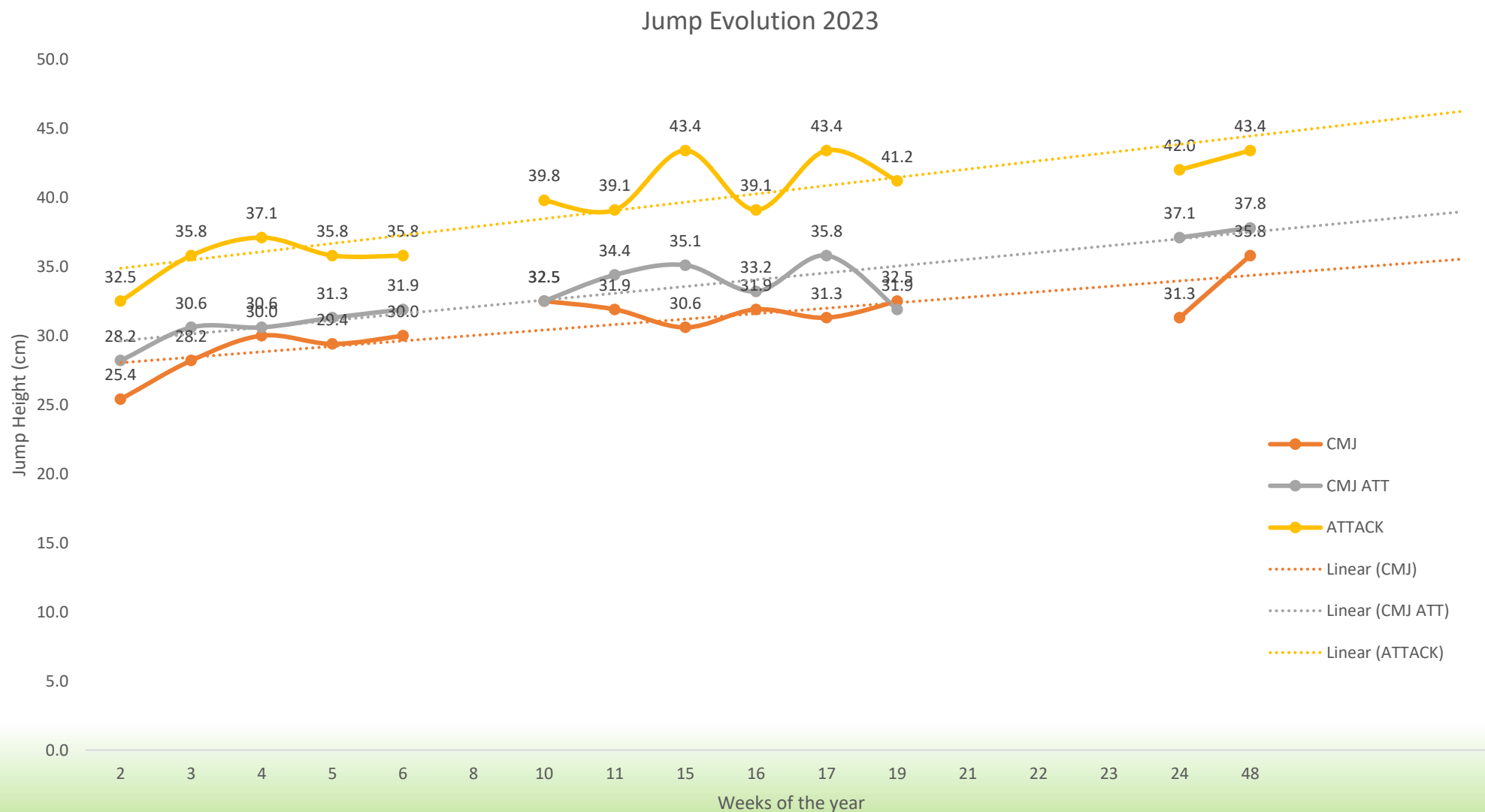
Muscle-Bone Index Evolution



Sum of 6 Skinfolds Evolution



# Personal Report - Jumps

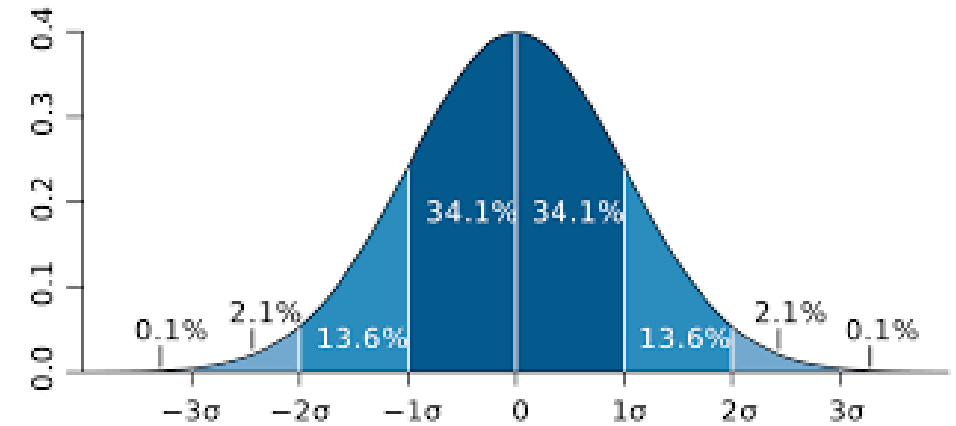




# Z-Scores

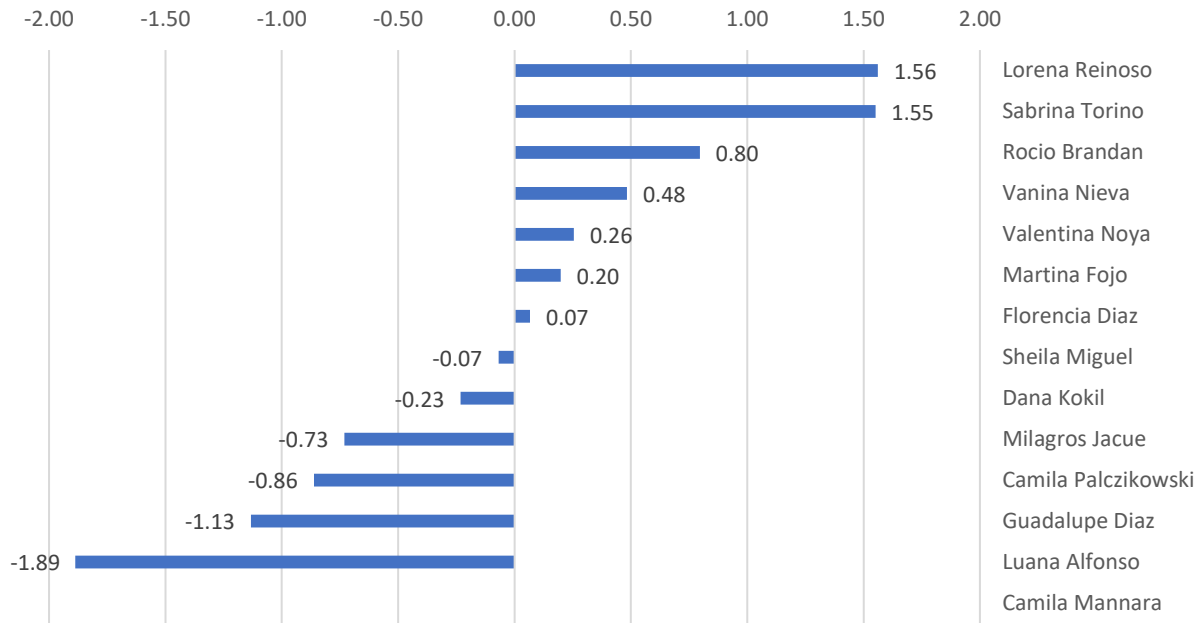
Z-score is a statistical measurement that describes a value's relationship to the mean of a group of values. Z-score is measured in terms of standard deviations from the mean. If a Z-score is 0, it indicates that the data point's score is identical to the mean score.

It is important for us so we can understand where our players are situated in relation to the group. On the following cases, the relative-to-bodyweight values were compared for the selected exercises.

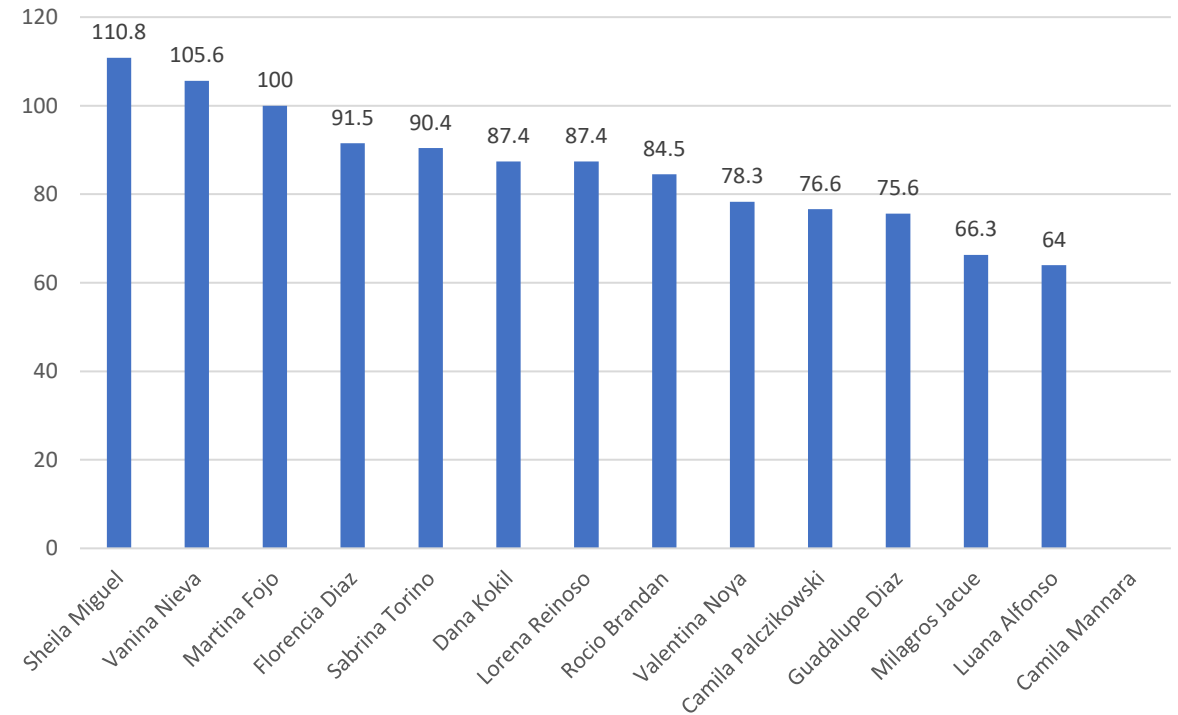


# Squat

Relative Z-Score - Squat



Estimated 1RM - Squat



# Backroom

| Peso Corporal   |        |        |  | Sentadillas     |        |        |       | Tiron Palmar    |        |       |        | Despegue        |        |        |       | Press           |        |       |      |
|-----------------|--------|--------|--|-----------------|--------|--------|-------|-----------------|--------|-------|--------|-----------------|--------|--------|-------|-----------------|--------|-------|------|
| Testeo          | Atleta | PC     |  | Testeo          | Atleta | TP     | S rel | Testeo          | Atleta | TP    | TP rel | Testeo          | Atleta | TP     | D rel | Testeo          | Atleta | P IRl | P re |
| 1ro - Abril     | C      | 55.00  |  | 1ro - Abril     | C      |        |       | 1ro - Abril     | C      | 53.30 | 1.06   | 1ro - Abril     | C      |        |       | 1ro - Abril     | C      | 26.00 | 0.47 |
| 1ro - Abril     | C      | 69.20  |  | 1ro - Abril     | C      | 70.70  | 1.23  | 1ro - Abril     | C      | 73.30 | 0.99   | 1ro - Abril     | C      | 80.30  | 0.00  | 1ro - Abril     | C      | 29.80 | 0.43 |
| 1ro - Abril     | C      | 74.00  |  | 1ro - Abril     | D      | 90.70  | 1.15  | 1ro - Abril     | C      | 73.30 | 0.76   | 1ro - Abril     | D      |        |       | 1ro - Abril     | D      | 30.50 | 0.41 |
| 1ro - Abril     | C      | 68.50  |  | 1ro - Abril     | C      | 78.80  | 1.35  | 1ro - Abril     | C      | 52.30 | 1.07   | 1ro - Abril     | C      |        |       | 1ro - Abril     | G      | 29.70 | 0.43 |
| 1ro - Abril     | L      | 59.40  |  | 1ro - Abril     | L      | 80.00  | 1.02  | 1ro - Abril     | L      | 63.30 | 0.93   | 1ro - Abril     | L      | 108.00 | 1.37  | 1ro - Abril     | L      | 30.40 | 0.51 |
| 1ro - Abril     | L      | 64.20  |  | 1ro - Abril     | L      | 65.20  | 0.00  | 1ro - Abril     | L      | 60.00 | 0.95   | 1ro - Abril     | L      | 88.00  | 1.13  | 1ro - Abril     | L      | 27.30 | 0.43 |
| 1ro - Abril     | M      | 56.90  |  | 1ro - Abril     | M      |        |       | 1ro - Abril     | M      | 54.20 | 0.85   | 1ro - Abril     | M      | 64.40  | 1.37  | 1ro - Abril     | M      | 25.60 | 0.45 |
| 1ro - Abril     | F      | 61.40  |  | 1ro - Abril     | F      | 69.80  | 1.42  | 1ro - Abril     | F      | 52.00 | 1.26   | 1ro - Abril     | F      | 84.40  | 1.50  | 1ro - Abril     | R      | 25.30 | 0.41 |
| 1ro - Abril     | S      | 63.70  |  | 1ro - Abril     | S      | 90.40  | 0.78  | 1ro - Abril     | S      | 80.00 | 0.65   | 1ro - Abril     | S      | 95.60  | 0.00  | 1ro - Abril     | S      | 34.00 | 0.53 |
| 1ro - Abril     | S      | 100.00 |  | 1ro - Abril     | S      | 77.90  | 1.21  | 1ro - Abril     | S      | 65.20 | 0.81   | 1ro - Abril     | S      |        |       | 1ro - Abril     | S      |       |      |
| 1ro - Abril     | S      | 88.20  |  | 1ro - Abril     | S      | 106.60 | 1.09  | 1ro - Abril     | S      | 71.40 | 1.01   | 1ro - Abril     | S      | 115.20 | 1.20  | 1ro - Abril     | S      |       |      |
| 1ro - Abril     | F      | 71.50  |  | 1ro - Abril     | F      | 77.90  | 1.29  | 1ro - Abril     | F      | 72.50 | 1.07   | 1ro - Abril     | F      | 85.90  | 1.06  | 1ro - Abril     | FI     | 36.40 | 0.51 |
| 1ro - Abril     | V      | 60.90  |  | 1ro - Abril     | V      | 78.30  | 1.18  | 1ro - Abril     | V      | 65.20 | 1.06   | 1ro - Abril     | V      | 64.40  | 1.52  | 1ro - Abril     | V      | 30.40 | 0.50 |
| 1ro - Abril     | V      | 77.80  |  | 1ro - Abril     | V      | 91.80  | 0.00  | 1ro - Abril     | V      | 82.30 | 0.00   | 1ro - Abril     | V      | 118.20 | 0.00  | 1ro - Abril     | V      | 35.90 | 0.46 |
| 1ro - Abril     | M      | 76.20  |  | 1ro - Abril     | M      |        |       | 1ro - Abril     | M      |       |        | 1ro - Abril     | M      |        |       | 1ro - Abril     | M      |       |      |
| 2do - Junio     | C      | 58.00  |  | 2do - Junio     | C      |        | 1.13  | 2do - Junio     | C      | 56.30 | 1.03   | 2do - Junio     | C      |        | 1.27  | 2do - Junio     | C      | 28.00 | 0.48 |
| 2do - Junio     | C      | 67.50  |  | 2do - Junio     | C      | 76.60  | 1.22  | 2do - Junio     | C      | 69.80 | 1.01   | 2do - Junio     | C      | 85.50  | 1.35  | 2do - Junio     | C      | 31.30 | 0.46 |
| 2do - Junio     | C      | 71.50  |  | 2do - Junio     | D      | 87.40  | 1.10  | 2do - Junio     | C      | 72.30 | 0.81   | 2do - Junio     | D      | 96.60  | 0.00  | 2do - Junio     | D      | 32.90 | 0.46 |
| 2do - Junio     | C      | 68.90  |  | 2do - Junio     | C      | 75.60  | 1.47  | 2do - Junio     | C      | 55.60 | 1.14   | 2do - Junio     | C      |        | 1.82  | 2do - Junio     | G      | 30.20 | 0.44 |
| 2do - Junio     | L      | 59.40  |  | 2do - Junio     | L      | 87.40  | 0.99  | 2do - Junio     | L      | 67.90 | 1.12   | 2do - Junio     | L      | 108.00 | 1.42  | 2do - Junio     | L      | 34.70 | 0.58 |
| 2do - Junio     | L      | 64.50  |  | 2do - Junio     | L      | 64.00  | 1.15  | 2do - Junio     | L      | 72.50 | 0.94   | 2do - Junio     | L      | 91.80  | 1.35  | 2do - Junio     | L      | 30.00 | 0.47 |
| 2do - Junio     | M      | 57.50  |  | 2do - Junio     | M      | 66.30  | 1.37  | 2do - Junio     | M      | 54.20 | 1.02   | 2do - Junio     | M      | 77.40  | 1.51  | 2do - Junio     | M      | 25.90 | 0.45 |
| 2do - Junio     | F      | 61.90  |  | 2do - Junio     | F      | 84.50  | 1.47  | 2do - Junio     | F      | 63.40 | 1.47   | 2do - Junio     | F      | 93.30  | 1.57  | 2do - Junio     | R      | 26.60 | 0.43 |
| 2do - Junio     | S      | 61.50  |  | 2do - Junio     | S      | 90.40  | 1.24  | 2do - Junio     | S      | 90.40 | 0.78   | 2do - Junio     | S      | 96.40  | 1.50  | 2do - Junio     | S      | 38.00 | 0.62 |
| 2do - Junio     | S      | 89.00  |  | 2do - Junio     | S      | 110.80 | 1.32  | 2do - Junio     | S      | 69.80 | 1.06   | 2do - Junio     | S      | 133.30 | 1.81  | 2do - Junio     | S      | 32.90 | 0.37 |
| 2do - Junio     | V      | 79.90  |  | 2do - Junio     | V      | 105.60 | 1.26  | 2do - Junio     | V      | 84.40 | 1.20   | 2do - Junio     | V      | 144.90 | 1.51  | 2do - Junio     | V      | 38.30 | 0.48 |
| 2do - Junio     | F      | 72.40  |  | 2do - Junio     | F      | 91.50  | 1.29  | 2do - Junio     | F      | 86.90 | 1.01   | 2do - Junio     | F      | 109.30 | 1.19  | 2do - Junio     | FI     | 38.30 | 0.53 |
| 2do - Junio     | V      | 60.70  |  | 2do - Junio     | V      | 78.30  | 1.28  | 2do - Junio     | V      | 61.10 | 0.89   | 2do - Junio     | V      | 72.30  | 0.00  | 2do - Junio     | V      | 31.30 | 0.52 |
| 2do - Junio     | M      | 78.00  |  | 2do - Junio     | M      | 100.00 | 0.00  | 2do - Junio     | M      | 69.80 | 0.97   | 2do - Junio     | M      |        | 0.00  | 2do - Junio     | M      | 27.80 | 0.36 |
| 3ro - Agosto    | C      | 58.00  |  | 3ro - Agosto    | C      |        | 1.27  | 3ro - Agosto    | C      | 56.30 | 1.03   | 3ro - Agosto    | C      |        | 1.42  | 3ro - Agosto    | C      | 28.00 | 0.48 |
| 3ro - Agosto    | C      | 67.50  |  | 3ro - Agosto    | C      | 85.60  | 1.26  | 3ro - Agosto    | C      | 69.80 | 1.05   | 3ro - Agosto    | C      | 95.70  | 1.63  | 3ro - Agosto    | C      | 32.60 | 0.48 |
| 3ro - Agosto    | C      | 71.50  |  | 3ro - Agosto    | D      | 90.00  | 1.35  | 3ro - Agosto    | C      | 75.30 | 0.81   | 3ro - Agosto    | D      | 116.90 | 1.22  | 3ro - Agosto    | D      | 36.10 | 0.50 |
| 3ro - Agosto    | C      | 68.90  |  | 3ro - Agosto    | C      | 93.30  | 2.16  | 3ro - Agosto    | C      | 55.60 | 1.14   | 3ro - Agosto    | C      | 84.40  | 1.94  | 3ro - Agosto    | G      | 34.40 | 0.50 |
| 3ro - Agosto    | L      | 59.40  |  | 3ro - Agosto    | L      | 128.10 | 0.99  | 3ro - Agosto    | L      | 67.90 | 1.12   | 3ro - Agosto    | L      | 115.20 | 1.42  | 3ro - Agosto    | L      | 34.70 | 0.58 |
| 3ro - Agosto    | L      | 64.50  |  | 3ro - Agosto    | L      | 64.00  | 1.34  | 3ro - Agosto    | L      | 72.50 | 0.94   | 3ro - Agosto    | L      | 91.80  | 1.54  | 3ro - Agosto    | L      | 30.00 | 0.47 |
| 3ro - Agosto    | M      | 57.50  |  | 3ro - Agosto    | M      | 77.20  | 1.37  | 3ro - Agosto    | M      | 54.20 | 1.02   | 3ro - Agosto    | M      | 88.60  | 1.51  | 3ro - Agosto    | M      | 25.90 | 0.45 |
| 3ro - Agosto    | F      | 61.90  |  | 3ro - Agosto    | F      | 84.50  | 1.47  | 3ro - Agosto    | F      | 63.40 | 1.47   | 3ro - Agosto    | F      | 93.30  | 1.57  | 3ro - Agosto    | R      | 26.60 | 0.43 |
| 3ro - Agosto    | S      | 61.50  |  | 3ro - Agosto    | S      | 90.40  | 1.29  | 3ro - Agosto    | S      | 90.40 | 0.78   | 3ro - Agosto    | S      | 96.40  | 1.60  | 3ro - Agosto    | S      | 38.00 | 0.62 |
| 3ro - Agosto    | S      | 89.00  |  | 3ro - Agosto    | S      | 115.00 | 1.32  | 3ro - Agosto    | S      | 69.80 | 1.06   | 3ro - Agosto    | S      | 142.50 | 1.81  | 3ro - Agosto    | S      | 37.40 | 0.42 |
| 3ro - Agosto    | V      | 79.90  |  | 3ro - Agosto    | V      | 105.60 | 1.37  | 3ro - Agosto    | V      | 84.40 | 1.16   | 3ro - Agosto    | V      | 144.90 | 1.52  | 3ro - Agosto    | V      | 38.30 | 0.48 |
| 3ro - Agosto    | F      | 72.40  |  | 3ro - Agosto    | F      | 98.90  | 1.44  | 3ro - Agosto    | F      | 84.20 | 1.05   | 3ro - Agosto    | F      | 109.80 | 1.39  | 3ro - Agosto    | FI     | 43.40 | 0.60 |
| 3ro - Agosto    | V      | 60.70  |  | 3ro - Agosto    | V      | 87.20  | 1.48  | 3ro - Agosto    | V      | 63.90 | 0.89   | 3ro - Agosto    | V      | 84.40  | 1.42  | 3ro - Agosto    | V      | 34.40 | 0.57 |
| 3ro - Agosto    | M      | 78.00  |  | 3ro - Agosto    | M      | 115.20 | 0.00  | 3ro - Agosto    | M      | 69.80 | 0.00   | 3ro - Agosto    | M      | 110.50 | 0.00  | 3ro - Agosto    | M      | 31.30 | 0.40 |
| 4to - Noviembre | C      | 60.20  |  | 4to - Noviembre | C      |        | 1.24  | 4to - Noviembre | C      |       | 1.00   | 4to - Noviembre | C      |        | 1.55  | 4to - Noviembre | C      |       | 0.00 |
| 4to - Noviembre | C      | 66.70  |  | 4to - Noviembre | C      | 82.70  | 1.26  | 4to - Noviembre | C      | 66.70 | 1.09   | 4to - Noviembre | C      | 103.60 | 1.60  | 4to - Noviembre | C      | 34.40 | 0.52 |
| 4to - Noviembre | C      | 69.90  |  | 4to - Noviembre | D      | 88.00  | 1.33  | 4to - Noviembre | C      | 76.00 | 0.81   | 4to - Noviembre | D      | 111.60 | 1.31  | 4to - Noviembre | D      | 36.40 | 0.52 |
| 4to - Noviembre | C      | 68.90  |  | 4to - Noviembre | C      | 91.90  | 0.00  | 4to - Noviembre | C      | 55.60 | 0.00   | 4to - Noviembre | C      | 90.00  | 0.00  | 4to - Noviembre | G      | 34.00 | 0.49 |
| 4to - Noviembre | L      | 61.30  |  | 4to - Noviembre | L      |        | 1.27  | 4to - Noviembre | L      |       | 1.16   | 4to - Noviembre | L      |        | 1.36  | 4to - Noviembre | L      |       | 0.00 |
| 4to - Noviembre | L      | 64.40  |  | 4to - Noviembre | L      | 81.50  | 1.20  | 4to - Noviembre | L      | 74.90 | 1.01   | 4to - Noviembre | L      | 87.90  | 1.49  | 4to - Noviembre | L      | 36.10 | 0.56 |
| 4to - Noviembre | M      | 59.10  |  | 4to - Noviembre | M      | 71.00  | 1.36  | 4to - Noviembre | M      | 59.80 | 1.05   | 4to - Noviembre | M      | 88.00  | 1.51  | 4to - Noviembre | M      | 31.30 | 0.53 |
| 4to - Noviembre | F      | 61.30  |  | 4to - Noviembre | F      | 83.30  | 1.64  | 4to - Noviembre | F      | 64.50 | 1.30   | 4to - Noviembre | F      | 92.40  | 1.61  | 4to - Noviembre | R      | 30.10 | 0.49 |
| 4to - Noviembre | S      | 61.20  |  | 4to - Noviembre | S      | 100.60 | 1.16  | 4to - Noviembre | S      | 79.80 | 0.83   | 4to - Noviembre | S      | 98.30  | 1.71  | 4to - Noviembre | S      | 40.00 | 0.65 |
| 4to - Noviembre | S      | 89.00  |  | 4to - Noviembre | S      | 103.50 | 1.31  | 4to - Noviembre | S      | 73.70 | 1.02   | 4to - Noviembre | S      | 151.80 | 1.67  | 4to - Noviembre | S      | 39.20 | 0.44 |
| 4to - Noviembre | V      | 79.50  |  | 4to - Noviembre | V      | 104.40 | 1.36  | 4to - Noviembre | V      |       | 1.16   | 4to - Noviembre | V      | 132.70 | 1.53  | 4to - Noviembre | V      | 40.00 | 0.50 |
| 4to - Noviembre | F      | 72.50  |  | 4to - Noviembre | F      | 98.90  | 1.38  | 4to - Noviembre | F      | 84.30 | 1.00   | 4to - Noviembre | F      | 111.10 | 1.30  | 4to - Noviembre | FI     | 40.00 | 0.55 |

Relative  
Squat

|   |      |
|---|------|
| L | 1.47 |
| S | 1.47 |
| R | 1.37 |
| V | 1.32 |
| V | 1.29 |
| N | 1.28 |
| F | 1.26 |
| S | 1.24 |
| C | 1.22 |
| N | 1.15 |
| C | 1.13 |
| G | 1.10 |
| L | 0.99 |
| C | N/A  |

# Team Evolution

**jamovi** Stats.  
Open.  
Now.

 **R Programming**



Variables

Data

Analyses

Edit



Exploration



T-Tests



ANOVA



Regression



Frequencies



Factor



esci



Flexplot



Base R



R



Modules

|    | Equipo | Fecha      | Atleta           | PC kg | Sent 1RM | Sent rel | Tir |
|----|--------|------------|------------------|-------|----------|----------|-----|
| 1  | UNLaM  | Abril 2023 | Camila Mann...   | 55.0  |          |          |     |
| 2  | UNLaM  | Abril 2023 | Camila Palczi... | 69.2  | 70.7     | 1.02     |     |
| 3  | UNLaM  | Abril 2023 | Dana Kokil       | 74.0  | 90.7     | 1.23     |     |
| 4  | UNLaM  | Abril 2023 | Guadalupe Di...  | 68.5  | 78.8     | 1.15     |     |
| 5  | UNLaM  | Abril 2023 | Lorena Reinoso   | 59.4  | 80.0     | 1.35     |     |
| 6  | UNLaM  | Abril 2023 | Luana Alfonso    | 64.2  | 65.2     | 1.02     |     |
| 7  | UNLaM  | Abril 2023 | Milagros Jacue   | 56.9  |          |          |     |
| 8  | UNLaM  | Abril 2023 | Rocio Brandan    | 61.4  | 69.8     | 1.14     |     |
| 9  | UNLaM  | Abril 2023 | Sabrina Torino   | 63.7  | 90.4     | 1.42     |     |
| 10 | UNLaM  | Abril 2023 | Sara Agüero      | 100.0 | 77.9     | 0.78     |     |
| 11 | UNLaM  | Abril 2023 | Sheila Miguel    | 88.2  | 106.6    | 1.21     |     |
| 12 | UNLaM  | Abril 2023 | Florencia Diaz   | 71.5  | 77.9     | 1.09     |     |
| 13 | UNLaM  | Abril 2023 | Valentina Noya   | 60.9  | 78.3     | 1.29     |     |
| 14 | UNLaM  | Abril 2023 | Vanina Nieva     | 77.8  | 91.8     | 1.18     |     |
| 15 | UNLaM  | Abril 2023 | Martina Fojo     | 76.2  |          |          |     |
| 16 | UNLaM  | Junio 2023 | Camila Mann...   | 58.0  |          |          |     |
| 17 | UNLaM  | Junio 2023 | Camila Palczi... | 67.5  | 76.6     | 1.13     |     |
| 18 | UNLaM  | Junio 2023 | Dana Kokil       | 71.5  | 87.4     | 1.22     |     |
| 19 | UNLaM  | Junio 2023 | Guadalupe Di...  | 68.9  | 75.6     | 1.10     |     |
| 20 | UNLaM  | Junio 2023 | Lorena Reinoso   | 59.4  |          |          |     |
| 21 | UNLaM  | Junio 2023 | Luana Alfonso    | 64.5  |          |          |     |
| 22 | UNLaM  | Junio 2023 | Milagros Jacue   | 57.5  | 66.3     | 1.15     |     |
| 23 | UNLaM  | Junio 2023 | Rocio Brandan    | 61.9  | 84.5     | 1.37     |     |
| 24 | UNLaM  | Junio 2023 | Sabrina Torino   | 61.5  | 90.4     | 1.47     |     |
| 25 | UNLaM  | Junio 2023 | Sheila Miguel    | 89.0  | 110.8    | 1.24     |     |
| 26 | UNLaM  | Junio 2023 | Florencia Diaz   | 79.9  | 105.6    | 1.32     |     |
| 27 | UNLaM  | Junio 2023 | Valentina Noya   | 72.4  | 91.5     | 1.26     |     |
| 28 | UNLaM  | Junio 2023 | Vanina Nieva     | 60.7  | 78.3     | 1.29     |     |

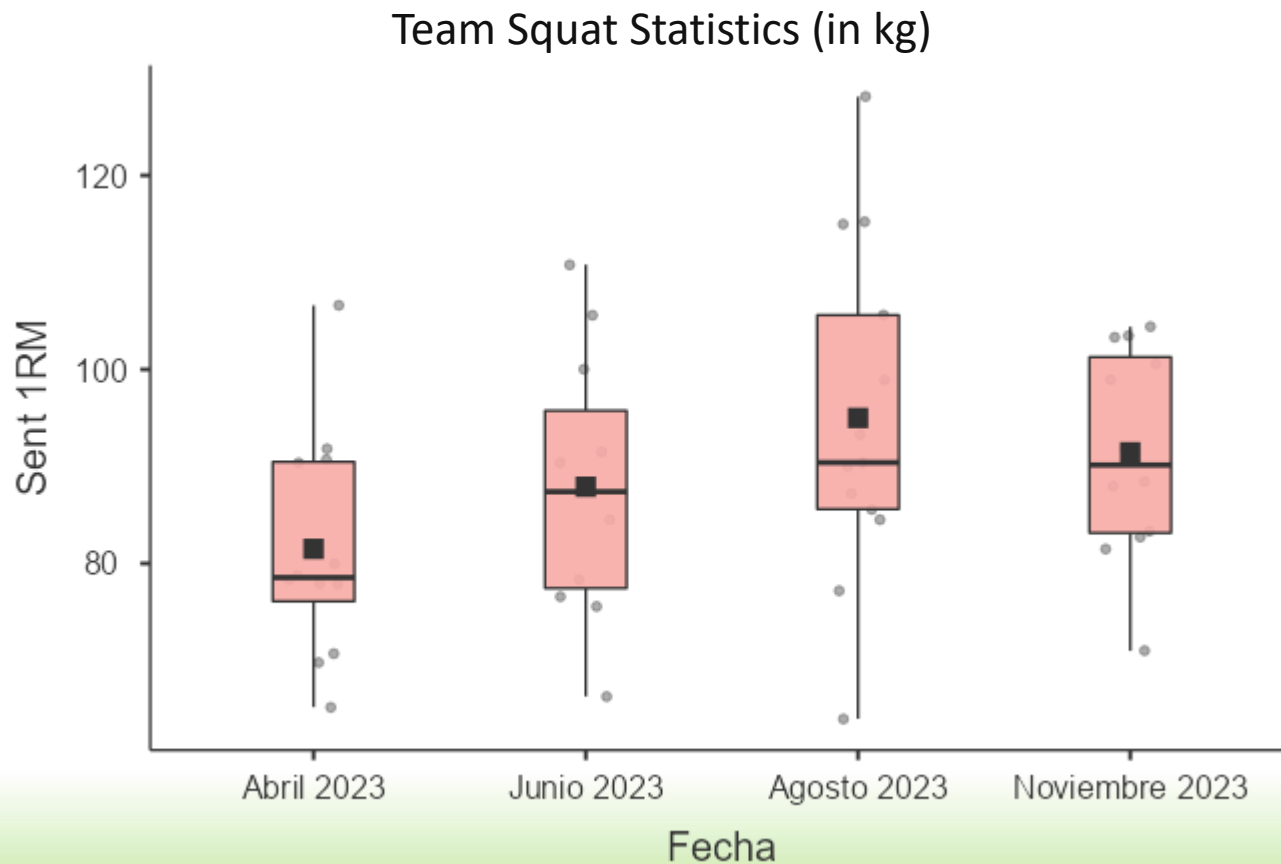
## Results

## Descriptives

## Descriptives

|                         | Fecha          | PC kg | Sent 1RM | Despegue 1RM | Press 1RM |
|-------------------------|----------------|-------|----------|--------------|-----------|
| N                       | Abril 2023     | 15    | 12       | 10           | 12        |
|                         | Junio 2023     | 14    | 11       | 9            | 11        |
|                         | Agosto 2023    | 14    | 13       | 13           | 14        |
|                         | Noviembre 2023 | 14    | 12       | 12           | 12        |
| Missing                 | Abril 2023     | 0     | 3        | 5            | 3         |
|                         | Junio 2023     | 0     | 3        | 5            | 3         |
|                         | Agosto 2023    | 0     | 1        | 1            | 0         |
|                         | Noviembre 2023 | 0     | 2        | 2            | 2         |
| Mean                    | Abril 2023     | 69.8  | 81.5     | 90.4         | 30.1      |
|                         | Junio 2023     | 67.9  | 87.9     | 101          | 32.8      |
|                         | Agosto 2023    | 67.9  | 95.0     | 106          | 33.6      |
|                         | Noviembre 2023 | 68.6  | 91.5     | 105          | 35.8      |
| Std. error mean         | Abril 2023     | 3.15  | 3.33     | 6.00         | 1.09      |
|                         | Junio 2023     | 2.51  | 4.10     | 8.13         | 1.31      |
|                         | Agosto 2023    | 2.51  | 4.82     | 5.59         | 1.33      |
|                         | Noviembre 2023 | 2.40  | 3.11     | 5.85         | 0.992     |
| 95% CI mean lower bound | Abril 2023     | 63.6  | 75.0     | 78.7         | 28.0      |
|                         | Junio 2023     | 63.0  | 79.9     | 85.1         | 30.2      |
|                         | Agosto 2023    | 63.0  | 85.6     | 94.8         | 31.1      |
|                         | Noviembre 2023 | 63.9  | 85.4     | 93.2         | 33.9      |
| 95% CI mean upper bound | Abril 2023     | 76.0  | 88.0     | 102          | 32.2      |
|                         | Junio 2023     | 72.8  | 96.0     | 117          | 35.3      |

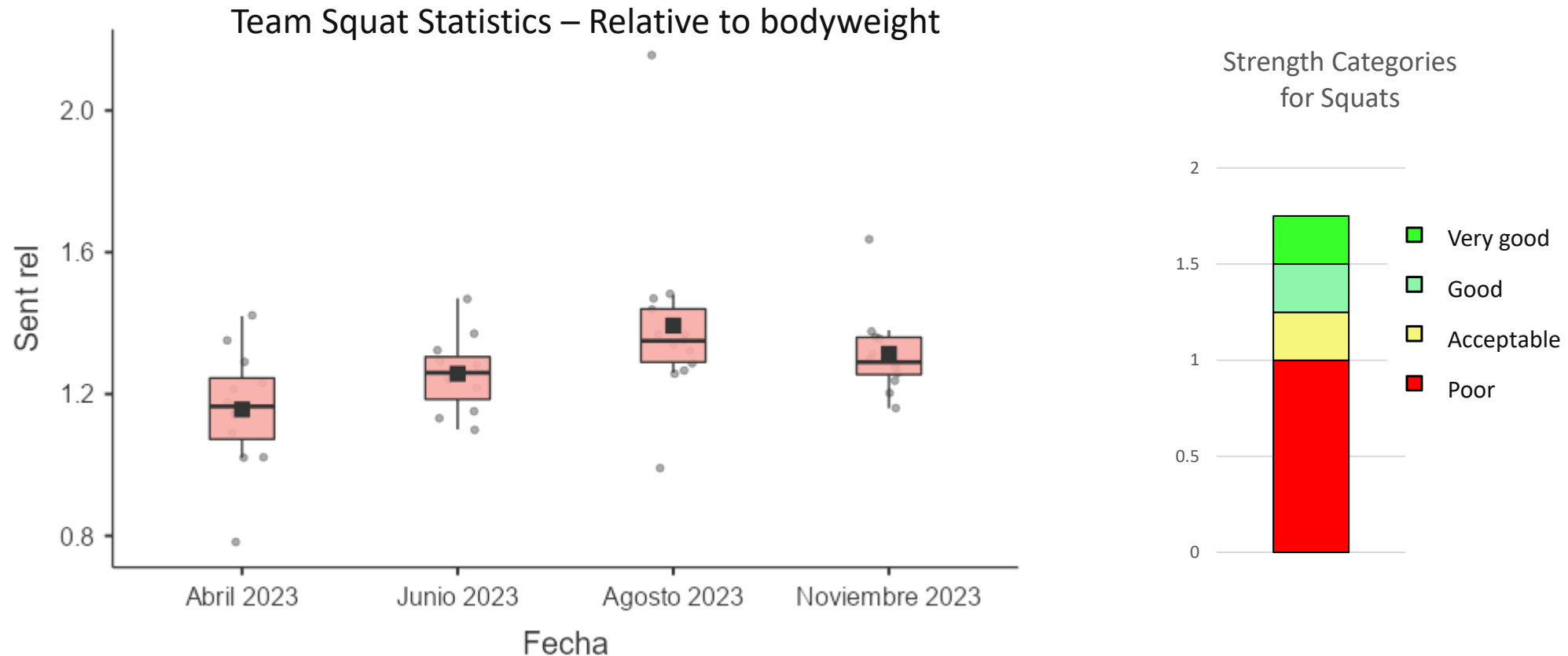
# Squat



The team's average squat strength increased throughout the year during the strength and power phases of the sport calendar. After the maintenance phase, which coincided with the Metropolitan Tournament, the strength level for this exercise slightly decreased within the expected parameters. However, the team finished the year with higher lower body strength compared to the beginning of the year. This places them in a more advantageous situation to tackle 2024 and the upcoming sport demands.



# Squat



The relative strength for the squat shows a similar trend compared to the absolute values. On average, the team is better equipped to start 2024 in the category considered 'Good', which is higher than 125% of their own bodyweight, compared to April 2023 when their values were 'Acceptable', or between 100% and 125% of their own weight.

# Project 2: Edith Cowan University

Edith Cowan University

Monitoring Unit (Dr. Greg Haff) - 2021





Excel



Visual Basic

# Home Screen – Quick accesses



Data Input

Training

Physical

Wellness

Match

Medical

Updates

Dashboards

Individuals

Weekly

Team

Print Reports

Physical

Training

Games

Wellness & Medical

Databases

Training

Physical

Wellness

Match

Medical

Updates

C-Panel

# Data Input Tab: Training information

## Daily Training Questionnaire

Date (dd-mm-yyyy)

Name

Kendall

Training Type

Endurance

Duration (minutes)

78

Session RPE

sRPE

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☒ 8 ☐ 9 ☐ 10

1 - "aint notin' but a peanut" ; 10 - "completely extenuating"

Training



Home



Upload

Controls for Dr. H:



Database

Hide Columns

# Individual Dashboard

## Controls

Select athlete to  
visualize data:

French



Home

## French



## Medical

| Illness Count | Injury Count | Other Medical Categories |
|---------------|--------------|--------------------------|
| 0             | 0            | 0                        |

### Overall Availability Average

|        |     |
|--------|-----|
| Player | 3.0 |
| Team   | 2.7 |

### Weekly Average Availability



## Performance Profile: French

## Wellness

|                             | Sleep Quality | Sleep Hours | Soreness | Stress | Fatigue | Motivation | Wellness Score |
|-----------------------------|---------------|-------------|----------|--------|---------|------------|----------------|
| Average of the last 7 days  | 3.0           | 7.7         | 4.7      | 4.7    | 4.7     | 7.5        | 32.2           |
| Average of the last 30 days | 3.3           | 8.0         | 4.4      | 4.4    | 4.4     | 5.4        | 29.8           |
| Overall player average      | 3.0           | 7.0         | 4.6      | 4.6    | 4.6     | 5.1        | 29.0           |

### Training Load and Wellness



### Training Duration



### Rate of Perceived Exertion



## Physical

|        | Fitness | Lower Body Strength | Power Clean | Upper Body Strength | Speed 10 mts | Jump Power |
|--------|---------|---------------------|-------------|---------------------|--------------|------------|
| Rating | Good    | Poor                | Poor        | Poor                | Excellent    | Ok         |
| Result | 2700    | 105                 | 68.25       | 78.75               | 1.75         | 59         |
| Band   | 4       | 2                   | 2           | 2                   | 5            | 4          |

### Fitness



### Lower Body Strength



### Power Clean



### Upper Body Strength



### Speed 10 mts



### Jump Power

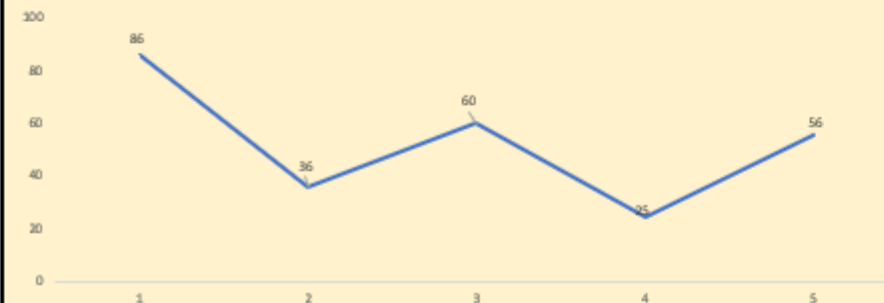


## Updates

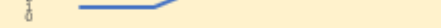
| Date       | Priority | Area        | Comment                  |
|------------|----------|-------------|--------------------------|
| 30/04/2022 | 2        | Performance | Good COD technique       |
| 29/04/2022 | 2        | Medical     | Covid 19 positive        |
| 27/04/2022 | 2        | Performance | good passes session      |
| 26/04/2022 | 2        | Medical     | Covid 19 positive        |
| 22/04/2022 | 2        | Performance | Didn't hit tackle # goal |

## Match Performance

### Match Performance Rating: French



### Shots



### Tackles



### Passes



### Receives



### Errors





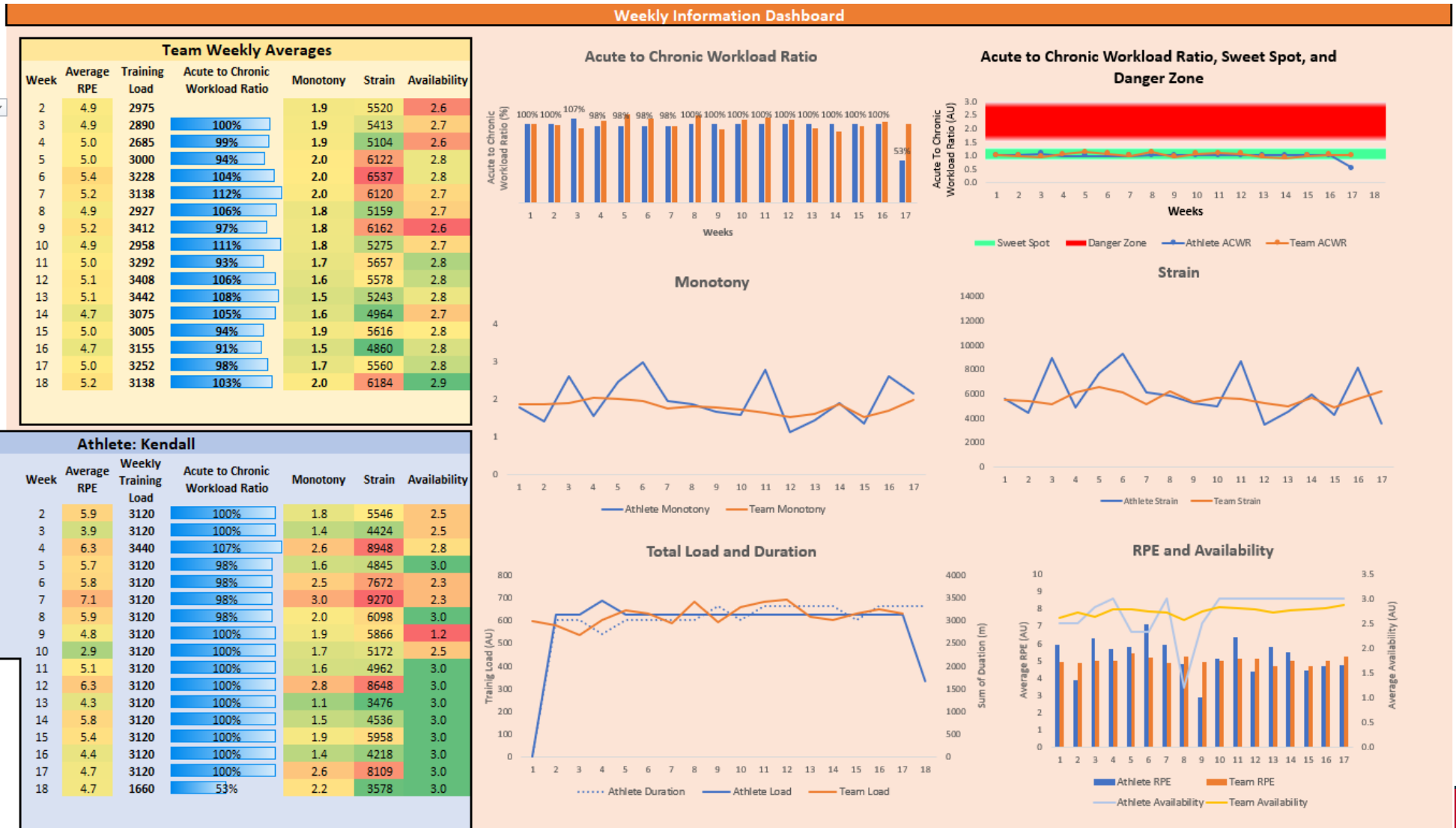
# Weekly Dashboard

Controls

To plot "only team", leave blank. To plot "vs athlete", select:

Kendall

Home



# Team Dashboard

## Controls



Home

Select a combination of weeks and days to visualize data:

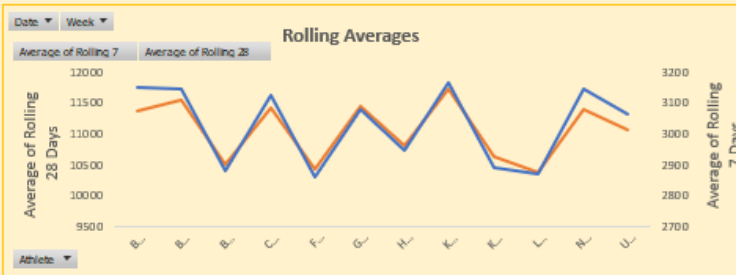
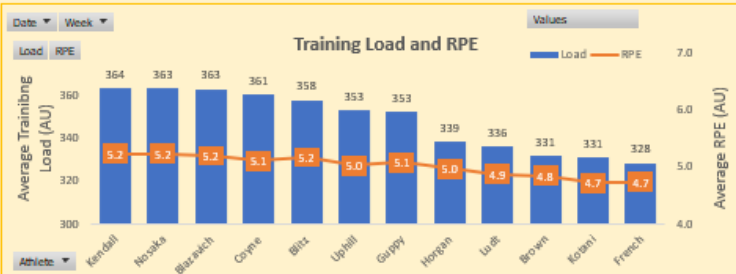
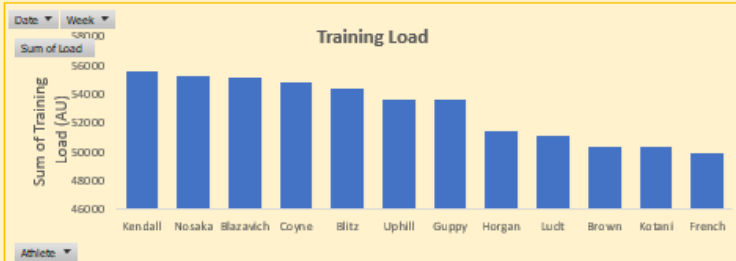
### Week

|    |    |    |    |
|----|----|----|----|
| 2  | 3  | 4  | 5  |
| 6  | 7  | 8  | 9  |
| 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 |
| 18 |    |    |    |

### Date

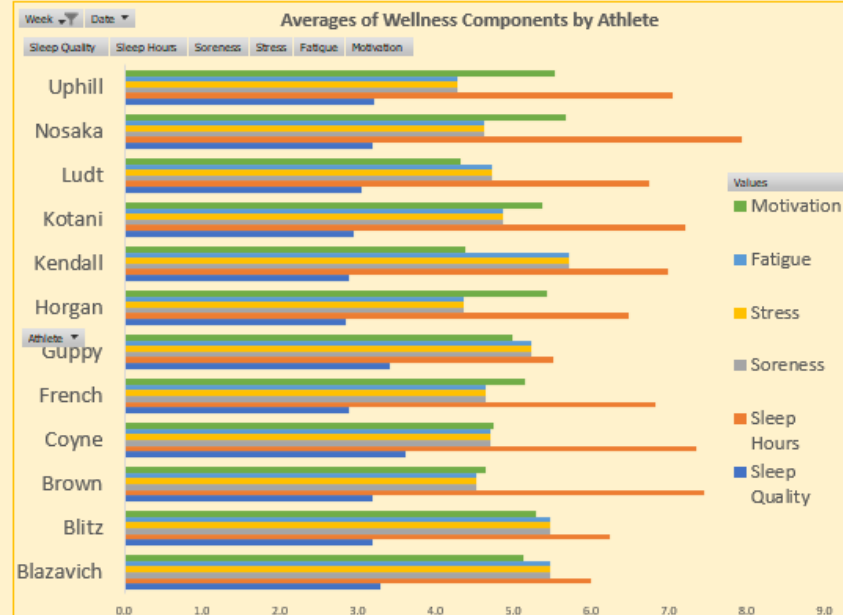
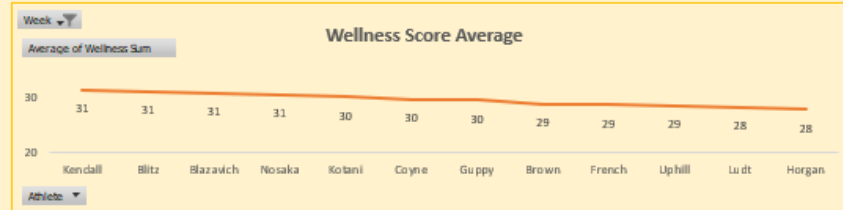
|          |          |          |
|----------|----------|----------|
| 03-01-22 | 04-01-22 | 05-01-22 |
| 06-01-22 | 07-01-22 | 08-01-22 |
| 10-01-22 | 11-01-22 | 12-01-22 |
| 13-01-22 | 14-01-22 | 15-01-22 |
| 17-01-22 | 18-01-22 | 19-01-22 |
| 20-01-22 | 21-01-22 | 22-01-22 |
| 24-01-22 | 25-01-22 | 26-01-22 |
| 27-01-22 | 28-01-22 | 29-01-22 |

## Load



## Team Dashboard

## Wellness



## Physical Performance

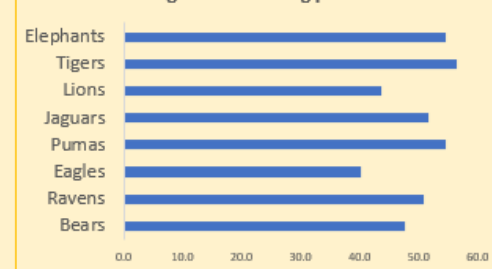
Latest Vs Overall Averages Latest Overall



## Match Performance



## Average Athlete Rating per Match



# Wellness and Medical Report

Controls

Select athlete to visualize

Blitz

Select athlete and week to print

1

2

3

4

5

6

7

8

9

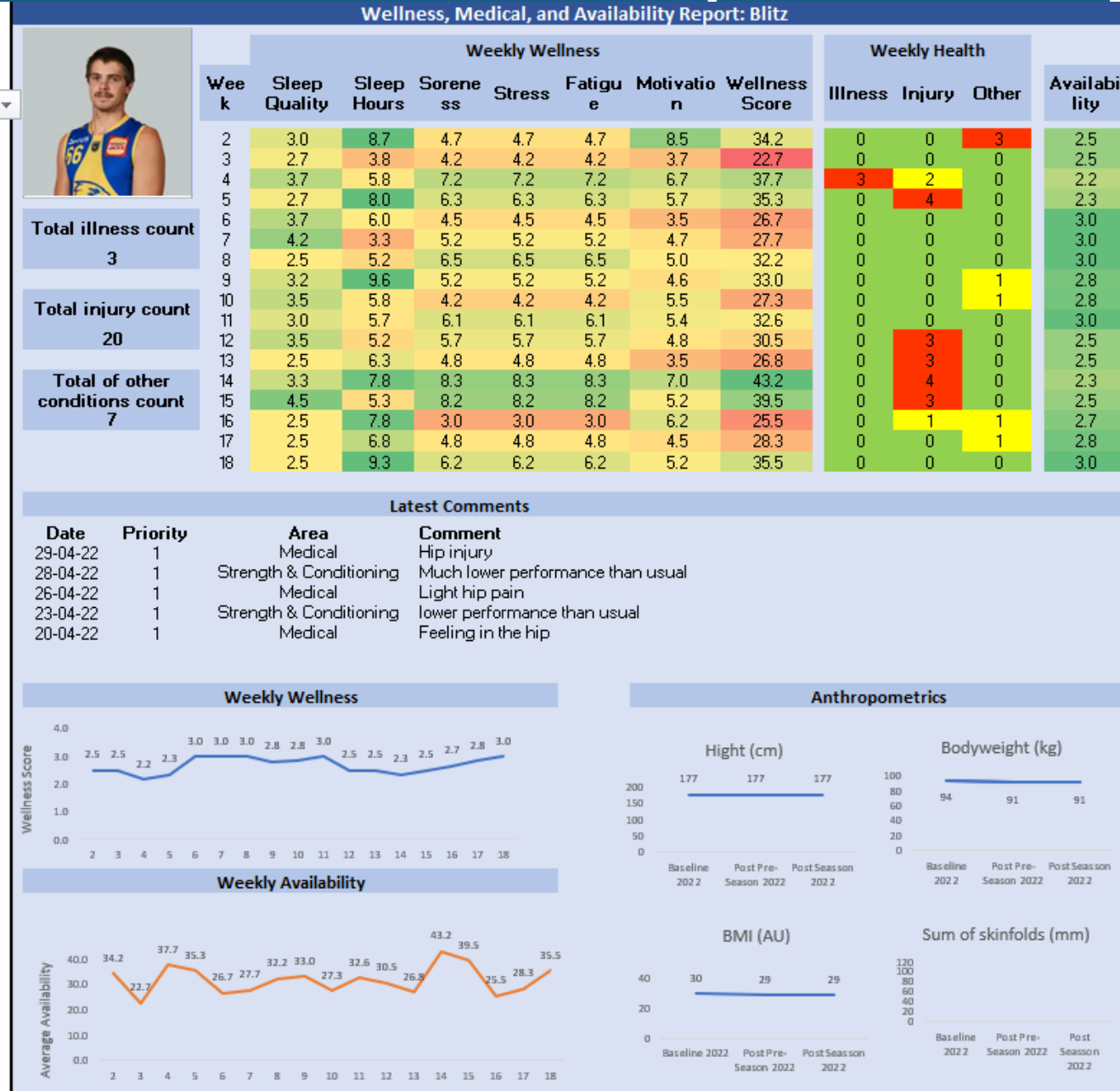
10

11

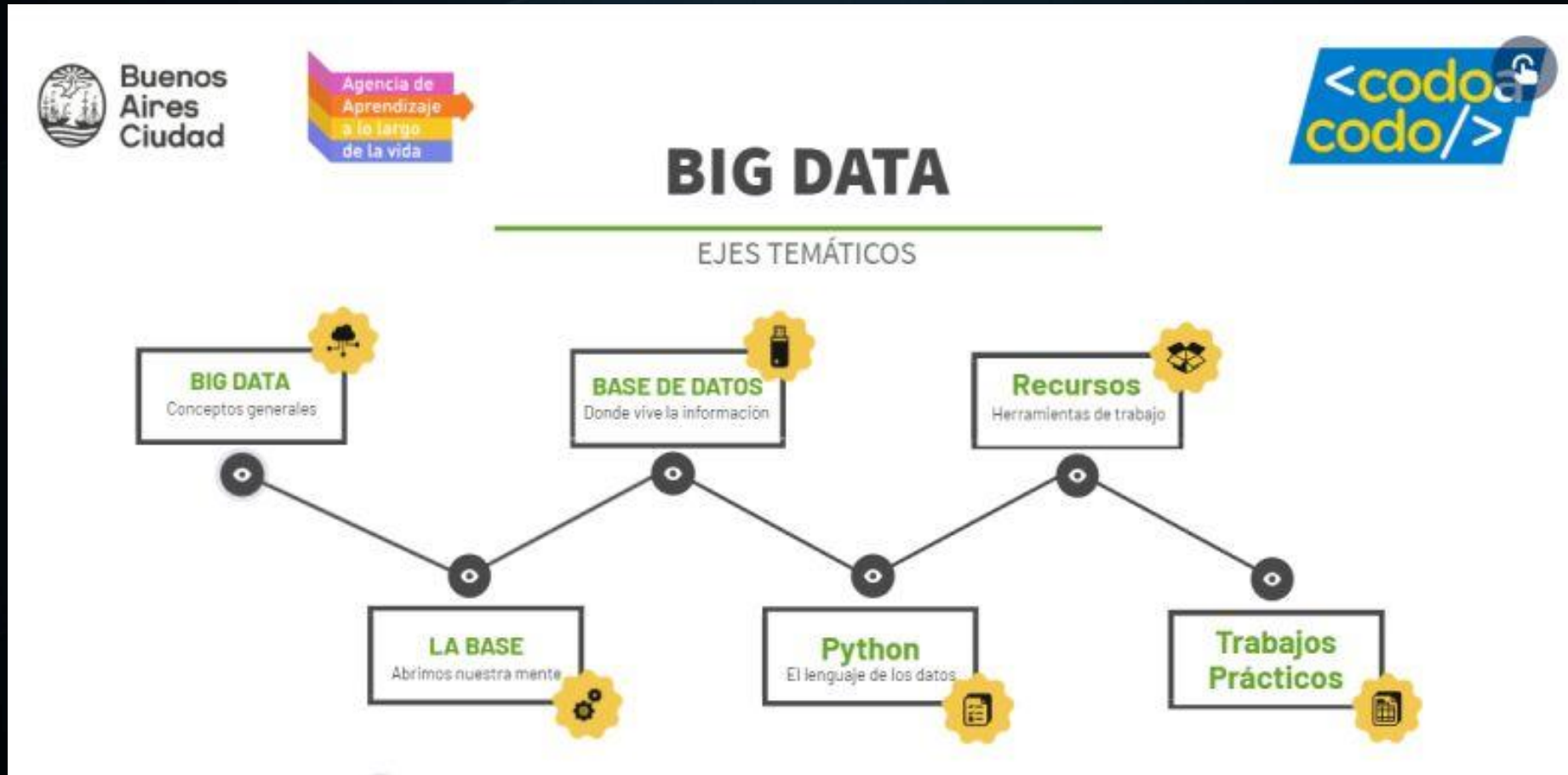
12

Print

Home



# Project 3: Big Data – 2023



# Sheets + Looker Studio

Databases



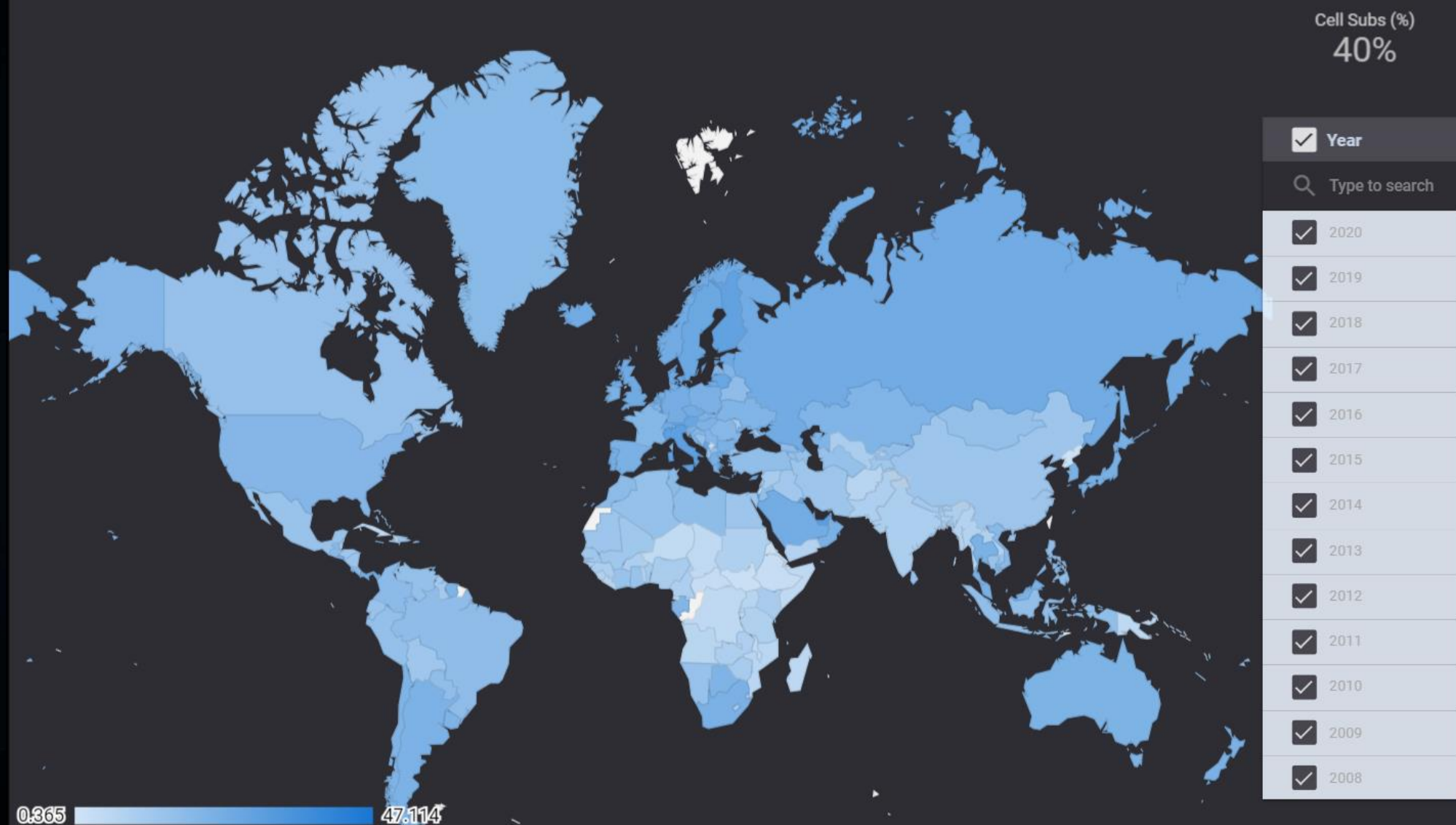
- "Services"
- "Internet"



Visualization



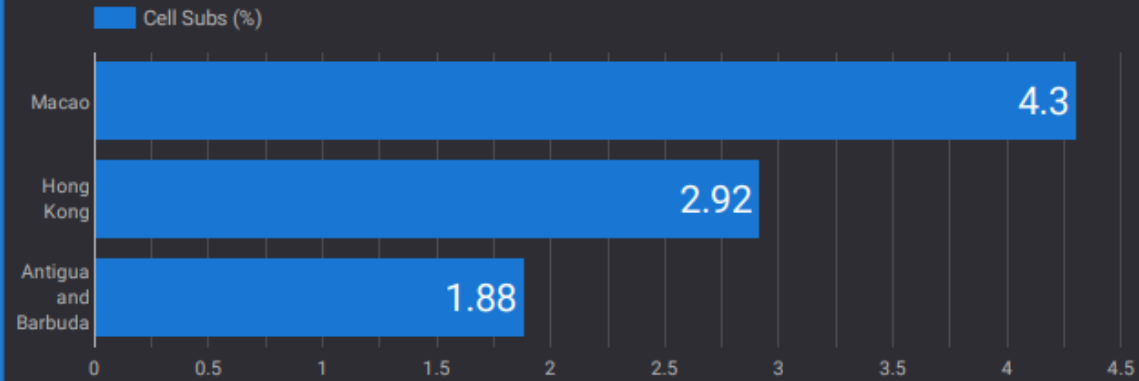
# World mobile subscriptions percentage by country, from 1980 to 2020





# Country with the most mobile lines per person in 2020: Macao

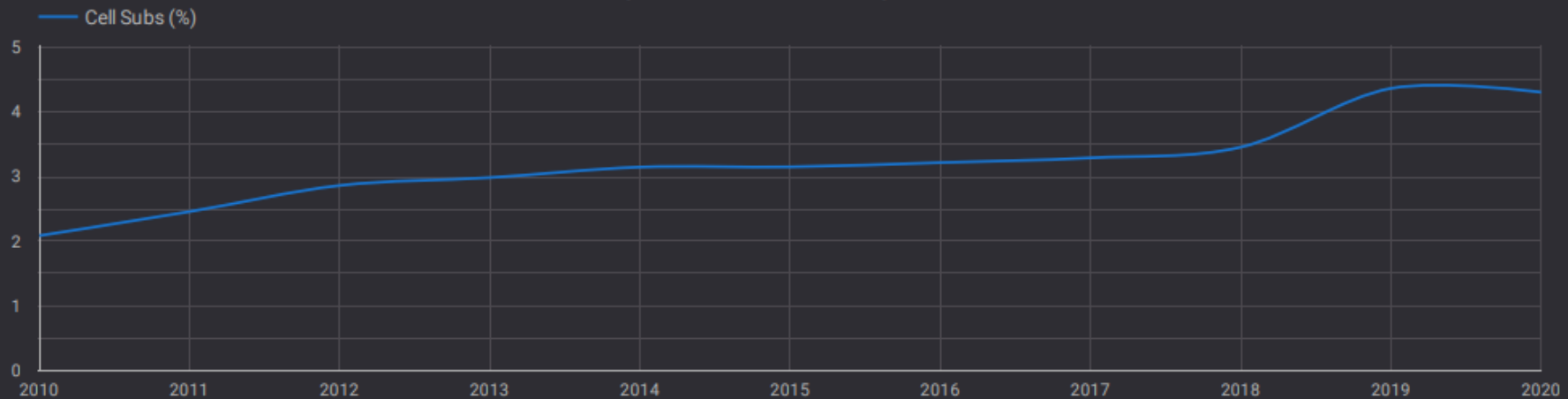
Top three countries with the most mobile lines per person



Macao's average mobile line's ownership per person:

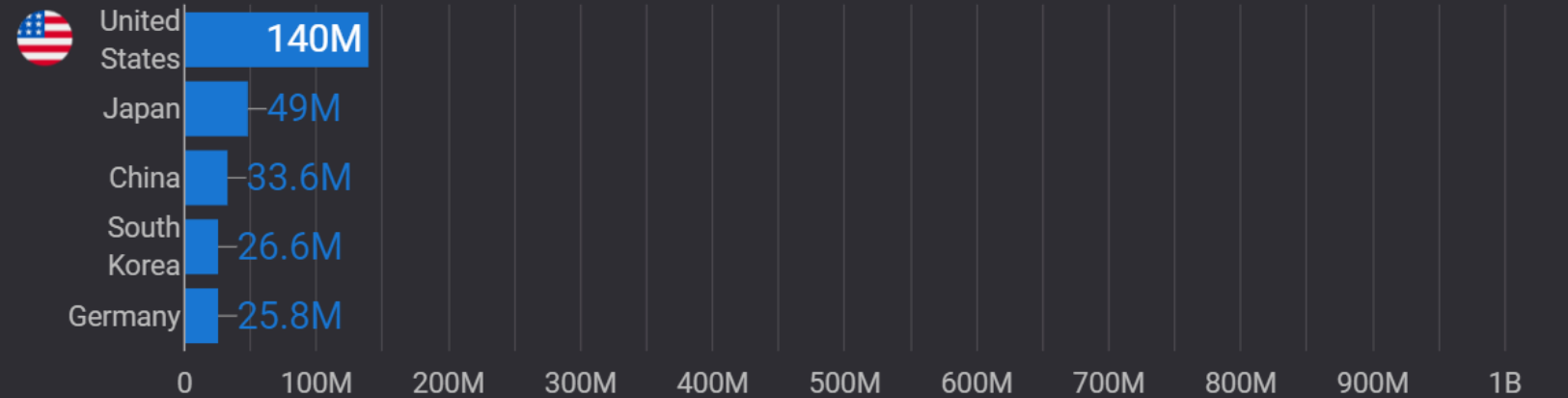
4.3

Macao's cell-phones ownership for 2010-2020

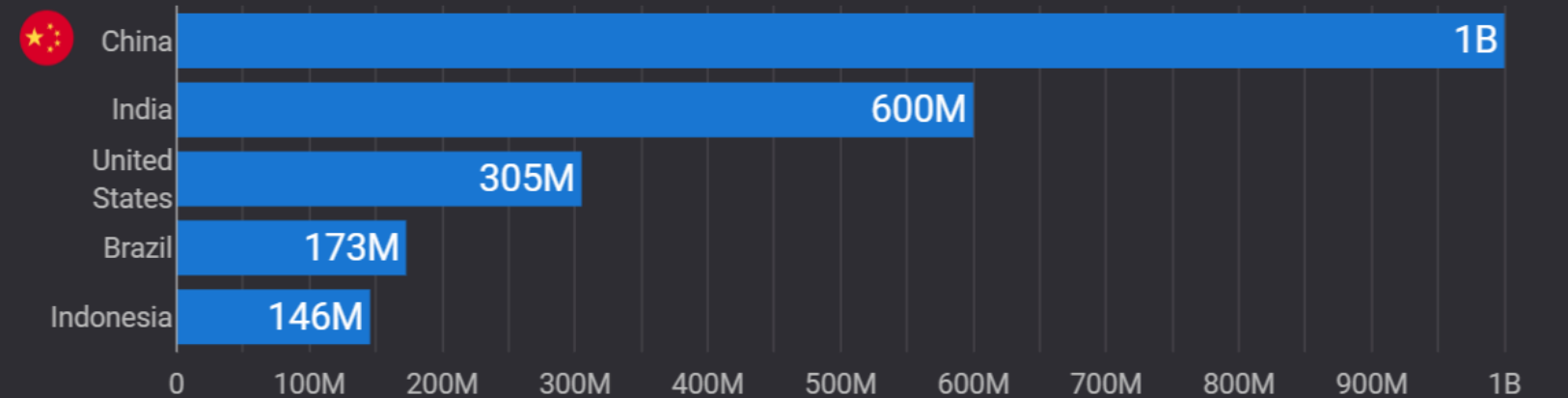


## Top five countries with the highest number of internet users

2001



2020





**Deepnote**



python™

Dataset: “exams”

# Basic Operations

## Review data types

```
1 df.dtypes
```

|                             |         |
|-----------------------------|---------|
| id                          | object  |
| gender                      | object  |
| race/ethnicity              | object  |
| parental level of education | object  |
| lunch                       | object  |
| employed                    | object  |
| test preparation course     | object  |
| math score                  | float64 |
| physics score               | float64 |
| chemistry score             | float64 |
| algebra_score               | float64 |
| dtype:                      | object  |

## Drop duplicates

```
::
```

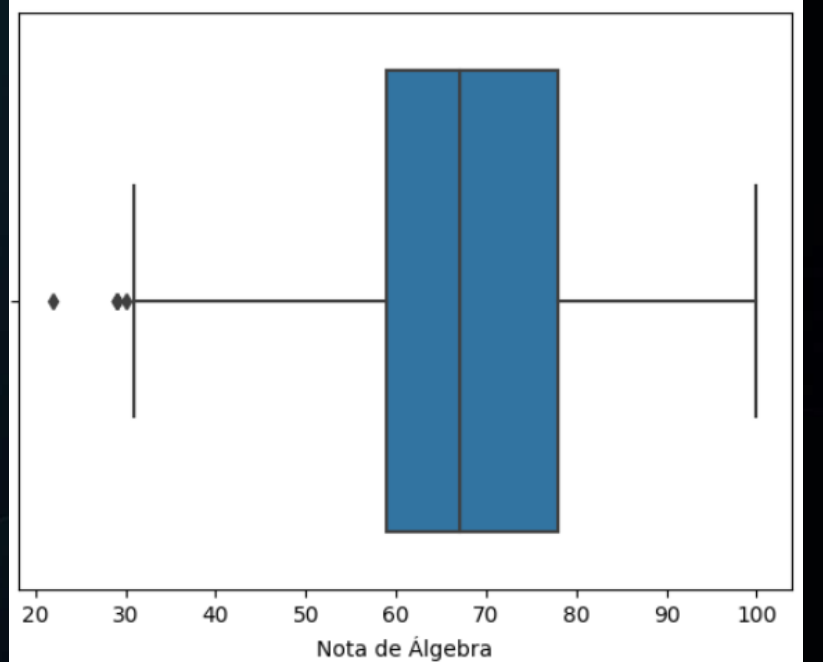
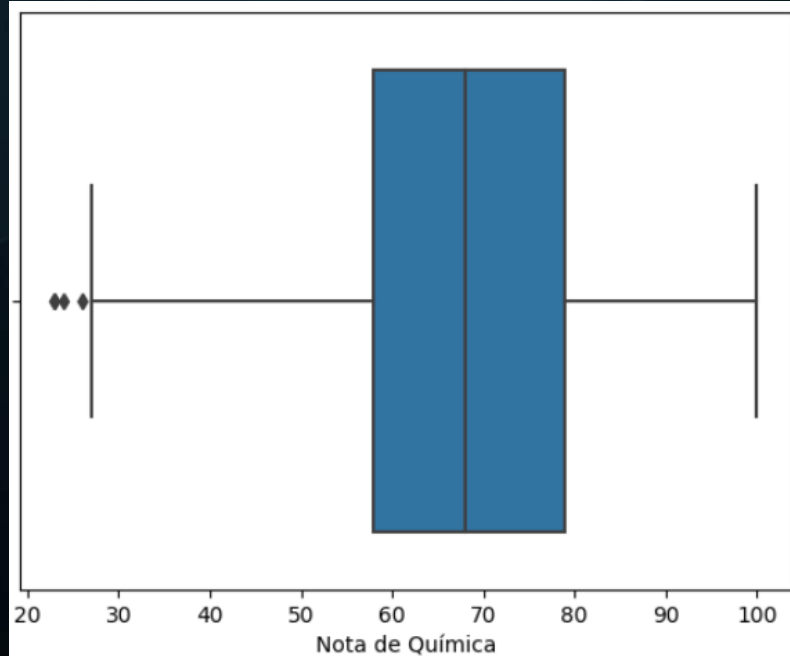
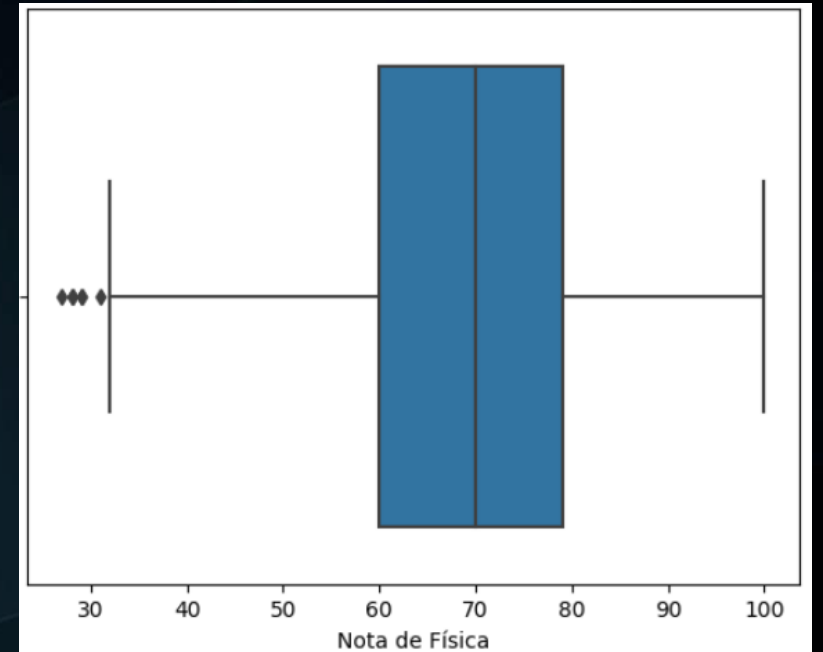
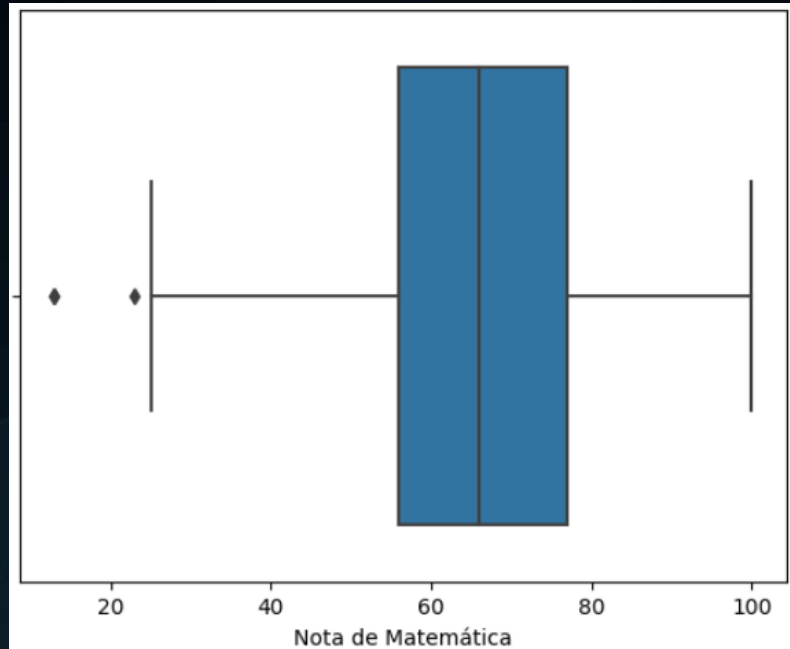
```
1 print(f'Original: {df.id.count()} filas')
2 duplicate_rows_df = df[df.duplicated()] #"duplicated???"
3 print(f'Cantidad de filas duplicadas: {duplicate_rows_df.id.count()}')
4
5 #eliminar duplicados
6 df = df.drop_duplicates()
7 #print (df.head())
8
9 # Filas despues de eliminar duplicados
10 print(f'Final: {df.id.count()} filas')
11
```

```
Original: 1018 filas
Cantidad de filas duplicadas: 18
Final: 1000 filas
```

# Detect outliers

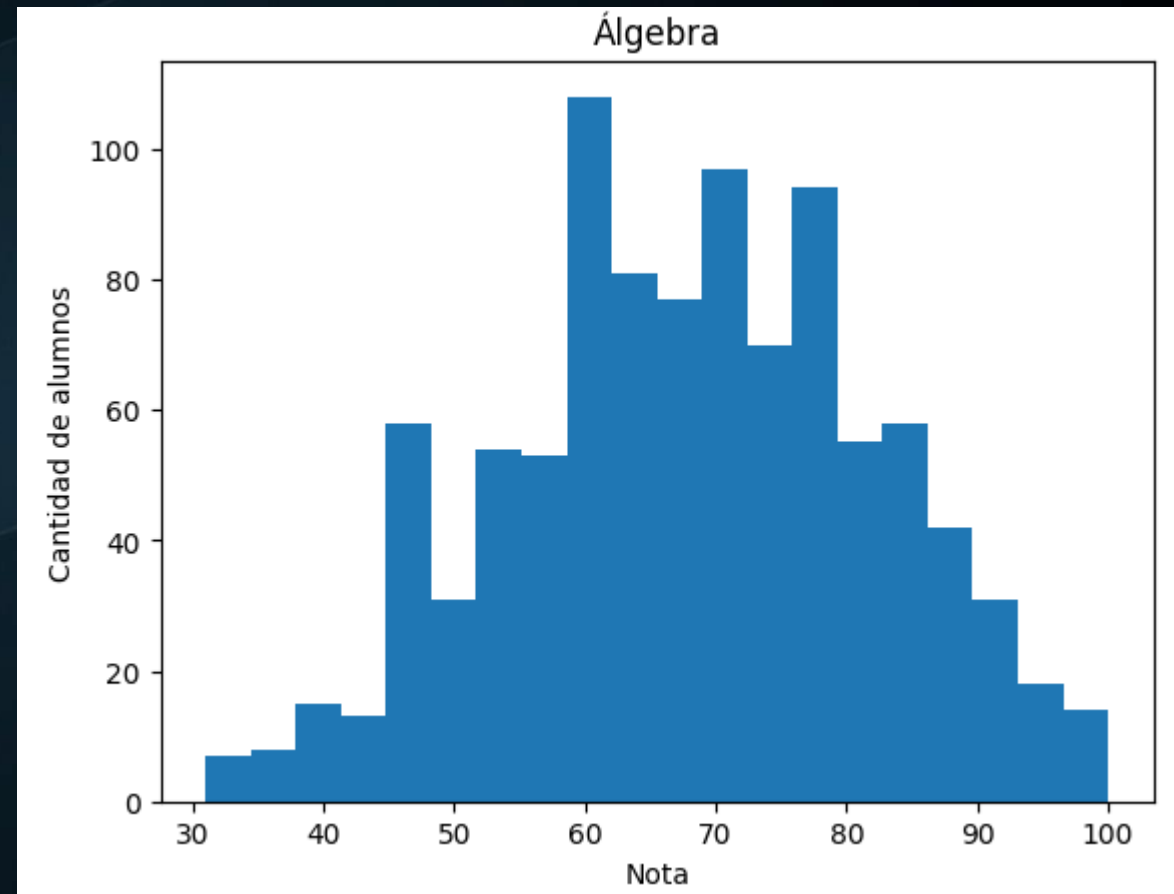
```
#materias renombradas:  
#"math score": "Nota de Matemática",  
#"physics score": "Nota de Física",  
#"chemistry score": "Nota de Química",  
#"algebra_score": "Nota de Álgebra"
```

```
sns.boxplot(x=df['Nota de Matemática'])  
plt.show()  
sns.boxplot(x=df['Nota de Física'])  
plt.show()  
sns.boxplot(x=df['Nota de Química'])  
plt.show()  
sns.boxplot(x=df['Nota de Álgebra'])  
plt.show()
```



# Frequencies: Plot histograms

```
1  # "math score": "Nota de Matemática",
2  # "physics score": "Nota de Física",
3  # "chemistry score": "Nota de Química",
4  # "algebra_score": "Nota de Álgebra"
5
6  #Algebra
7  plt.hist(df['Nota de Álgebra'], bins=20)
8  plt.title("Álgebra")
9  plt.ylabel("Cantidad de alumnos")
10 plt.xlabel("Nota")
11 plt.show()
12
13 #Chemistry
14 plt.hist(df['Nota de Química'], bins=20)
15 plt.title("Química")
16 plt.ylabel("Cantidad de alumnos")
17 plt.xlabel("Nota")
18 plt.show()
19
20 #Math
21 plt.hist(df['Nota de Matemática'], bins=20)
22 plt.title("Matemática")
23 plt.ylabel("Cantidad de alumnos")
24 plt.xlabel("Nota")
25 plt.show()
26
27 #Physics
28 plt.hist(df['Nota de Física'], bins=20)
29 plt.title("Física")
30 plt.ylabel("Cantidad de alumnos")
31 plt.xlabel("Nota")
32 plt.show()
33
34
```

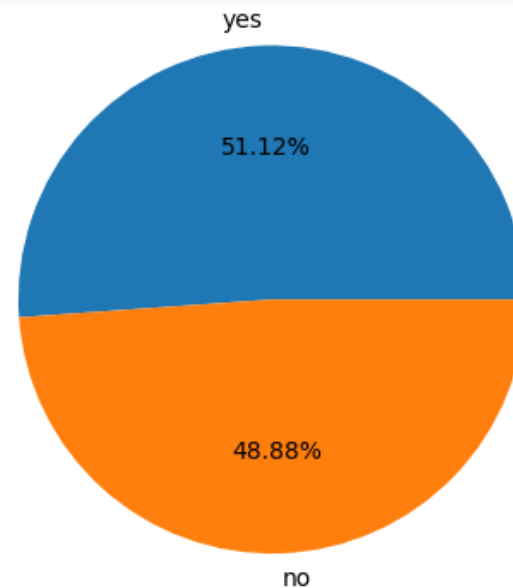




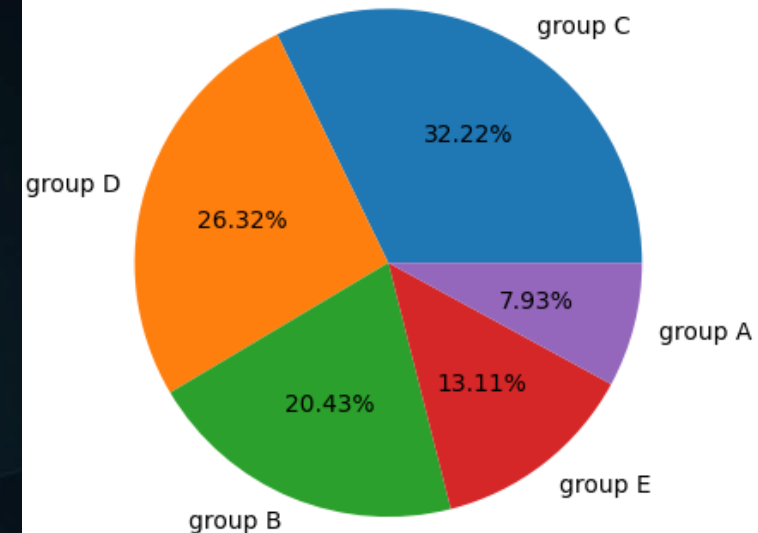
# Categorical Values Exploration

```
1 #pandas.value_counts()--> devuelve una serie con valores únicos
2
3 #Nombres actualizados:
4 # "gender": "Género",
5 # "race/ethnicity": "Etnia",
6 # "parental level of education": "Educación de los padres",
7 # "lunch": "Almuerzo",
8 # "employed": "Empleado/a",
9 # "test preparation course": "Curso preparatorio",
10
11 #torta: 'Género'
12 labels = df['Género'].value_counts().index
13 sizes = df['Género'].value_counts()
14 plt.pie(sizes, labels=labels, autopct='%1.2f%%')
15 plt.title('Género')
16 plt.show()
17
18 #torta: 'Etnia'
19 labels = df['Etnia'].value_counts().index
20 sizes = df['Etnia'].value_counts()
21 plt.pie(sizes, labels=labels, autopct='%1.2f%%')
22 plt.title('Etnia')
23 plt.show()
24
25 #torta: 'Empleado/a'
26 labels = df['Empleado/a'].value_counts().index
27 sizes = df['Empleado/a'].value_counts()
28 plt.pie(sizes, labels=labels, autopct='%1.2f%%')
29 plt.title('¿Está empleado?')
30 plt.show()
31
32 #torta: 'Curso preparatorio'
33 labels = df['Curso preparatorio'].value_counts().index
34 sizes = df['Curso preparatorio'].value_counts()
35 plt.pie(sizes, labels=labels, autopct='%1.2f%%')
36 plt.title('¿Tomó el curso preparatorio?')
37 plt.show()
```

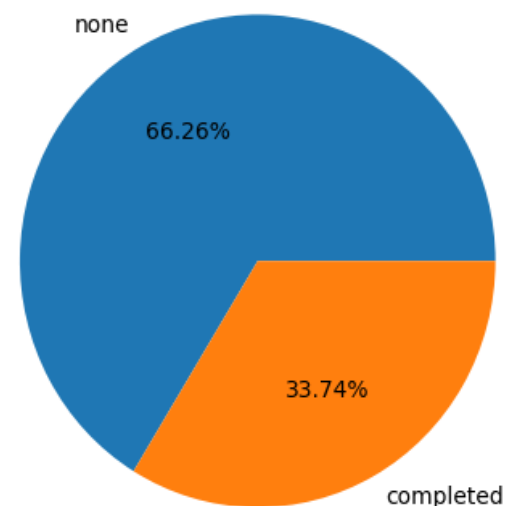
## Employed?



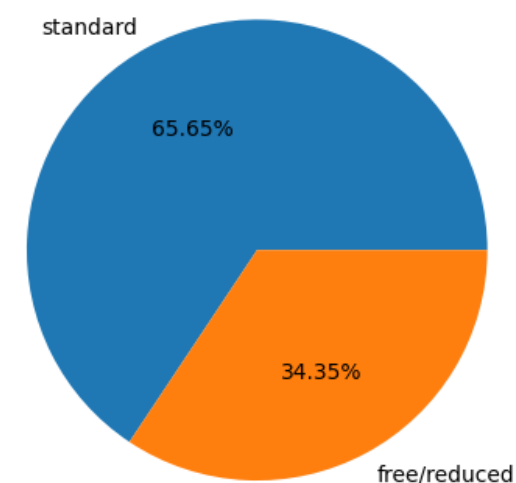
## Ethnic Groups



## Prep Course Taken



## Lunch Type



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/christian-monteferrante

