

BODY MASS INDEX(BMI)



TABLE1.1	Age	Weight	Height	BMI
	23	70.1	1.721	23.66771
	23	90.1	1.867	25.84855
	23	72.6	1.835	21.56078
	23	85.5	1.969	22.05336
	23	78	1.822	23.49621
	23	84.8	1.86	24.5115
	23	91.9	1.752	29.93969
	23	63.3	1.822	19.06808
	23	79.8	1.845	23.44284
	23	71	1.693	24.77105

One-Sample Statistics

TABLE 1.2	N	Mean	Std. Deviation	Std. Error Mean
BMI	10	23.8360	2.86787	.90690

One-Sample Test

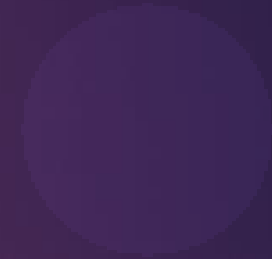
Test Value = 25

TABLE1.3	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
BMI	-1.284	9	.231	-1.16402	-3.2156	.8875

**NOTE: HEIGHT IN METERS.
WEIGHT IN KILOGRAMS.**

INSIGHTS:

- ▶ *As per the given data significance value is 0.231 so that we can say alternative hypothesis is rejected and null hypothesis is accepted.*
- ▶ *From the above tables we can say that all the members of an age 25 body mass index is normal based on their heights and weights.*



Age	Weight	Height	bmi
23	70.1	1.72	23.69524
23	90.1	1.86	26.04347
23	72.6	1.83	21.67876
23	85.5	1.96	22.25635
23	78	1.82	23.54788
23	84.8	1.86	24.5115
23	91.9	1.75	30.00816
23	63.3	1.82	19.11001
23	79.8	1.84	23.57042
23	71	1.69	24.85907



	N	Mean	Std. Deviation	Std. Error Mean
Bmi	10	24.069524	2.8876084	.9131420

One-Sample Test						
Test Value = 25						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Bmi	-1.019	9	.335	-.9304759	-2.996147	1.135195

INSIGHTS:

In the comparing of Bmi for 23 age of persons. the significance is very high.hence we can conclude that null hypothesis is accepted and alternative hypothesis

Business Requirement



- ▶ It is assumed that, People with age 23 are having average BMI score as 25.
- ▶ Hypothesis testing need to be performed to test this assumption.
- ▶ Type of Test: T-Test.

BMI Score Test Values:



- ▶ Population Mean: 25
- ▶ Confidence interval percentage: 95%
- ▶ H0 (NULL Hypothesis) : People with age 23 are having average BMI score as 25.
- ▶ H1 (Alternative Hypothesis) : People with age 23 are not having average BMI score as 25.

Test Results

- ▶ After performing the T-Test, the test results are as follows.

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
BMI_Score	10	23.8360	2.86787	.90690

One-Sample Test						
Test Value = 25						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
BMI_Score	-1.284	9	.231	-1.16402	-3.2156	.8875

Results Description



- ▶ After performing T-Test, the result are as follows.
 - ▶ As it is considered the confidence interval percentage as “95%”, the benchmark for significance will become 0.05.
 - ▶ As shown in the previous slide, the significance value is greater than 0.05.
 - ▶ Hence **NULL Hypothesis is not rejected** because of insufficient evidence.

Insights :



- ✓ Patient BMI is significantly not equal with Parent Contact and Control Person
- ✓ There is no significance between Parent and Control BMI
- ✓ Parent BMI & Control BMI are same
- ✓ Patient Vitamin D is not significant with Parent contact and Control persons
- ✓ Parent and Control Vitamin D values are significantly different
- ✓ There is no significance between BSML and Folks with Patient Vitamin D and BMI

- ❖ The T-Test for Body Mass Index can be performed by setting hypothesis as under

$$H_0 = 25$$

$$H_1 \neq 25$$

- ❖ The mean from the T-Test is **23.9** and which slightly less than actual mean of 25.
- ❖ As the significance is **$0.231 \geq 0.05$** we can conclude that the null hypothesis is accepted and alternate hypothesis is rejected saying the average BMI index is 25.

- ❖ We can say there is no enough evidence for the actual mean is more than the calculated mean.



One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
BMI	10	23.835977	2.8678655	.9068987

One-Sample Test

	Test Value = 25					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
BMI	-1.284	9	.231	-1.164029	-3.215570	.887524