

LAMPIRAN-LAMPIRAN

Lampiran 1

Daftar hasil Tes Daya Ledak Otot Tungkai (X_1), Keseimbangan (X_2) dan Kcepatan Tendangan Sabit (Y)

NO	X_1	X_2	Y
1	6,1	32	21
2	6,2	36	22
3	5,1	30	20
4	5,5	31	20
5	5,6	30	21
6	5,0	30	21
7	5,5	31	20
8	3,7	22	18
9	6,0	33	22
10	6,5	35	22
11	5,8	31	20
12	5,2	29	20
13	6,0	35	22
14	6,2	38	22
15	5,3	30	20
16	6,6	42	23
17	6,2	35	21
18	6,5	40	23
19	6,5	37	23
20	6,1	41	24
Σ	1138	680	266

Lampiran 2

Langkah-langkah perhitungan distribusi frekuensi

A. Variabel Daya Ledak Otot Tungkai (X_1)

Rentang (R) = Data Terbesar-Data Terkecil

$$= 6,6 - 3,7 = 2,9$$

Banyak Kelas = $1 + (3,3) \log n$

$$= 1 + (3,3) \log 20 = 1 + (3,3) 1,30 = 1 + 4,29 = 5,29 (5)$$

Panjang Kelas = $\frac{R}{BK} = \frac{2,9}{5} = 5,8 (6)$

Distribusi Daya Ledak Otot Tungkai (X_1)

No	Kelas Interval	Nilai Tengah	Frekuensi Absolut	Frekuensi Relatif
1	37-42	49,5	1	5%
2	43-48	46,5	0	0%
3	49-54	52,5	4	20%
4	55-60	58,5	8	40%
5	61-66	64,5	7	35%
Jumlah			20	100%

B. Variabel Keseimbangan (X₂)

$$\text{Rentang (R)} = \text{Data Terbesar-Data Terkecil} = 41 - 12 = 29$$

$$\text{Banyak Kelas} = 1 + (3,3) \log n = 1 + (3,3) \log 20 = 1 + (3,3) 1,30 = 1 + 4,29 = 5,29$$

(5)

$$\text{Panjang Kelas} = \frac{R}{BK} = \frac{29}{5} = 5,8 \text{ (6)}$$

Distribusi Keseimbangan (X₂)

No	Kelas Interval	Nilai Tengah	Frekuensi absolut	Frekuensi Relatif
1	12-17	15,5	1	5%
2	18-23	21,5	0	0%
3	24-29	27,5	0	0%
4	30-35	33,5	9	45%
5	36-41	39,5	10	50%
Jumlah			20	100%

C. Variabel Kecepatan tendangan sabit (Y)

$$\text{Rentang (R)} = \text{Data Terbesar-Data Terkecil} = 15 - 6 = 9$$

$$\text{Banyak Kelas} = 1 + (3,3) \log n$$

$$= 1 + (3,3) \log 20 = 1 + (3,3) 1,30 = 1 + 4,29 = 5,29 \text{ (5)}$$

$$\text{Panjang Kelas} = \frac{R}{BK} = \frac{9}{5} = 1,8 \text{ (2)}$$

Data Kecepatan tendangan sabit(Y)

No	Kelas Interval	Nilai Tengah	Frekuensi Absolut	Frekuensi Relative
1	6-7	6,5	1	5%
2	8-9	8,5	0	0%
3	10-11	10,5	0	0%
4	12-13	12,5	7	35%
5	14-15	14,5	12	60%
Jumlah			20	100%

Lampiran 3**Data Mentah Hasil Tes Daya Ledak Otot Tungkai (X_1), Keseimbangan (X_2) dengan kecepatan tendangan sabit (Y)**

NO	X_1	X_2	Y	X_1^2	X_2^2	Y^2	X_1Y	X_2Y	X_1X_2
1	6,1	32	21	3721	1296	196	854	504	2196
2	6,2	36	22	3136	1024	144	672	384	1792
3	5,1	30	20	2601	1089	169	663	429	1683
4	5,5	31	20	3025	1296	196	770	504	1980
5	5,6	30	21	3136	1369	225	840	555	2072
6	5,0	30	21	2500	1369	196	700	518	1850
7	5,5	31	20	3025	961	144	660	372	1705
8	3,7	22	18	1369	144	36	222	72	444
9	6,0	33	22	3600	1089	196	840	462	1980
10	6,5	35	22	3969	1444	225	945	570	2394
11	5,8	31	20	3364	1225	169	754	455	2030
12	5,2	29	20	2704	900	144	624	360	1560
13	6,0	35	22	3600	1156	196	840	476	2040
14	6,2	38	22	3844	1444	196	868	532	2356
15	5,3	30	20	2809	900	144	636	360	1590
16	6,6	42	23	4356	1444	225	990	570	2508
17	6,2	35	21	3844	1225	169	806	455	2170
18	6,5	40	23	3969	1369	225	945	555	2331
19	6,5	37	23	3721	1369	225	915	555	2257
20	6,1	41	24	3249	1681	196	798	574	2337
Σ	1138	680	266	65542	23794	3616	15342	9262	39275

Lampiran 4

Perhitungan T_{skor} Hasil Tes Daya Ledak Otot Tungkai (X_1), Keseimbangan (X_2), dengan kecepatan tendangan sabit (Y) Perhitungan T_{skor} Menggunakan Rumus

$$T_{\text{skor}} = 50 \pm 10 \left(\frac{X - \bar{X}}{SD} \right)$$

Menghitung Rata-rata dan Simpangan Baku

A. Variabel Daya Ledak Otot Tungkai (X_1)

$$\text{Diketahui} : \sum X_1 = 1138 \quad \sum X_1^2 = 65542 \quad \sum n = 20$$

$$\text{Rata-rata} = \frac{\sum X_1}{n} = \frac{1138}{20} = 56,9$$

$$\begin{aligned} \text{Simpangan Baku} &= \sqrt{\frac{n \sum X_1^2 - (\sum X_1)^2}{n(n-1)}} = \sqrt{\frac{20 \cdot 65542 - (1138)^2}{20(20-1)}} \\ &= \sqrt{\frac{1310840 - 1295044}{380}} = \sqrt{\frac{15796}{380}} = \sqrt{41,57} = 6,45 \end{aligned}$$

$$T_{\text{skor}} = 50 \pm 10 \left(\frac{X - \bar{X}}{SD} \right) = 50 \pm 10 \left(\frac{61 - 56,9}{6,45} \right) = 43,643411$$

B. Variabel Keseimbangan (X_2)

$$\text{Diketahui} : \sum X_2 = 680 \quad \sum X_2^2 = 23794 \quad \sum n = 20$$

$$\text{Rata-rata} = \frac{\sum X_2}{n} = \frac{680}{20} = 34$$

Simpangan Baku

$$\begin{aligned}
 \text{SB} &= \sqrt{\frac{n \sum X_2^2 - (\sum X_2)^2}{n(n-1)}} = \sqrt{\frac{20 \cdot 23794 - 680^2}{20(20-1)}} \\
 &= \sqrt{\frac{475880 - 462400}{380}} = \sqrt{\frac{13480}{380}} = \sqrt{35,47} = 5,96
 \end{aligned}$$

$$T_{\text{skor}} = 50 \pm 10 \left(\frac{X - \bar{X}}{SD} \right) = 50 \pm 10 \left(\frac{36 - 34}{5,96} \right) = 46,644295$$

C. Variabel KeterampilanKecepatan tendangan sabit(Y)

$$\text{Diketahui} : \sum Y = 266 \quad \sum Y^2 = 3616 \quad \sum n = 20$$

$$\text{Rata-rata} = \frac{\sum Y}{n} = \frac{266}{20} = 13,3$$

Simpangan Baku

$$\begin{aligned}
 \text{SB} &= \sqrt{\frac{n \sum Y^2 - (\sum Y)^2}{n(n-1)}} = \sqrt{\frac{20 \cdot 3616 - 666^2}{20(20-1)}} \\
 &= \sqrt{\frac{72320 - 70756}{380}} = \sqrt{\frac{1564}{380}} = \sqrt{4,12} = 2,03
 \end{aligned}$$

$$T_{\text{skor}} = 50 \pm 10 \left(\frac{X - \bar{X}}{SD} \right) = 50 \pm 10 \left(\frac{14 - 13,3}{2,03} \right) = 49,655172$$

Data Penelitian Yang Telah Diubah Dalam T_{skor}

NO	X_1	X_2	Y	X_1^2	X_2^2	Y^2	X_1Y	X_2Y	X_1X_2
1	43.643411	46.644295	49.655172	1904.747324	2175.690256	2465.636106	2167.12108	2316.130491	2035.716137
2	51.3953488	70.134228	56.4039409	2641.481878	4918.809937	3181.404549	2898.900216	3955.846851	3604.573111
3	59.1472868	51.6778523	51.4778325	3498.401536	2670.600418	2649.967239	3044.774123	2660.263825	3056.604751
4	52.9457364	46.644295	49.655172	2803.251003	2175.690256	2465.636106	2629.029648	2316.130491	2469.616548
5	51.3953488	44.96643	41.625616	2641.481878	2021.979827	1732.691907	2139.363053	1871.755348	2311.065354
6	60.697674	44.96643	49.655172	3684.207629	2021.979827	2465.636106	3013.953442	2232.815816	2729.357709
7	52.9457364	55.033557	56.4039409	2803.251003	3028.692396	3181.404549	2986.348187	3104.109497	2913.792202
8	80.852713	88.664323	85.960591	6537.161199	7861.362173	7389.223205	6950.146993	7621.637606	7168.751061
9	45.193798	51.6778523	49.655172	2042.479378	2670.600418	2465.636106	2244.105813	2566.072645	2335.518418
10	40.542636	43.288591	41.625616	1643.705334	1873.902111	1732.691907	1687.612198	1801.914266	1755.033588
11	48.29474	48.322148	51.4778325	2332.381912	2335.029987	2649.967239	2486.108536	2487.519441	2333.705574
12	57.5968992	56.7114094	56.4039409	3317.402797	3216.183956	3181.404549	3248.692099	3198.746984	3266.401331
13	45.193798	50	49.655172	2042.479378	2500	2465.636106	2244.105813	2482.7586	2259.6899
14	42.093023	43.288591	49.655172	1771.822585	1873.902111	2465.636106	2090.136297	2149.502432	1822.147657
15	56.0465116	56.7114094	56.4039409	3141.211463	3216.183956	3181.404549	3161.244128	3198.746984	3178.476665
16	35.891473	43.288591	41.625616	1288.197834	1873.902111	1732.691907	1494.004673	1801.914266	1553.691295
17	42.093023	48.322148	51.4778325	1771.822585	2335.029987	2649.967239	2166.857587	2487.519441	2034.025287
18	40.542636	44.96643	41.625616	1643.705334	2021.979827	1732.691907	1687.612198	1871.755348	1823.057604
19	43.643411	44.96643	41.625616	1904.747324	2021.979827	1732.691907	1816.683867	1871.755348	1962.488386
20	50.1550388	37.697715	49.655172	2515.527917	1421.117716	2465.636106	2490.457078	1871.886522	1890.730358
Σ	1000.310243	1017.972725	1021.724136	51929.46729	54234.6171	53987.6554	52647.25703	53868.7822	52504.44294

Lampiran 5

Menghitung Rata-rata dan Simpangan Baku T_{skor}

B. Variabel Daya Ledak Otot Tungkai (X_1)

Diketahui: $\sum X_1 = 1000,310243$ $\sum X_1^2 = 51929,46729$ $\sum n = 20$

$$\text{Rata-rata} = \frac{\sum X_1}{n} = \frac{1000,310243}{20} = 50,015512$$

Simpangan Baku

$$\begin{aligned}
 \text{SB} &= \sqrt{\frac{n \sum X_1^2 - (\sum X_1)^2}{n(n-1)}} = \sqrt{\frac{20.51929,46729 - (1000,310243)^2}{20(20-1)}} \\
 &= \sqrt{\frac{1038589,3458 - 1000620,582251}{380}} = \sqrt{\frac{37968,763549}{380}} = \sqrt{99,917799} = 9,995889
 \end{aligned}$$

B. Variabel Keseimbangan (X_2)

Diketahui:

$$\sum X_2 = 1017,972725 \quad \sum X_2^2 = 54234,6171 \quad \sum n = 20$$

$$\text{Rata-rata} = \frac{\sum X_2}{n} = \frac{1017,972725}{20} = 50,898636$$

Simpangan Baku

$$\begin{aligned}
 \text{SB} &= \sqrt{\frac{n \sum X_2^2 - (\sum X_2)^2}{n(n-1)}} = \sqrt{\frac{20.54234,6171 - (1017,972725)^2}{20(20-1)}} \\
 &= \sqrt{\frac{1084692,342 - 1036268,468844}{380}} = \sqrt{\frac{48423,873156}{380}} = \sqrt{127,431245} = 11,288545
 \end{aligned}$$

C. Variabel Kecepatan tendangan sabit(Y)

Diketahui:

$$\sum Y = 1021,724136 \quad \sum Y^2 = 53987,6554 \quad \sum n = 20$$

$$\text{Rata-rata} = \frac{\sum Y}{n} = \frac{1021,724136}{20} = 51,086207$$

Simpangan Baku

$$\begin{aligned}
 \text{SB} &= \sqrt{\frac{n \sum Y^2 - (\sum Y)^2}{n(n-1)}} = \sqrt{\frac{20 \cdot 53987,6554 - (1021,724136)^2}{20(20-1)}} \\
 &= \sqrt{\frac{1079753,108 - 1043920,210085}{380}} = \sqrt{\frac{35832,897915}{380}} = \sqrt{94,2971} = 9,710669
 \end{aligned}$$

Lampiran 6

Mencari Persamaan Regresi

1. Regresi Y atas X_1

Diketahui :

$$\begin{aligned}
 \sum X_1 &= 1000,310243 & \sum X_1^2 &= 51929,46729 & \sum Y &= 1021,724136 \\
 & & \sum Y^2 &= 53987,6554 & \sum X_1 Y &= 52647,25703 \\
 \sum n &= 20
 \end{aligned}$$

$$\begin{aligned}
 \text{a} &= \frac{\sum Y \sum X_1^2 - \sum X_1 \sum X_1 Y}{n \sum X_1^2 - (\sum X_1)^2} \\
 &= \frac{(1021,724136)(51929,46729) - (1000,310243)(52647,25703)}{20(51929,46729) - (1000,310243)^2} \\
 &= \frac{53057585,502057 - 52663590,472963}{10338589,3458 - 1000620,582251} = \frac{393995,029094}{9337968,763549} = 0,042193
 \end{aligned}$$

$$\text{b} = \frac{n \sum X_1 Y - \sum X_1 \sum Y}{n \sum X_1^2 - (\sum X_1)^2}$$

$$= \frac{20 \sum Y^2 - (\sum Y)^2}{20 \sum X_1^2 - (\sum X_1)^2} = \frac{20(2647,25703) - (1000,310243)^2}{20(1929,46729) - (1000,310243)^2}$$

$$= \frac{1052945,1406 - 1022041,118761}{1038589,3458 - 1000620,582251} = \frac{30904,021839}{37968,763549} = 0,813933$$

Jadi persamaan regresi Y terhadap X_1 adalah $\hat{Y} = 0,04219 + 0,81393X_1$

2. Regresi Y atas X_2

Diketahui: $\sum X_2 = 1017,972727$ $\sum X_2^2 = 54234,6171$ $\sum Y = 1021,724136$

$$\sum Y^2 = 53987,6554 \quad \sum X_2 Y = 53868,7822 \quad \sum n = 20$$

$$a = \frac{\sum Y \sum X_2^2 - \sum X_2 \sum X_2 Y}{n \sum X_2^2 - (\sum X_2)^2}$$

$$= \frac{(1021,724136)(54234,6171) - (1017,972725)(53868,7822)}{20(54234,6171) - (1017,972725)^2}$$

$$= \frac{55412817,297788 - 54836951,008565}{1084692,342 - 1036268,468844} = \frac{575866,289223}{48423,873156} = 1,189$$

$$b = \frac{n \sum X_2 Y - \sum X_2 \sum Y}{n \sum X_2^2 - (\sum X_2)^2} = \frac{20(53868,7822) - (1017,972725)(1021,724136)}{20(54234,6171) - (1017,972725)^2}$$

$$= \frac{1077375,644 - 1040087,302922}{1084692,342 - 1036268,468844} = \frac{37288,341078}{48423,873156} = 0,770$$

Jadi persamaan regresi Y terhadap X_1 adalah $\hat{Y} = 1,189 + 0,770X_2$

3. Regresi Y atas X_1 dan X_2

$$\begin{aligned}
 b_1 &= \frac{\sum X_2^2 \sum X_1 Y - \sum X_1 X_2 \sum X_2 Y}{\sum X_1^2 \sum X_2^2 - \sum X_1 X_2} \\
 &= \frac{(4234,6171)(2647,25703) - (2504,44294)(3868,7822)}{(1929,46729)(4234,6171) - (2504,44294)^2} \\
 &= \frac{2855303826,387333 - 2828350401,267188}{2816374774,680125 - 2756716528,439716} = \frac{26953425,120145}{59658246,240409} = 0,452
 \end{aligned}$$

$$\begin{aligned}
 b_2 &= \frac{\sum X_1^2 \sum X_2 Y - \sum X_1 X_2 \sum X_1 Y}{\sum X_1^2 \sum X_2^2 - \sum X_1 X_2} \\
 &= \frac{(1929,46729)(3868,7822) - (2504,44294)(2647,25703)}{(1929,46729)(4234,6171) - (2504,44294)^2} \\
 &= \frac{2797377163,207034 - 2764214902,979149}{2816374774,680125 - 2756716528,439716} = \frac{33162260,227885}{59658246,240409} = 0,556
 \end{aligned}$$

$$\begin{aligned}
 b_0 &= \bar{Y} - b_1 \bar{X}_1 - b_2 \bar{X}_2 \\
 &= 51,086207 - 0,451797.50,015512 - 0,555871.50,898636 \\
 &= 51,086207 - 22,596858 - 28,293076 = 0,21
 \end{aligned}$$

Jadi persamaan regresi Y terhadap X_1 dan X_2 adalah

$$\hat{Y} = 0,21 + 0,452X_1 + 0,556X_2$$

Lampiran 7

Mencari Koefisien Korelasi dan Uji Keberartian Koefisien Korelasi

1. Koefisien Korelasi r_{X_1Y}

$$\begin{aligned}
 r &= \frac{n \sum X_1 Y - \sum X_1 \sum Y}{\sqrt{(\sum X_1^2 - \frac{(\sum X_1)^2}{n})(\sum Y^2 - \frac{(\sum Y)^2}{n})}} \\
 &= \frac{20(2647,25703) - (1000,310243)(1021,724136)}{\sqrt{(10(1929,46729) - \frac{(1000,310243)^2}{20})(10(3987,6554) - \frac{(1021,724136)^2}{20})}} \\
 &= \frac{1042945,1 - 1022006,5}{\sqrt{(1038590 - 1000600,1)(1079753,1 - 1043870,9)}} = \frac{20938,6}{\sqrt{(7989,9)(5882,2)}} \\
 &= \frac{20938,6}{\sqrt{1360530828,2}} = \frac{20938,6}{36921} = 0,567
 \end{aligned}$$

Uji Keberartian Koefisien Korelasi

$$T_{\text{hitung}} = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}} = \frac{0,567\sqrt{20-2}}{\sqrt{1-0,567^2}} = \frac{2,41}{0,43} = 5,60$$

$$\text{table dk} = n - 2 = 20 - 2 = 18$$

$$t_{\text{tabel}} = \text{dk} : 1 - \frac{1}{2} \alpha = 18 : 1 - \frac{1}{2} 0,05 = 18 : 1 - 0,025 = 18 : 0,975 = 2,10$$

Berarti:

t_{tabel} dengan $\alpha 0,05$ dan $\text{dk} = 18$ diperoleh t_{tabel} sebesar 2,10 karena $t_{\text{hitung}} = 5,60 > t_{\text{tabel}} = 2,10$ dengan demikian kita tolak H_0 berarti koefisien korelasi 0,05 adalah signifikan

Mencari koefisien determinasi

$$KD = r^2 (100\%) = 0,57^2 (100\%) = 0,325(100\%) = 32,5\%$$

2. Koefisien Korelasi r_{X_2Y}

$$\begin{aligned} r &= \frac{n \sum X_2 Y - \sum X_2 \sum Y}{\sqrt{[\sum X_2^2 - \frac{(\sum X_2)^2}{n}] [\sum Y^2 - \frac{(\sum Y)^2}{n}]}} \\ &= \frac{20 (3868,7822) - (17,972725)(21,724136)}{\sqrt{[0 (4234,6171) - \frac{(17,972725)^2}{20}] [0 (3987,6554) - \frac{(21,724136)^2}{20}]} \\ &= \frac{1077374,1 - 1050396,8}{\sqrt{[084692,342 - 1036268,468844] [079753,108 - 1043920,210085]}} \\ &= \frac{26978,1}{\sqrt{[8423,873156] [5832,897915]}} = \frac{26978,1}{\sqrt{1735168766,3}} = \frac{26978,1}{41655,3} = 0,647 \end{aligned}$$

Uji Keberartian Koefisien Korelasi

$$T_{hitung} = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}} = \frac{0,647\sqrt{20-2}}{\sqrt{1-0,647^2}} = \frac{2,75}{0,58} = 4,74$$

$$\text{table dk} = n - 2 = 20 - 2 = 18$$

$$t_{tabel} = dk : 1 - \frac{1}{2} \alpha = 18 : 1 - \frac{1}{2} 0,05 = 18 : 1 - 0,025 = 18 :$$

$$0,975 = 2,10$$

Berarti:

t_{tabel} dengan $\alpha 0,05$ dan $dk = 18$ diperoleh t_{tabel} sebesar 2,10 karena $t_{hitung} = 4,74 > t_{tabel} = 2,10$ dengan demikian kita tolak H_0 berarti koefisien korelasi 0,05 adalah signifikan

Mencari koefisien determinasi

$$KD = r^2 (100\%) = 0,647^2 (100\%) = 0,419 (100\%) = 0,419 \%$$

3. Mencari ($r_{X_1X_2Y}$) Koefisien Korelasi Ganda

$$\begin{aligned} JK_{reg} &= b_1 \sum x_1 y + b_2 \sum x_2 y = 0,452 \cdot 52647,3 + 0,556 \cdot 53868,8 \\ &= 21058,8 + 26935,2 = 47,994 \end{aligned}$$

$$R = \sqrt{\frac{jk_{reg}}{\sum y^2}} = \sqrt{\frac{47994}{53987,6554}} = \sqrt{0,889} = 0,942$$

Uji Keberartian Koefisien Korelasi Ganda

$$F_{hitung} = \frac{R^2 / k}{(-R^2)_{n-k-1}} = \frac{0,842^2 / 2}{(-0,942^2)_{20-2-1}} = \frac{0,889 / 2}{(-0,889)_{17}} = 63,57$$

F_{tabel} di cari dengan cara melihat daftar distribusi F dengan pecahan prediktor =2 sebagai pembilang dan $(n-k-1) = 17$ sebagai penyebut di dapat $F_{hitung} = 63,57 > F_{tabel} = (3,59)$ dengan demikian H_0 tolak berarti koefisien korelasi ganda $r_{X_1X_2Y} = 0,942$ adalah signifikan

Mencari Koefisien Determinasi

$$KD = r^2 (100\%) = 0,942^2 (100\%) = 0,887 (100\%) = 88,7 \%$$

Lampiran 8

Hasil Tes Uji Coba Instrumen

NO	X ₁	X ₂	Y	X ₁ ²	X ₂ ²	Y ²	X ₁ Y	X ₂ Y	X ₁ X ₂
1	6,1	32	21	3600	2500	196	840	700	3600
2	6,2	36	22	4096	2704	196	896	728	4096
3	5,1	30	20	3969	2601	196	882	714	3969
4	5,5	31	20	2601	2025	144	612	540	2601
5	5,6	30	21	4356	2809	196	924	742	4356
6	5,0	30	21	4225	2500	196	910	700	4225
7	5,5	31	20	3364	2401	169	754	637	3364
8	3,7	22	18	4900	2704	225	1050	780	4900
9	6,0	33	22	4900	2704	225	1050	780	4900
10	6,5	35	22	2704	1225	144	624	420	2704
Σ	619	489	137	38715	24173	1887	8542	6741	38715

Lampiran 9

Perhitungan Validitas Uji Coba Instrumen

1. Uji Validitas X₁ terhadap Y

Diketahui :

$$\sum X_1 = 619 \quad \sum X_1^2 = 38716 \quad \sum Y = 137 \quad \sum Y^2 = 1887 \quad \sum X_1 Y = 8542 \quad n =$$

$$\begin{aligned}
 r_{\text{hitung}}(X_1Y) &= \frac{n \sum X_1Y - \sum X_1 \sum Y}{\sqrt{(\sum X_1^2 - \sum X_1^2)(\sum Y^2 - \sum Y^2)}} \\
 &= \frac{10(542) - 619(37)}{\sqrt{(10(8716) - 619^2)(10(887) - 37^2)}} = \frac{85420 - 84803}{\sqrt{(87160 - 383161)(8870 - 18769)}} \\
 &= \frac{617}{\sqrt{3999.101}} = \frac{617}{\sqrt{403899}} = \frac{617}{635,53} = 0,97
 \end{aligned}$$

Bila dibandingkan terhadap r_{tabel} dengan $\alpha = 0,05$ dan $n = 10$ diperoleh nilai sebesar 0,632. Maka $r_{\text{hitung}} (0,97) > r_{\text{tabel}} (0,632)$. Dengan demikian data uji instrumen Daya Ledak Otot Tungkai (X_1) dinyatakan valid.

2. Uji Validitas X_2 Terhadap Y

Diketahui :

$$\sum X_2 = 492 \quad \sum X_2^2 = 24556 \quad \sum Y = 137 \quad \sum Y^2 = 1887 \quad \sum X_2Y = 6776 \quad n=10$$

$$\begin{aligned}
 r_{\text{hitung}}(X_2Y) &= \frac{n \sum X_2Y - \sum X_2 \sum Y}{\sqrt{(\sum X_2^2 - \sum X_2^2)(\sum Y^2 - \sum Y^2)}} \\
 &= \frac{10(6741) - 489(37)}{\sqrt{(10(4173) - 489^2)(10(887) - 37^2)}} \\
 &= \frac{67410 - 66993}{\sqrt{(41730 - 239121)(8870 - 18769)}} = \frac{417}{\sqrt{(609)(101)}} = \frac{417}{513,3} = 0,81
 \end{aligned}$$

Bila dibandingkan terhadap r_{tabel} dengan $\alpha = 0,05$ dan $n = 10$ diperoleh nilai sebesar 0,632. Maka $r_{\text{hitung}} (0,81) > r_{\text{tabel}} (0,632)$. Dengan demikian data uji instrumen Keseimbangan (X_2) dinyatakan valid.

Lampiran 10

Perhitungan Reliabilitas Ujicoba Instrumen

1. Daya Ledak Otot Tungkai (*Power*)

Reliabilitas Daya Ledak Otot Tungkai

NO	X	Y	X ²	Y ²	XY
1	6,1	6,2	3600	3600	3600
2	5,1	5,5	4096	3969	4032
3	5,6	5,0	3969	4096	4032
4	5,5	3,7	2601	2704	2652
5	6,0	6,5	4356	4096	4224
6	21	22	4225	4096	4160
7	20	20	3364	3481	3422
8	21	21	4900	4900	4900
9	20	18	4900	4761	4830
10	22	22	2704	2809	2756
Σ	619	618	38715	38512	38608

$$\begin{aligned}
 r \text{ hitung (XY)} &= \frac{n \sum XY - \sum X \sum Y}{\sqrt{(\sum X^2 - \frac{(\sum X)^2}{n})(\sum Y^2 - \frac{(\sum Y)^2}{n})}} \\
 &= \frac{10(38608) - (619)(618)}{\sqrt{(38715 - \frac{619^2}{10})(38512 - \frac{618^2}{10})}} = \frac{386080 - 382542}{\sqrt{(8715 - 383161)(85120 - 381924)}} \\
 &= \frac{3538}{\sqrt{(989)(196)}} = \frac{3538}{\sqrt{12748844}} = 0,99
 \end{aligned}$$

2. Keseimbangan

Reliabilitas Keseimbangan

NO	X ₂	Y	X ²	Y ²	XY
1	32	21	2500	2809	2650
2	36	22	2704	2401	2548
3	30	20	2601	2116	2346
4	31	20	2025	2704	2340
5	30	21	2809	2809	2809
6	30	21	2500	2401	2450
7	31	20	2401	2601	2499
8	22	18	2704	2704	2704
9	33	22	2704	2209	2444
10	35	22	1225	784	980
Σ	489	480	24173	23538	23770

$$\begin{aligned}
 r \text{ hitung (XY)} &= \frac{n \sum XY - \sum X \sum Y}{\sqrt{(\sum X^2 - \frac{\sum X^2}{n})(\sum Y^2 - \frac{\sum Y^2}{n})}} \\
 &= \frac{10(23770) - (489)(480)}{\sqrt{(10(24173) - (489)^2)(10(23538) - (480)^2)}} \\
 &= \frac{237700 - 234720}{\sqrt{(41730 - 239121)(35380 - 230400)}} \\
 &= \frac{2980}{\sqrt{(609)(980)}} = \frac{2980}{\sqrt{12992820}} \\
 &= 0,83
 \end{aligned}$$

3. Kecepatan tendangan sabit

Reliabilitas Kecepatan tendangan sabit

No	X	Y	X ²	Y ²	XY
1	13	14	169	196	182
2	14	14	196	196	196
3	15	14	225	196	210
4	13	12	169	144	156
5	13	14	169	196	182
6	15	14	225	196	210
7	13	13	169	169	169
8	15	15	225	225	225
9	15	15	225	225	225
10	13	12	169	144	156
Σ	139	137	1941	1887	1911

$$\begin{aligned}
 r \text{ hitung (XY)} &= \frac{n(\sum XY) - (\sum X)(\sum Y)}{\sqrt{(\sum X^2 - \frac{(\sum X)^2}{n})(\sum Y^2 - \frac{(\sum Y)^2}{n})}} \\
 &= \frac{10(1911) - (139)(137)}{\sqrt{(1941 - \frac{139^2}{10})(1887 - \frac{137^2}{10})}} \\
 &= \frac{19110 - 19043}{\sqrt{(9410 - 19321)(18870 - 18769)}} = \frac{67}{\sqrt{98901}} = \frac{67}{\sqrt{8989}} = 0,71
 \end{aligned}$$