

Data Dictionary

Field Name on Data Page	Field Definition	Unit	Variable type
Obs #	ID number of tests or observations. (1, 2, 3, ..., 200)	N/A	Categorical
Helmet Type	ID number of the human types: 0 – without helmet; 1- basic helmet model A; 2 – basic helmet model B; 3 – advanced helmet model A; 4 – advanced helmet model B.	N/A	Categorical
Chin Strap	With or without chin strap use: 0 – without chin strap; 1 – with chin strap	N/A	Categorical
Suspension	Suspension tightness levels: 1 – Tight; 2 – Comfortable; 3 – Loose.	N/A	Categorical
Surface	Impact surface conditions: 1 – Concrete impact surface; 2 – Plywood-covered impact surface.	N/A	Categorical
Trial	Test repetition: 1 – 1st replicate; 2 – 2 nd replicate; 3 – 3 rd replicate; 4 – 4 th replicate.	N/A	Categorical
Acc	Peak head acceleration	G	Numerical
HIC	Head impact criteria	$s \cdot G^{2.5}$	Numerical
G	Earth gravitation 9.8	m / s^2	Numerical

Dataset

Obs #	Helmet type (0,1,2,3,4)	Chin Strap (0,1)	Suspension (1,2,3)	Surface (1,2)	Trial (1,2,3,4)
1	1	1	0	1	1
2	1	1	0	1	1
3	1	1	0	1	1
4	1	1	0	1	1
5	1	1	0	1	2
6	1	1	0	1	2
7	1	1	0	1	2
8	1	1	0	1	2
9	1	1	0	2	1
10	1	1	0	2	1
11	1	1	0	2	1
12	1	1	0	2	1
13	1	1	0	2	2
14	1	1	0	2	2
15	1	1	0	2	2
16	1	1	0	2	2
17	1	1	0	3	1
18	1	1	0	3	1
19	1	1	0	3	1
20	1	1	0	3	1
21	1	1	0	3	2
22	1	1	0	3	2
23	1	1	0	3	2
24	1	1	0	3	2
25	1	1	1	1	1
26	1	1	1	1	1
27	1	1	1	1	1
28	1	1	1	1	1
29	1	1	1	1	2
30	1	1	1	1	2
31	1	1	1	1	2
32	1	1	1	1	2
33	1	1	1	2	1
34	1	1	1	2	1
35	1	1	1	2	1
36	1	1	1	2	1
37	1	1	1	2	2
38	1	1	1	2	2
39	1	1	1	2	2
40	1	1	1	2	2
41	1	1	1	3	1
42	1	1	1	3	1
43	1	1	1	3	1
44	1	1	1	3	1
45	1	1	1	3	2
46	1	1	1	3	2

47	1	1	3	2	3
48	1	1	3	2	4
49	2	0	1	1	1
50	2	0	1	1	2
51	2	0	1	1	3
52	2	0	1	1	4
53	2	0	1	2	1
54	2	0	1	2	2
55	2	0	1	2	3
56	2	0	1	2	4
57	2	0	2	1	1
58	2	0	2	1	2
59	2	0	2	1	3
60	2	0	2	1	4
61	2	0	2	2	1
62	2	0	2	2	2
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69	2	0	3	2	1
70	2	0	3	2	2
71	2	0	3	2	3
72	2	0	3	2	4
73	2	1	1	1	1
74	2	1	1	1	2
75	2	1	1	1	3
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77	2	1	1	2	1
78	2	1	1	2	2
79	2	1	1	2	3
80	2	1	1	2	4
81	2	1	2	1	1
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83	2	1	2	1	3
84	2	1	2	1	4
85	2	1	2	2	1
86	2	1	2	2	2
87	2	1	2	2	3
88	2	1	2	2	4
89	2	1	3	1	1
90	2	1	3	1	2
91	2	1	3	1	3
92	2	1	3	1	4
93	2	1	3	2	1

94	2	1	3	2	2
95	2	1	3	2	3
96	2	1	3	2	4
97	3	0	1	1	1
98	3	0	1	1	2
99	3	0	1	1	3
100	3	0	1	1	4
101	3	0	1	2	1
102	3	0	1	2	2
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105	3	0	2	1	1
106	3	0	2	1	2
107	3	0	2	1	3
108	3	0	2	1	4
109	3	0	2	2	1
110	3	0	2	2	2
111	3	0	2	2	3
112	3	0	2	2	4
113	3	0	3	1	1
114	3	0	3	1	2
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117	3	0	3	2	1
118	3	0	3	2	2
119	3	0	3	2	3
120	3	0	3	2	4
121	3	1	1	1	1
122	3	1	1	1	2
123	3	1	1	1	3
124	3	1	1	1	4
125	3	1	1	2	1
126	3	1	1	2	2
127	3	1	1	2	3
128	3	1	1	2	4
129	3	1	2	1	1
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131	3	1	2	1	3
132	3	1	2	1	4
133	3	1	2	2	1
134	3	1	2	2	2
135	3	1	2	2	3
136	3	1	2	2	4
137	3	1	3	1	1
138	3	1	3	1	2
139	3	1	3	1	3
140	3	1	3	1	4

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142	3	1	3	2	2
143	3	1	3	2	3
144	3	1	3	2	4
145	4	0	1	1	1
146	4	0	1	1	2
147	4	0	1	1	3
148	4	0	1	1	4
149	4	0	1	2	1
150	4	0	1	2	2
151	4	0	1	2	3
152	4	0	1	2	4
153	4	0	2	1	1
154	4	0	2	1	2
155	4	0	2	1	3
156	4	0	2	1	4
157	4	0	2	2	1
158	4	0	2	2	2
159	4	0	2	2	3
160	4	0	2	2	4
161	4	0	3	1	1
162	4	0	3	1	2
163	4	0	3	1	3
164	4	0	3	1	4
165	4	0	3	2	1
166	4	0	3	2	2
167	4	0	3	2	3
168	4	0	3	2	4
169	4	1	1	1	1
170	4	1	1	1	2
171	4	1	1	1	3
172	4	1	1	1	4
173	4	1	1	2	1
174	4	1	1	2	2
175	4	1	1	2	3
176	4	1	1	2	4
177	4	1	2	1	1
178	4	1	2	1	2
179	4	1	2	1	3
180	4	1	2	1	4
181	4	1	2	2	1
182	4	1	2	2	2
183	4	1	2	2	3
184	4	1	2	2	4
185	4	1	3	1	1
186	4	1	3	1	2
187	4	1	3	1	3

188	4	1	3	1	4
189	4	1	3	2	1
190	4	1	3	2	2
191	4	1	3	2	3
192	4	1	3	2	4
193	0	0	0	1	1
194	0	0	0	1	2
195	0	0	0	1	3
196	0	0	0	1	4
197	0	0	0	2	1
198	0	0	0	2	2
199	0	0	0	2	3
200	0	0	0	2	4

Acc (G)	HIC (s G ^2.5)
153.9072	560.3557552
201.8591	706.6050869
182.0412	631.1385189
193.526	666.6416821
198.3288	649.9183789
246.4899	785.4937339
237.8842	743.6205234
226.7683	725.0230841
99.21574	343.3230144
192.2044	689.5614158
133.0685	475.2138456
107.8566	411.4729499
211.3011	623.5631811
211.3709	744.5663983
349.7207	1100.136586
186.6926	627.122025
212.6768	782.7112742
125.6654	144.7550065
79.20284	301.7554105
214.5789	785.0061398
196.9221	599.6031792
196.9221	599.6031792
160.771	148.9387229
224.7946	1015.389033
34.48597	65.97629626
27.31894	37.3258739
101.6409	457.7776962
44.75309	124.8049309
302.9078	920.4794624
235.2156	802.0735359
305.0953	1078.96821
248.0173	756.2643097
247.4419	933.5999693
182.0604	566.9322012
87.12579	101.2172041
76.24542	231.8885393
206.9393	658.3601673
254.7628	861.8353002
227.941	696.5911507
359.6885	1100.64407
277.0353	948.2665373
200.0772	985.7608815
88.60414	295.4339656
127.4961	449.7871582
302.5937	991.8995568
320.8758	920.4293666

320.8758 920.4293666
348.3492 1154.099149
51.92502 204.4920422
89.41801 466.7928354
62.13994 266.2324062
51.37498 210.1904778
101.7414 550.2068481
150.5543 616.0682468
97.10924 470.7265279
97.10924 470.7265279
71.01626 382.7861273
143.9298 142.1607587
157.5694 175.347093
153.6995 161.2220622
115.3537 585.014274
115.8549 606.6048305
133.5042 705.3882113
201.9942 882.4635321
56.20463 269.702343
67.04137 300.2012476
57.90515 255.9615022
54.80629 233.6746967
292.498 980.1345664
291.7922 959.8967418
268.402 951.9039952
268.402 951.9039952
103.5639 509.1206851
116.5062 692.6885545
208.8285 900.6270351
108.0023 575.7149133
169.4359 922.40498
171.8677 902.9748003
95.56041 547.4119678
119.7696 635.7150539
184.4438 813.5157835
81.39512 321.4051825
98.89298 117.6243906
80.39931 494.6861889
163.7902 855.0291925
180.0262 826.4162399
154.634 800.290671
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90.72058 85.59988303
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86.79795 511.6455108
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50.70945 197.0805266
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68.52942 314.2099826
50.40357 176.5635497
141.9103 514.6958618
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69.28501 362.3388423
59.03047 278.4542024
61.9322 307.2177542
38.27744 94.18957468
50.98706 55.34907425
83.98267 82.4284714
41.3736 94.22150885
56.18145 231.7664926
52.51882 156.5579038
69.84369 352.6362522
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42.56214 109.2899184

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67.08829 423.8569012
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60.39557 307.1455595
56.74904 70.07410557
70.19099 362.738573
86.41028 587.9083272
52.34324 181.1758869
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66.27158 79.49833196
70.97389 395.7277689
75.34078 73.2840134
54.20983 60.90016153
79.26574 453.0407789
92.29507 572.4367516
81.85682 487.9423607
93.06745 564.9716288
145.4879 161.8482446
162.0782 200.5806309
50.51011 153.2318303
50.51011 153.2318303
61.45502 298.8980837
78.35898 468.1681059
79.54818 444.8304138
111.4604 761.0561372
52.97604 160.514885
70.33545 75.16480235
61.48364 268.5321712
53.47292 161.9398931
61.05155 329.2786678
59.29353 217.1616332
87.83592 666.2284652
101.1758 738.0293319
55.50916 160.951636
61.12766 236.2318194
49.18202 139.4079005
74.09936 95.13776189
81.37637 522.0687235
102.3607 665.6594638
83.05356 539.471535
78.01195 510.9700688
54.3029 147.3949041
56.48151 202.1901225
55.53684 185.5650407

52.94928	151.483753
90.59769	571.8322381
82.18341	516.9264311
117.438	764.112787
82.05324	490.519426
348.2147	873.6021935
266.3402	680.8052061
304.937	729.9756827
336.1485	695.2644598
511.0594	1127.969501
534.2273	3421.002453
492.207	2128.298079
492.207	2128.298079