

by the Key West Section (Florida 3), containing many Italians and Cubans. The district around Mobile (Alabama 5) affords a population with chest circumference of only 32.82, and indeed many southern sections, especially those containing few Negroes, are found in the lower part of the table. Rather striking is the position, toward the bottom, of Denver (Colorado 5), (associated with a large number of rejections for tuberculosis) and Philadelphia (Pennsylvania 1), Cincinnati (Ohio 4), St. Louis (Missouri 4), Baltimore (Maryland 1), Los Angeles (California 4), Boston (Massachusetts 4), and even New York city (New York 2), (mean chest girth, 33.14). It is clear that the inhabitants of cities tend to have reduced chest girth, possibly due to a smaller amount of exercise of the upper appendages and to the small races that congregate in them. This is illustrated by comparing the twin cities of Minnesota with the rest of the State. The men of the former have a chest circumference about 0.75 inch less than the latter.

TABLE 43.—Mean chest circumference (expiration) by sections; sections arranged in order of standing with proportional chest circumference (expiration) in inches for each inch of height and each pound of weight; also standard deviation for each chest circumference; first million draft recruits.

State.	Section.	Characteristics of sections.	Number of men measured.	Mean chest.	Standard deviation. (chest).	Mean chest. Mean height.	Mean chest. Mean weight.
				Inches.	Inches.	Inch.	Inch.
Average for United States.			873, 159	33. 22	2. 01	0. 492	0. 234
Minnesota.....	3	Scandinavians and Finns.....	3, 515	33. 95	1. 98	. 502	. 232
Do.....	2	German and Scandinavian population.	7, 585	33. 86	1. 93	. 497	. 229
Do.....	1	Scandinavian population.....	6, 448	33. 86	1. 86	. 495	. 228
North Dakota.....	2	do.....	3, 305	33. 82	1. 88	. 497	. 230
California.....	2	Mining area.....	942	33. 81	1. 87	. 499	. 231
Nevada.....	1	State undivided, sparse population....	1, 438	33. 75	2. 08	. 497	. 232
Idaho.....	1	State undivided.....	4, 031	33. 74	2. 04	. 495	. 232
South Dakota.....	3	Indian population.....	247	33. 74	1. 74	. 495	. 228
Wisconsin.....	4	Lake counties.....	2, 883	33. 73	2. 01	. 500	. 234
New Hampshire.....	1	Mountainous area.....	667	33. 72	2. 09	. 501	. 238
North Dakota.....	1	Scandinavian and Canadian population	1, 131	33. 72	1. 91	. 498	. 230
Do.....	3	Russian population.....	2, 005	33. 70	1. 86	. 496	. 228
Wisconsin.....	1	Scandinavian and German population	3, 290	33. 68	1. 89	. 494	. 232
Alaska.....	All.	Undivided.....	106	33. 65	1. 94	. 493	. 223
Maine.....	2	Native white stock, maritime.....	828	33. 64	1. 95	. 497	. 237
North Carolina.....	1	Sparsely populated mountainous area.	2, 738	33. 64	1. 82	. 489	. 238
Michigan.....	1	Finnish population.....	2, 340	33. 63	1. 96	. 501	. 232
Washington.....	3	Mountainous area.....	1, 539	33. 62	1. 83	. 493	. 230
South Dakota.....	2	Large Russian population.....	594	33. 61	1. 87	. 495	. 228
Montana.....	2	Sparsely settled, mountainous area....	6, 521	33. 60	1. 85	. 493	. 229
Utah.....	1	Sparsely populated.....	1, 224	33. 59	1. 82	. 492	. 233
Connecticut.....	1	Prevaillingly agricultural and near metropolitan.	4, 877	33. 58	2. 10	. 503	. 240
Wisconsin.....	2	German population.....	7, 678	33. 56	1. 97	. 495	. 232
Iowa.....	1	Foreign white, German and Scandinavian.	12, 139	33. 54	1. 93	. 492	. 230
Oregon.....	1	Fairly densely populated.....	2, 747	33. 54	2. 10	. 492	. 228
New Jersey.....	3	Mountainous area plus Atlantic County	3, 196	33. 52	2. 02	. 501	. 240
California.....	1	Chiefly agricultural area.....	11, 712	33. 52	2. 06	. 494	. 231
South Dakota.....	1	Dry farming area.....	3, 050	33. 51	1. 95	. 492	. 228
Indiana.....	2	Agricultural, considerable German.....	835	33. 49	2. 01	. 491	. 231
Michigan.....	3	Foreign population.....	6, 290	33. 49	2. 09	. 497	. 235
California.....	3	Sparsely populated.....	2, 106	33. 48	1. 97	. 490	. 231
New York.....	7	Agricultural and dairying.....	6, 465	33. 48	2. 06	. 496	. 236
Washington.....	1	Coastal region plus eastern counties....	5, 174	33. 47	2. 02	. 492	. 230
Maine.....	1	English Canadian.....	1, 238	33. 46	1. 86	. 497	. 235
Indiana.....	1	Manufacturing.....	3, 609	33. 45	2. 12	. 497	. 235
Utah.....	3	Mining area.....	562	33. 44	1. 77	. 494	. 232
Vermont.....	1	State undivided.....	2, 079	33. 43	1. 90	. 498	. 238
Michigan.....	2	Prevaillingly native white population..	12, 560	33. 42	1. 98	. 493	. 235
Illinois.....	8	Agricultural and manufacturing area....	2, 451	33. 42	1. 98	. 493	. 233
Oregon.....	2	Columbia River Valley and coastal dry plain, sparsely populated.	1, 076	33. 42	1. 91	. 490	. 229
Nebraska.....	2	German, Austrian, and Russian stocks.	3, 138	33. 41	1. 95	. 489	. 229
Washington.....	2	Puget Sound, foreign white.....	6, 599	33. 41	1. 96	. 492	. 230
Illinois.....	4	Largely German population.....	4, 238	33. 40	2. 03	. 494	. 233

TABLE 43.—Mean chest circumference (expiration) by sections; sections arranged in order of standing with proportional chest circumference (expiration) in inches for each inch of height and each pound of weight; also standard deviation for each chest circumference; first million draft recruits—Contd.

State.	Section.	Characteristics of sections.	Number of men measured.	Mean chest.	Standard deviation (chest).	Mean chest.	
						Mean height.	Mean weight.
				Inches.	Inches.	Inch.	Inch.
Illinois.....	2	Mixed native and foreign population..	7, 803	33. 40	2. 03	0. 494	0. 233
New Jersey.....	2	Plains section, rural.....	8, 985	33. 40	2. 12	. 499	. 240
Texas.....	3	German and Negro population.....	1, 415	33. 40	2. 09	. 488	. 231
Maryland.....	3	Large white population.....	2, 675	33. 39	1. 99	. 496	. 237
Illinois.....	1	Densely populated.....	7, 803	33. 38	2. 02	. 495	. 233
Wyoming.....	1	State undivided, sparsely populated..	1, 927	33. 38	1. 89	. 492	. 231
Texas.....	5	Large Negro population.....	1, 346	33. 36	2. 05	. 487	. 231
Virginia.....	3	Native rural region.....	3, 866	33. 36	1. 94	. 489	. 237
New York.....	6	Urban area.....	6, 544	33. 35	2. 08	. 498	. 234
Connecticut.....	2	Manufacturing area.....	8, 708	33. 34	2. 20	. 499	. 238
New York.....	8	Mountainous, Adirondack area.....	2, 986	33. 34	2. 00	. 497	. 237
Virginia.....	4	Mountain, white.....	5, 399	33. 33	1. 87	. 489	. 238
Georgia.....	2	Large Negro population.....	10, 070	33. 33	1. 91	. 490	. 236
Illinois.....	7	Agricultural area.....	5, 442	33. 33	1. 98	. 491	. 234
Wisconsin.....	3	Urban and foreign stock.....	4, 513	33. 33	2. 11	. 497	. 237
New York.....	3	Eastern manufacturing region.....	5, 131	33. 32	2. 07	. 498	. 238
Pennsylvania.....	3	Mining area.....	7, 293	33. 32	2. 10	. 500	. 236
California.....	5	Urban area.....	7, 189	33. 32	2. 09	. 495	. 231
Colorado.....	1	Large native white population.....	1, 053	33. 32	1. 77	. 489	. 235
Montana.....	1	Mining area, foreign population.....	5, 117	33. 31	1. 93	. 491	. 229
Colorado.....	2	Russian population.....	1, 099	33. 30	1. 75	. 490	. 234
Missouri.....	3	Native white, Ozark region.....	1, 138	33. 30	1. 76	. 485	. 234
Arkansas.....	2	Large native white population, hill country.	1, 559	33. 29	1. 80	. 484	. 236
Louisiana.....	1	Mississippi bottoms and upland, large Negro population.	4, 072	33. 29	1. 97	. 491	. 236
Pennsylvania.....	6	Rural area.....	8, 616	33. 29	1. 98	. 494	. 235
Kansas.....	2	Native and German population.....	8, 505	33. 28	1. 99	. 488	. 231
Arizona.....	1	Large Indian population, sparsely settled.	1, 027	33. 28	1. 91	. 489	. 232
Alabama.....	2	Large Negro population.....	3, 327	33. 27	1. 90	. 489	. 233
New Mexico.....	2	Native white population.....	1, 851	33. 26	1. 84	. 493	. 240
Arizona.....	2	Chiefly white population.....	2, 821	33. 25	1. 99	. 487	. 232
Illinois.....	5	Urban area.....	33, 905	33. 25	2. 12	. 495	. 236
New Mexico.....	1	Indian population.....	290	33. 25	1. 84	. 494	. 239
Texas.....	1	Large Mexican population.....	6, 676	33. 24	1. 98	. 487	. 234
Kansas.....	1	Russian population.....	1, 066	33. 24	2. 68	. 486	. 229
North Carolina.....	5	Island and peninsular area.....	254	33. 24	1. 84	. 491	. 235
Mississippi.....	1	Rural area, large Negro population.....	5, 149	33. 24	1. 88	. 488	. 231
New York.....	4	Western manufacturing region.....	14, 222	33. 23	2. 13	. 495	. 236
Oklahoma.....	2	Chiefly white population.....	10, 958	33. 22	1. 95	. 485	. 232
Maine.....	3	French Canadian population.....	1, 247	33. 22	1. 93	. 495	. 238
Colorado.....	3	English population.....	380	33. 21	1. 86	. 487	. 233
South Carolina.....	2	Large Negro population.....	3, 976	33. 20	1. 85	. 490	. 234
Iowa.....	2	Native white.....	7, 404	33. 20	1. 92	. 488	. 231
Ohio.....	1	Dense foreign population.....	17, 208	33. 20	2. 08	. 495	. 234
West Virginia.....	1	Mountainous area.....	1, 506	33. 20	1. 87	. 488	. 236
Kentucky.....	1	Mountainous area, native white.....	4, 029	33. 19	1. 80	. 486	. 237
New Jersey.....	1	Densely populated.....	17, 772	33. 19	2. 12	. 497	. 239
Arkansas.....	1	Negro, Mississippi bottoms.....	4, 933	33. 18	1. 95	. 487	. 233
Florida.....	4	Peninsular.....	2, 339	33. 18	1. 95	. 491	. 237
Do.....	2	Negro and rural population.....	995	33. 18	2. 02	. 490	. 236
Michigan.....	4	Urban area.....	17, 751	33. 18	2. 08	. 496	. 235
Minnesota.....	4	Urban area, "Twin Cities".....	9, 757	33. 18	2. 01	. 489	. 230
North Carolina.....	2	Intermediate.....	4, 309	33. 18	1. 90	. 486	. 235
Pennsylvania.....	2	Rural area, native stock.....	14, 218	33. 18	2. 02	. 497	. 237
Nebraska.....	1	German and Irish, foreign stocks.....	7, 621	33. 17	1. 93	. 488	. 230
New York.....	5	Mountainous, Catskill region.....	795	33. 17	2. 01	. 493	. 238
Louisiana.....	3	Rural, chiefly white population.....	5, 227	33. 17	1. 87	. 488	. 236
Texas.....	4	Coastal native population.....	2, 722	33. 16	1. 99	. 487	. 233
Alabama.....	1	Large Negro population.....	665	33. 16	1. 84	. 486	. 229
New York.....	1	Suburban territory.....	4, 919	33. 16	2. 08	. 497	. 238
North Carolina.....	3	Native white of Scotch origin.....	2, 050	33. 16	1. 82	. 485	. 234
Do.....	6	Remainder of State.....	744	33. 16	1. 85	. 489	. 235
Massachusetts.....	2	Manufacturing center.....	18, 352	33. 15	2. 04	. 497	. 241
North Carolina.....	4	Large Negro population.....	4, 558	33. 15	1. 91	. 489	. 233
Pennsylvania.....	4	Coal mining.....	4, 813	33. 15	2. 00	. 496	. 235
Do.....	5	Manufacturing.....	8, 892	33. 15	1. 98	. 497	. 235
Michigan.....	5	Dutch and other foreign population.....	2, 889	33. 14	1. 96	. 491	. 235
New York.....	2	Urban area, densely populated.....	46, 651	33. 14	2. 15	. 498	. 239
Colorado.....	4	Prevailing agricultural.....	1, 222	33. 14	1. 88	. 486	. 233
Ohio.....	3	Agricultural area.....	17, 548	33. 13	2. 00	. 489	. 234
Missouri.....	1	Native white, agricultural.....	13, 571	33. 11	1. 90	. 486	. 234
Do.....	2	Mississippi bottoms, considerable Negro population.	3, 448	33. 11	1. 89	. 486	. 233
Delaware.....	1	State undivided.....	1, 891	33. 11	1. 97	. 492	. 237
Georgia.....	1	Mixed population, native white predominating.	10, 235	33. 10	1. 88	. 486	. 235

TABLE 43.—*Mean chest circumference (expiration) by sections; sections arranged in order of standing with proportional chest circumference (expiration) in inches for each inch of height and each pound of weight; also standard deviation for each chest circumference; first million draft recruits—Contd.*

State.	Section.	Characteristics of sections.	Number of men measured.	Mean chest.	Standard deviation. (chest).	Mean chest. Mean height.	Mean chest. Mean weight.
				<i>Inches.</i>	<i>Inches.</i>	<i>Inch.</i>	<i>Inch.</i>
Arkansas.....	3	Large native white population.....	3,589	33.10	1.78	0.485	0.235
Oklahoma.....	1	Marked Indian and Negro population.....	8,471	33.09	1.87	.485	.233
Virginia.....	2	Large Negro population.....	5,339	33.07	1.89	.490	.236
Alabama.....	3	Large native white population.....	2,665	33.07	1.80	.484	.235
Illinois.....	3	Agricultural area, native.....	8,900	33.07	1.94	.487	.232
Indiana.....	3	Agricultural area, native stock.....	18,725	33.06	2.00	.487	.233
Ohio.....	2	Intermediate.....	14,443	33.06	1.98	.491	.234
Massachusetts.....	4	Urban area.....	8,553	33.06	2.14	.494	.237
South Carolina.....	3	Peninsular and rural areas.....	3,795	33.05	1.85	.491	.238
California.....	4	Urban area.....	7,428	33.04	2.02	.487	.234
Tennessee.....	2	Agricultural region.....	6,305	33.02	1.85	.484	.237
Pennsylvania.....	7	Allegheny County plus a small rural area.....	17,238	33.01	2.08	.495	.236
Maryland.....	2	Peninsular area.....	1,066	33.00	1.88	.490	.236
Do.....	1	Urban area.....	5,420	32.99	2.08	.493	.235
New Hampshire.....	2	Manufacturing area.....	1,581	32.98	2.00	.493	.237
South Carolina.....	1	Native white.....	1,563	32.97	1.83	.484	.235
Missouri.....	4	Urban area.....	6,784	32.96	2.07	.488	.235
Ohio.....	4	do.....	3,554	32.96	2.09	.489	.232
Tennessee.....	3	Mountainous region.....	5,898	32.93	1.85	.481	.231
Alabama.....	1	Mining and manufacturing area.....	8,833	32.93	1.84	.484	.233
Florida.....	1	Largely white and maritime.....	2,477	32.92	1.83	.486	.237
Pennsylvania.....	1	Urban area.....	16,053	32.91	2.02	.494	.239
Massachusetts.....	1	Mountainous area.....	1,373	32.90	2.09	.492	.237
Kentucky.....	2	Agricultural area.....	11,419	32.90	1.91	.484	.234
Tennessee.....	1	Negroes, Mississippi bottoms.....	2,217	32.90	1.84	.483	.232
Texas.....	2	Sparsely settled, white.....	23,372	32.90	1.95	.480	.231
Utah.....	2	More densely populated.....	2,781	32.89	1.88	.485	.230
Massachusetts.....	3	Peninsular region.....	1,123	32.88	2.12	.491	.237
Colorado.....	5	Urban population.....	1,640	32.88	1.83	.485	.234
Illinois.....	6	Negro population (Egypt).....	409	32.87	1.95	.482	.236
Virginia.....	1	Peninsular region and east shore.....	2,886	32.84	2.05	.487	.233
Mississippi.....	2	Rural area, large native white population.....	3,387	32.83	1.86	.480	.231
Rhode Island.....	1	State undivided.....	3,925	32.83	2.11	.494	.241
Alabama.....	5	Urban and suburban area.....	479	32.82	1.96	.485	.234
Colorado.....	6	Austrian and Italian population.....	1,224	32.79	1.89	.484	.235
Florida.....	3	Cuban, Spanish, West Indian population.....	84	32.74	1.99	.487	.240
Dis. of Columbia.....	1	District undivided.....	4,486	32.66	2.00	.482	.232
New Mexico.....	3	Noteworthy Mexican element.....	540	32.63	1.85	.480	.234
Louisiana.....	2	Urban area.....	3,040	32.63	2.09	.487	.237

9. STANDARD DEVIATIONS OF CHEST CIRCUMFERENCE BY SECTIONS.

Table 44 shows the variations in the standard deviations of chest circumference for the various sections. For the United States as a whole the standard deviation is close to 2 inches. In western Kansas it is 2.68 inches, a high variability associated with the mixture of Germans and large Scandinavians, on the one hand, and of smaller Russians on the other. In manufacturing Connecticut, in New York City, Boston, Chicago, suburban New Jersey, and Rhode Island, the standard deviation is also high. In general, the eastern cities attract both extremes in body size. Greater uniformity (smaller standard deviation) is found in the Southern States. Extremely low variability is found in South Dakota 3, with 87 per cent Indians; Colorado 2; and Missouri 3, the Ozark Mountains, 94 per cent native whites and mostly big men.