Meat Demand Monitor: Protein Consumption and Physical Fitness

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Protein Consumption and Resistance Training/Physical Fitness

A popular form of physical exercise in the U.S. is resistance training. Resistance training is the broad range of exercises that causes muscles to contract against external resistance. More formally, resistance training is the various modes of regular exercise that have the goals of injury prevention and rehabilitation, general fitness, cosmetic alterations, and preparation for competitive sport (Stone et al., 2007, Chapter 1). Popular forms of resistance training include powerlifting, Olympic weightlifting, bodybuilding, strongman, and functional fitness (e.g., CrossFit, HYROX).

Additionally—and as evident by a host of media and medical articles—resistance training can be supplemented with an intentional consumption of protein to aid in muscular repair and growth (Austin, 2023; Jäger et al., 2017; Reynolds, 2023; Willoughby et al., 2007). Various studies have recommended daily protein intakes of between 1.2 and 2.2 grams per kilogram of bodyweight for athletes or exercising individuals (Jäger et al., 2017; Wilson & Wilson, 2006). This level is compared to the oft-referenced recommended dietary allowance of 0.80 grams per kilogram of bodyweight per day for all individuals aged 19 years and older (Institute of Medicine, 2005). This elevated protein intake among those performing resistance training (or otherwise engaging in regular exercise) can come from a variety of sources: red meat, poultry and eggs, seafood, dairy, dairy- and plant-based protein powders, and protein bars or other protein-fortified snacks.

Tracking Protein as a Tool to Aid in Fitness Pursuits

To better understand how U.S. residents use protein to aid in their resistance training or other fitness pursuits, the Meat Demand Monitor (MDM) has asked "Do you intentionally eat protein to aid in meeting strength-training or other fitness-related goals?"

In summary, after ensuring representativeness of the Quarter 2 2023 sample, 3,045 of the 8,338 useable responses answered "Yes" to the question.[2] This indicates that roughly 37 percent of the U.S. adult population is intentionally consuming protein to aid in their fitness pursuits. Table 1 below depicts responses by gender and age group. The first and second columns indicate the demographic group, the third column reports the number of respondents in the respective group, and the fourth

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[2] Survey responses are weighted to be representative of the U.S. population in terms of age, gender, race, education, income, and region of residence. Data filtering methods are provided in the MDM project methodology statement and MDM Dashboard supporting information.

column reports the share of respondents in each group who intentionally consume protein for fitness-related reasons.

Table 1. Share of Respondents Consuming Protein for Fitness Goals

Gender	Age Group	Number of Respondents	Share Consuming Protein for Fitness Goals
Female	18-29 years	612	0.43
	30-49 years	1,315	0.34
	50-64 years	1,378	0.22
	65+ years	1,131	0.18
Male	18-29 years	548	0.58
	30-49 years	1,326	0.62
	50-64 years	955	0.30
	65+ years	1,073	0.14

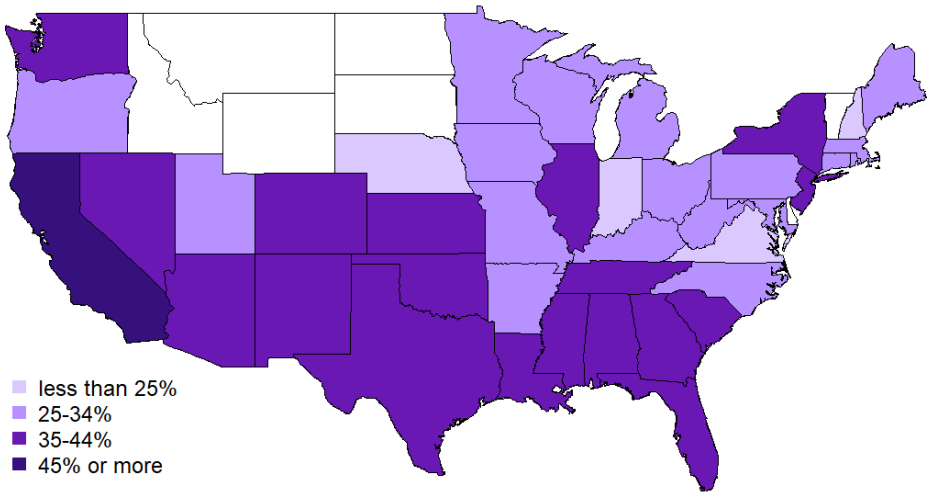
For most age categories, males have a higher tendency than females to intentionally consume protein. However, for those 65 years of age or older, 18 percent of females reported consuming protein to aid in their fitness goals, as opposed to 14 percent of males. Additionally, the percentage of respondents consuming protein to aid in fitness pursuits declines as age increases. Around 60 percent of males younger than 50 years old reported intentionally consuming protein, compared to 14-30 percent of males 50 years of age or older. Similarly, 34-43 percent of females younger than 50 intentionally consume protein, compared to around 20 percent of females 50 years of age or older.

These results may have meaningful implications for the U.S. meat industry. To the extent that younger people maintain both their exercise and protein consumption habits into their later years, the "active" population will represent an increasingly larger share of the market for protein and may drive purchases and prices relatively more than the "non-active" population. Research currently being conducted at Kansas State University by Dr. Glynn Tonsor and Justin Bina aims to assess the economic impacts of this phenomenon. Please contact the authors for more information on that research effort.

Geographic Differences

Geographic differences were observed in the answers to the fitness and protein consumption question. Depicted in Figure 1 and Table 2 are these geographic differences. Of note is that respondents from California were most likely to consume protein to fuel their fitness goals, with 45 percent of the state indicating so. Many states in the southern portion of the country also observed at least 40 percent of respondents intentionally consuming protein for fitness-related reasons, including Louisiana, Tennessee, New Mexico, Georgia, Mississippi, Nevada, and South Carolina. This may reflect potentially more active individuals in warmer states (and associated increased protein intake) which concurrent research will provide future insights on.

Figure 1. Share of Respondents Consuming Protein for Fitness Goals—By State



Note: States shaded white did not observe at least 30 respondents for the quarter.

Table 2. Share of Respondents Consuming Protein for Fitness Goals—By State

State	Census Region	Number of Respondents	Share Consuming Protein for Fitness Goals
Vermont	Northeast	9	0.00
New Hampshire	Northeast	40	0.14
Indiana	Midwest	140	0.19
South Dakota	Midwest	25	0.20
Nebraska	Midwest	42	0.21
Virginia	South	170	0.24
Wyoming	West	10	0.25
Pennsylvania	Northeast	347	0.25
Oregon	West	106	0.26
Arkansas	South	85	0.26
Iowa	Midwest	71	0.26
Minnesota	Midwest	143	0.27
Connecticut	Northeast	109	0.27
Wisconsin	Midwest	149	0.28
Massachusetts	Northeast	162	0.28
Missouri	Midwest	193	0.29
Ohio	Midwest	346	0.30
Rhode Island	Northeast	43	0.30
North Carolina	South	234	0.31

Michigan	Midwest	245	0.32
Hawaii	West	61	0.32
Maryland	South	105	0.33
West Virginia	South	59	0.33
Maine	Northeast	51	0.33
Utah	West	36	0.34
North Dakota	Midwest	17	0.34
Kentucky	South	113	0.35
Montana	West	18	0.35
Arizona	West	265	0.35
New Jersey	Northeast	193	0.36
Kansas	Midwest	99	0.36
Idaho	West	22	0.36
Florida	South	611	0.37
Washington	West	162	0.38
Colorado	West	98	0.38
Texas	South	726	0.39
Alabama	South	128	0.40
Illinois	Midwest	297	0.40
Oklahoma	South	96	0.40
South Carolina	South	129	0.40
Nevada	West	102	0.40
Mississippi	South	76	0.41
Georgia	South	260	0.41
Alaska	West	19	0.41
New Mexico	West	55	0.42
Tennessee	South	173	0.43
New York	Northeast	529	0.43
Louisiana	South	98	0.44
California	West	915	0.45
Delaware	South	29	0.50
District of Columbia	South	12	0.82

Protein Consumption by Source—Active versus Non-Active Population

Finally, consumption across a variety of animal proteins can be compared between those who intentionally eat protein to aid in fitness pursuits and those who do not. MDM respondents are asked to provide the number of yesterday's meals (from zero to three) that contained beef, chicken, pork,

seafood, alternative meats, or other/no protein[3]. Summarized in Table 3 are the national averages, split up by respondents who eat protein for fitness-related reasons and respondents who do not.

Table 3. Number of Yesterday's Meals Containing Protein

		Protein Type					
Consumes Protein for Fitness Goals	Number of Respondents	Beef	Chicken	Pork	Seafood	Alternative Meats	Other/No Protein
No	5,623	0.61	0.70	0.45	0.23	0.30	0.84
Yes	2,715	0.86	0.99	0.56	0.49	0.54	0.36

Across the board, respondents who consume protein to aid in their fitness pursuits have animal and alternative proteins in more meals, on average. The disparity is largest for chicken, which may reflect active individuals having increased desire for the relatively lean meat product. Those who intentionally consume protein for fitness reasons have chicken in 0.99 meals per day, compared to 0.70 meals per day for those who do not intentionally consume. Similarly, products such as beef and pork are consumed more on average by the "active" population than the "non-active" population. These results have important implications for the U.S. meat industry, as consumers who are active and utilize protein for their fitness pursuits may be driving national protein purchases and prices at rates greater than their share of the resident population would otherwise indicate. Recalling our findings that younger people are more likely to eat protein for their fitness-related pursuits, the economic impact of the active population may grow as these consumers age and the country becomes generally more health focused.

[3] It should be noted that eggs are included in the other/no protein category and are often a primary entry.

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