MEATLESS MONDAY THROUGHOUT THE YEARS

AN ANALYSIS OF THE CAMPAIGN'S REACH AND IMPACT

Background

Meatless Monday (MM) was established in 2003 by Sid Lerner in collaboration with the Johns Hopkins Center for a Livable Future. The campaign's aim was to encourage people to reduce their meat consumption by 15 percent—achievable by skipping meat one day a week. To this day, the campaign focuses on the potential for meat reduction to improve both individual health and the health of the planet. It is administered by The Monday Campaigns with science advisory and technical support from Johns Hopkins Center for a Livable Future.

This year, the MM campaign is celebrating its 20th anniversary. Over the past two decades, the campaign has evolved continuously. Since launching in 2003 in the U.S., MM has been implemented by various organizations in over 40 countries. It grew from a website and later an email newsletter that started in 2009 to a full social media campaign, including Instagram, Facebook, and Twitter. It took root on college campuses, was adopted by hospitals and food service companies, and was further popularized by the media. While the campaign's growth is clear, the reach and impact have yet to be fully assessed.

The aim of this project was to assess the reach and impact of the MM campaign in the US over the last 17 years with the goal of informing future decisions about the campaign.

Methods

This project analyzed data from surveys designed and administered repeatedly from 2005 through 2021 by The Monday Campaigns via the company Data Decisions Group (DDG) (formerly FGI) to a national sample of respondents. DDG was formed in 2016 after FGI merged with another data agency. DDG uses a sampling methodology they call iGAGE, which delivers a representative sample by stratifying respondents by income, gender, age, geography and ethnicity.[1]

It was initially administered annually and then transitioned to every other year for a total of 13 survey years. Each year, a nationally representative sample of 1,000 was surveyed. While some questions were consistent throughout the surveys, the number of questions and type of questions varied greatly from year to year. Though questions pertained to all of the Monday Campaigns' initiatives, this summary and analysis will look at only those related to MM. Questions from each year were examined, and a matrix was created to determine which questions had been included longitudinally. Questions with six or more years of comparable data were considered as focus questions as this represents roughly half of the years. Some variation in wording was acceptable and a log of this type of decision was kept for reproducibility. Analysis pertained directly to assessing the reach and impact of the MM Campaign.

1. Have you ever heard of Meatless Monday—a national public health campaign?

2. Are you currently trying to cut back on the amount of meat you eat?

3. Did Meatless Monday influence your decision to cut back on and/or consider cutting back on the amount of meat you eat?

4. In what way(s), if at all, has Meatless Monday changed your cooking and/or eating habits? Select all that apply.

5. What is the PRIMARY REASON you do not eat meat, are trying to cut back on meat, cut back on meat in the past, or are considering cutting back on the amount of meat you eat? Select one...

For each question, each year's data was exported from the DDG platform into Microsoft Excel and then collated into tables to allow for comparison across years. Data for questions 1-3 and question 5 were also analyzed for differences between race, household income levels, and genders. The tabled data were then organized into line or bar graphs to allow for visualization of the longitudinal trends. Stata (version 17) was used to perform Chi-squared tests for statistically significant differences between years and between groups within years. Fisher's extract was performed when the number of respondents in each group was too small for a Chi-squared test.

Gender included the options for "male" and "female" in all years. "Other" was added as an option in 2019 and 2021, however in each year, only one respondent self-identified as "other" so gender was not included in the analysis.

The household income portion of the questionnaire was included starting in 2005 but 2005 and 2006 could not be included in the longitudinal comparison as the initial categories were not comparable to the ones from 2008 onwards (<$19,999, $20,000-$49,999, $50,000-$99,999, $100,000-$149,999, $150,000 and $200,000 or above, not sure and prefer not to answer). For ease of data analysis and to account for a slight difference in categories in 2017, the bottom two categories were combined for each year into a <$50,000 category. Similarly, the top two categories were combined for each year into a >$150,000 category.

For all years, race categories included "American Indian/Alaska Native", "Asian", "Black/African American", "White/Caucasian" and "Native Hawiian or Pacific Islander".

“Other and “prefer not to say” were also options. “Middle Eastern or North African” was added as an option in 2017. The categories of “American Indian/Alaska Native”, “Native Hawiian or Pacific Islander” and “Middle Eastern or North African” consistently had small sample sizes which made it difficult to track trends for these groups. These groups were combined into the “other” category. In some places, this report focuses on differences between the Asian, Black/African American and White/Caucasian groups because these had sufficiently robust sample sizes.

For this report, **reach** pertains to whether or not a respondent was exposed to MM messaging in some way shape or form (i.e., had they heard of MM). **Impact** pertains to whether or not a person made changes to their meat consumption with the goal of assessing what changes might be related to exposure to the MM campaign.

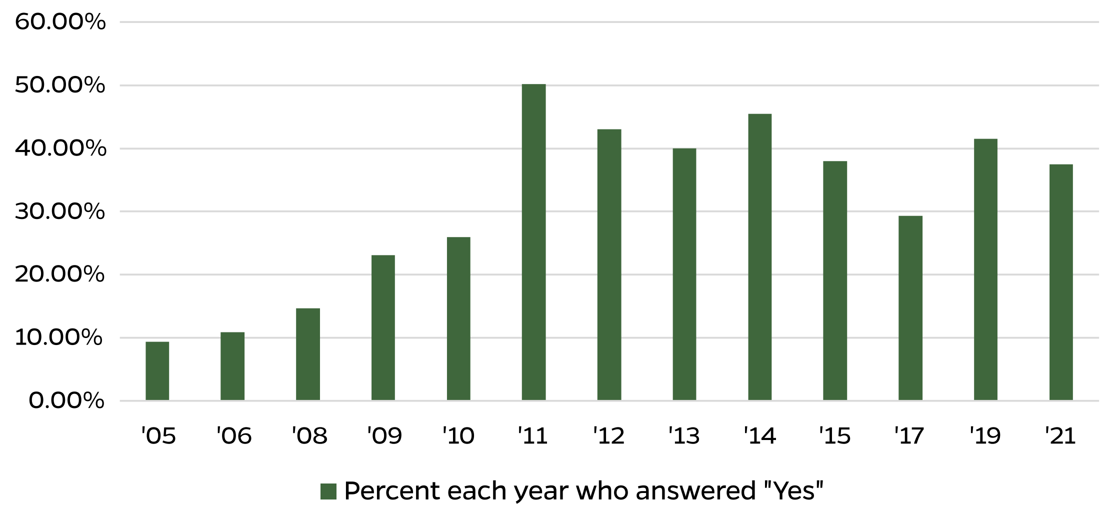
Results

CHANGE IN REACH OVER THE YEARS

Have you heard of Meatless Monday?

Change in reach was assessed via the question *Have you heard of MM?* This was asked from 2005-2021.

Have you heard of Meatless Monday?



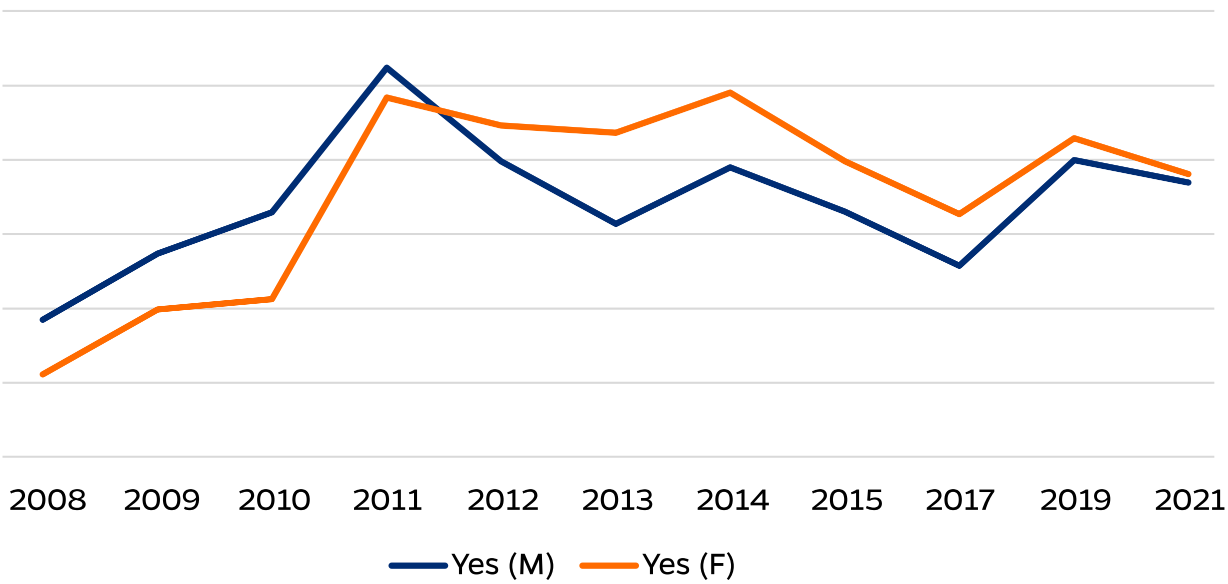
Overall

There was a significant 28.1% increase between 2005 and 2021 (p<0.000) in the percentage of respondents who reported having heard of MM. Awareness peaked in 2011 at just over 50%. There was a significant 12.7% decrease between the peak in 2011 and 2021 (p<0.000). Awareness of MM overall has grown but has fluctuated in recent years with a slightly downward trend from 2014 onwards.

By Gender

In 2008 a higher percentage of males compared to females had heard of MM ($p<0.000$), however this switched in 2013 ($p<0.000$) and in more recent years there has been no significant difference in reach between genders (2021 $p=0.680$).

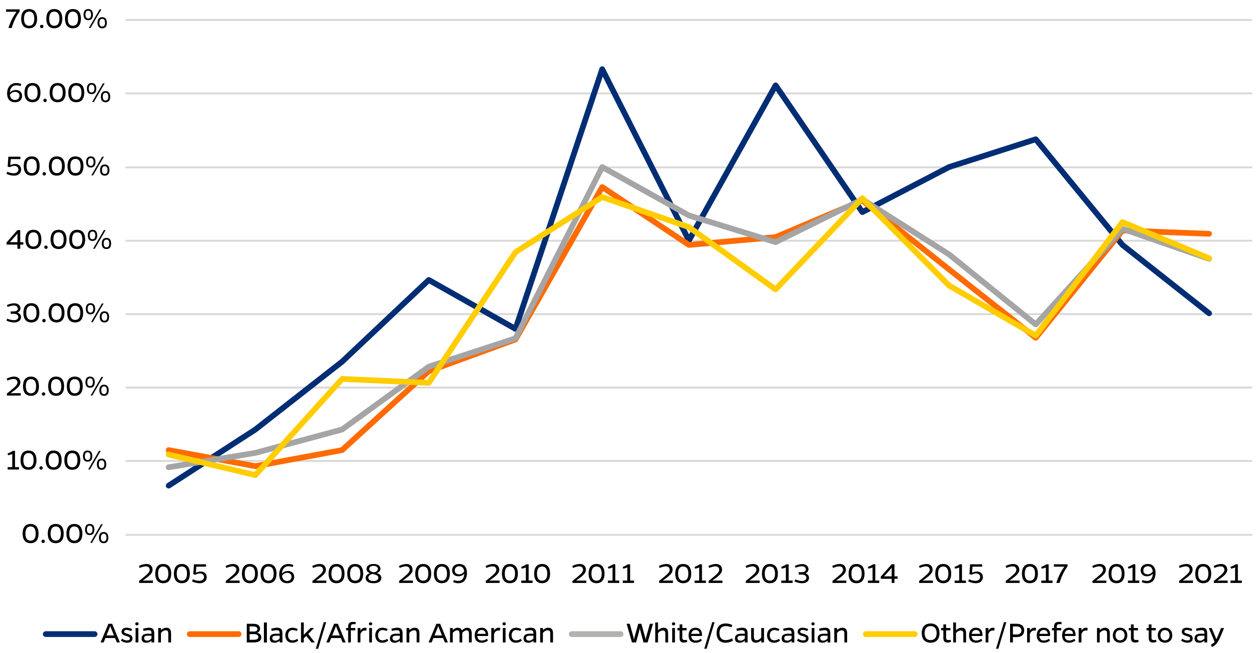
Percentage of each gender who answered "yes" to "Have you heard of Meatless Monday"



By Race

Generally Black and White respondents had similar percentages of those stating they had heard of MM. There were no significant differences between Black and White respondents who had heard of MM in any years, indicating that the message is reaching both groups equally. Asian respondents tended to have a slightly higher percentage who had heard of MM compared to both Black and White respondents, but this difference was only significant in three out of 13 years (2008 p=0.035 for White, p=0.029 for Black), 2012 (p<0.000 for both groups), and 2017 (p=0.001 for white and p=0.002 for Black).

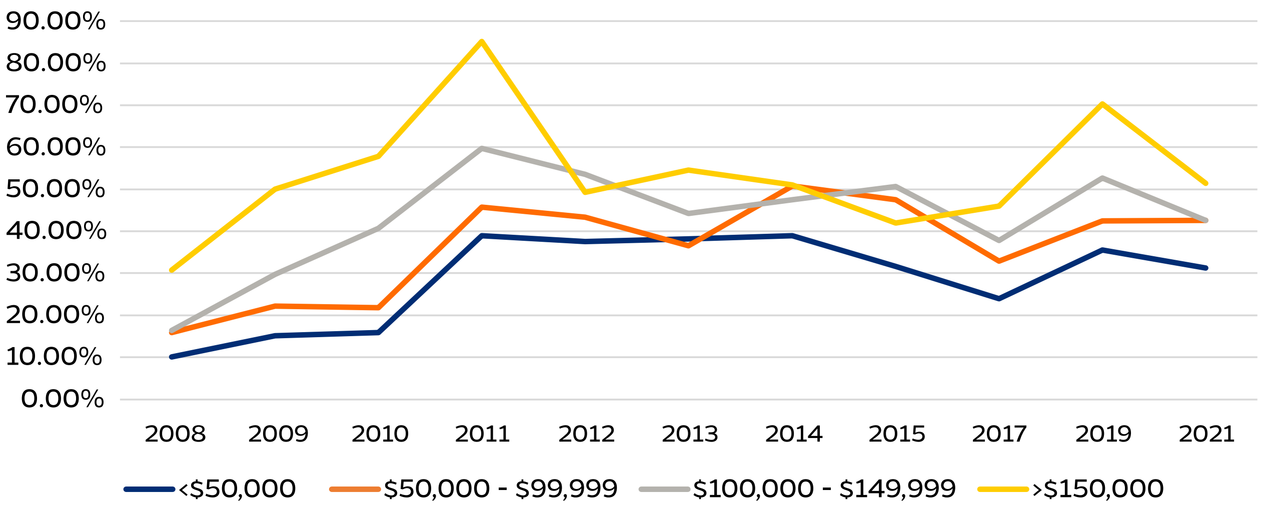
Percentage who andswered "yes" to "Have you heard of meatless Monday? (by race)



By Household Income

A higher percentage of those whose household income was >\$150,000/year had heard of MM compared to those with household income <\$50,000/year. This difference was significant ($p<.05$) in all years except 2014 and 2015. Generally, those with higher household incomes were more likely to report having heard of MM compared to those with lower household incomes.

Have you heard of Meatless Monday? Percentage who answered "yes" by household income strata



CHANGE IN IMPACT OVER THE YEARS

Change in impact was assessed via three questions all asked from (2012-2021)

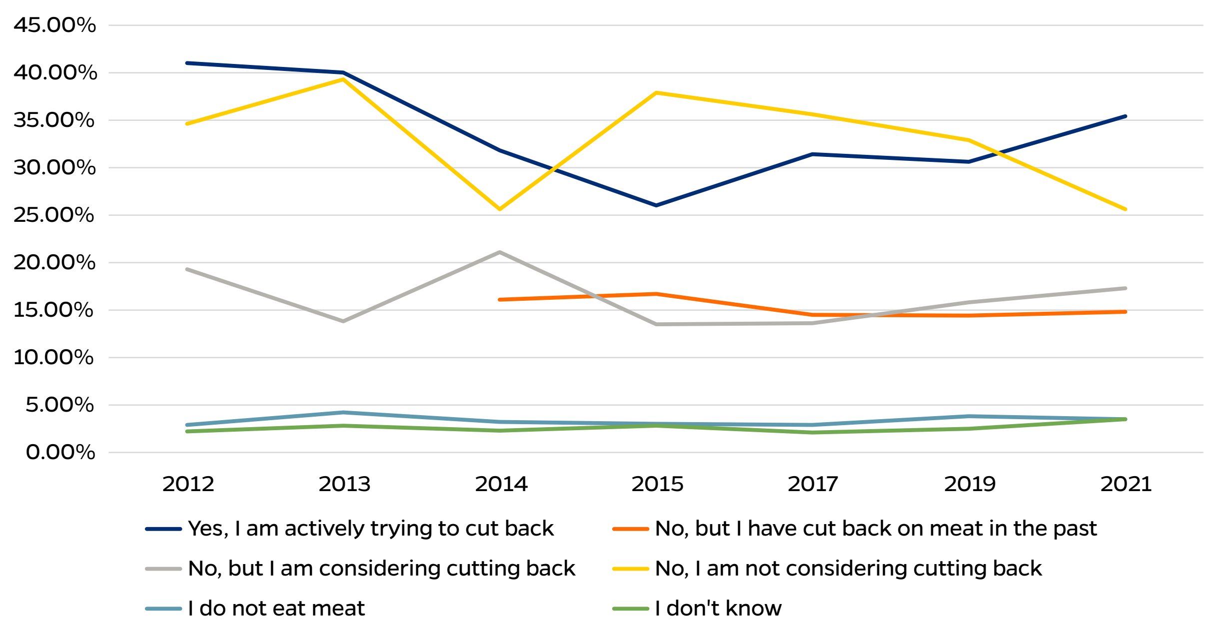
1. Are you currently trying to cut back on meat?

Note: Statistical comparison was only possible between 2014-2021 due to the addition of the option "no, but I have cut back in the past" in 2014 which was previously not an option.

Overall

From 2014-2021 percentages of respondents in each category were relatively stable (no significant differences) except for "no, but I am considering cutting back" which had a significant ($p<0.000$) 3.8% decrease.

Are you currently trying to cut back on the amount of meat you eat?



By Gender

Generally, rates of males vs. females who were actively trying to cut back on meat were similar in each year (only 2014 had significant difference), as were rates between genders of those not cutting back. 2014 had a significantly higher rate of males not cutting back but otherwise there were no significant differences. In 2 out of 5 years analyzed, a significantly higher percentage of females reported not consuming meat.

By Race

Generally, a higher percentage of Asian respondents stated that they do not eat meat compared to Black and white respondents. However, these differences were only significant in 2017 (p=0.029) and 2019 (p=0.023) for Asian compared to White. The percentage of respondents who stated that they are actively trying to cut back on meat was significantly higher among Black respondents compared to White in 2017 (p=0.015), 2019 (p=0.001) and 2021 (p<0.000). The percentage of Black respondents actively cutting back increased by 8.5% from 2014 to 2021, however this was not significant.

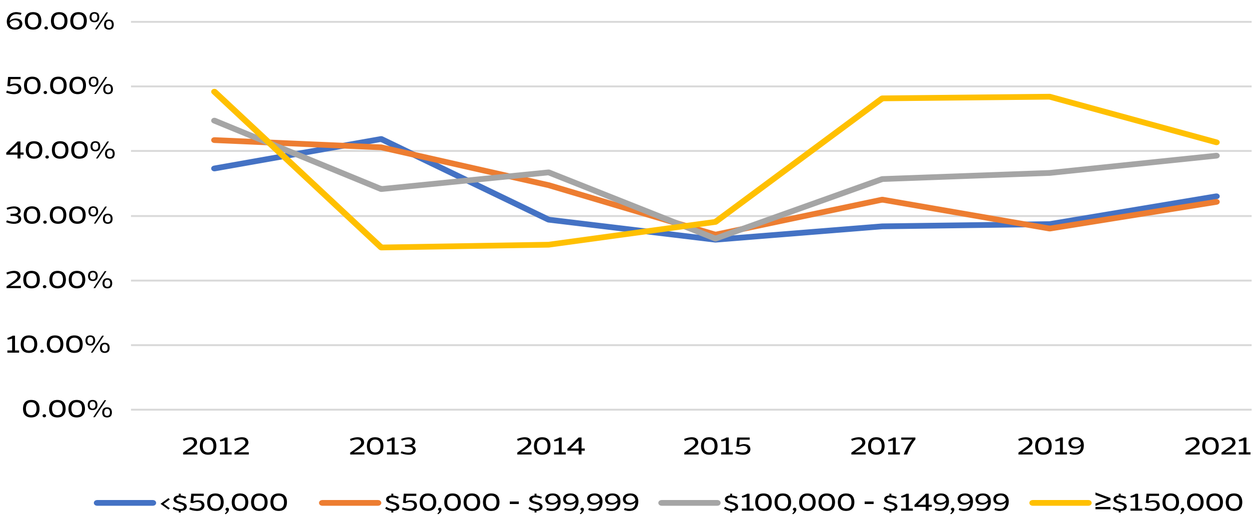
Meat Consumption Status By Race

	2014	2015	2017	2019	2021
"I do not eat meat"					
White	2.20%	3.10%	2.50%	3.20%	3.90%
Black	4.50%	0.80%	3.00%	5.30%	2.80%
Asian	6.10%	5.60%	9.50%	8.50%	4.80%
"Yes, I am actively trying to cut back"					
White	31.40%	25.10%	29.60%	28.30%	31.20%
Black	37.90%	28.60%	40.20%	41.40%	46.40%
Asian	36.40%	38.90%	50.00%	36.60%	26.10%
"No, I am not considering cutting back"					
White	26.40%	40.30%	39.10%	37.90%	30.10%
Black	22.70%	32.80%	22.00%	17.10%	16.60%
Asian	16.70%	13.90%	16.70%	11.30%	16.90%

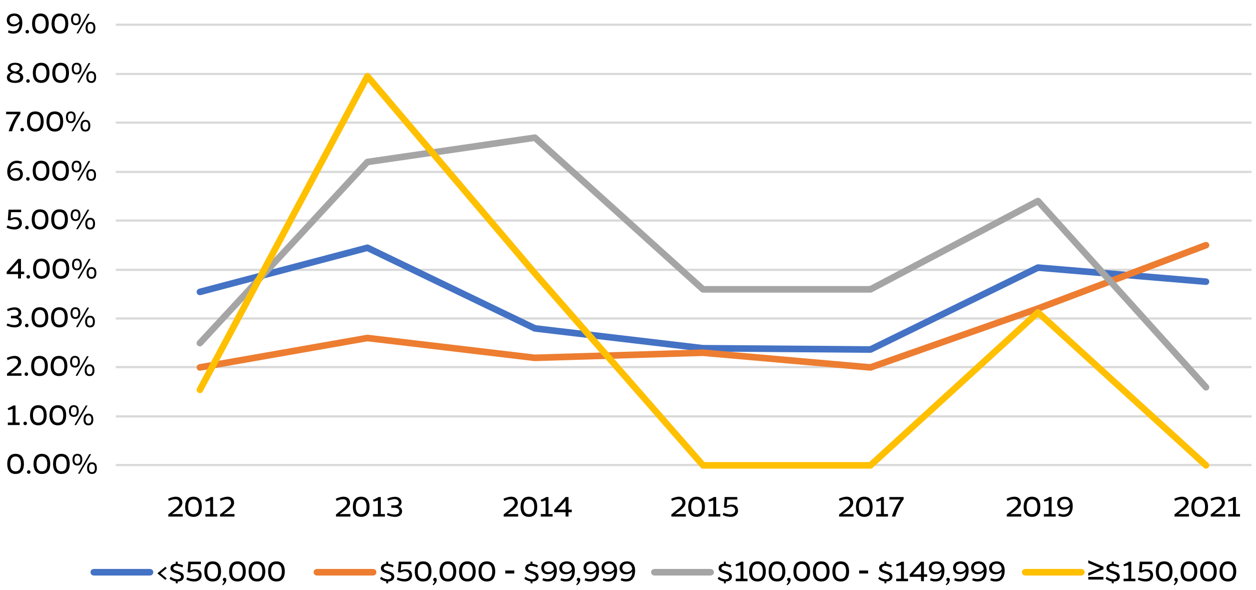
By Household Income

There was no clear trend when comparing household income strata to meat status. In 2017 (P=0.003) and 2019 (p=0.001) there was a significantly higher percentage of those in the highest vs lowest household income groups that stated they were trying to cut back, but in earlier years this was reversed. Similarly, the household income strata were mixed regarding percentage of respondents who answered, “I do not eat meat”.

Percent of each household income group who stated “I am trying to cut back”



Percent of each household income group who stated “I do not eat meat”



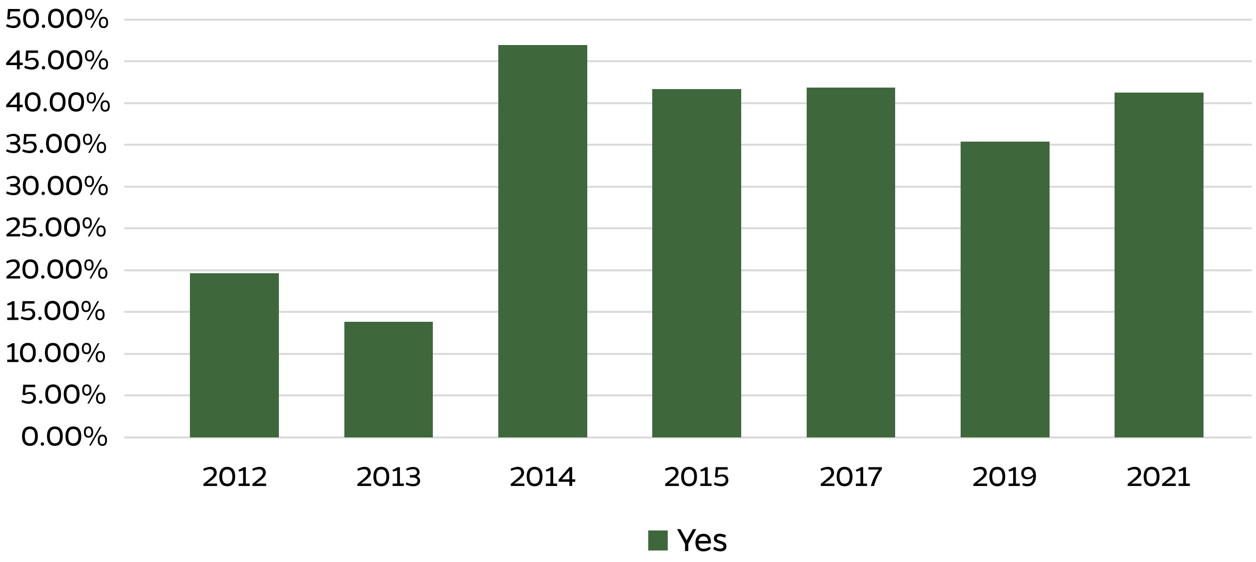
2. Did MM impact your decision to cut back?

Note: this question was asked only of people who reported that they HAD heard of MM

Overall

There was a significant 21.6% increase in those who reported that MM influenced their decision to cut back on meat between 2012 and 2021 (p<0.000). The largest jump was between 2013 and 2014 and rates of those reporting influence have leveled off since then.

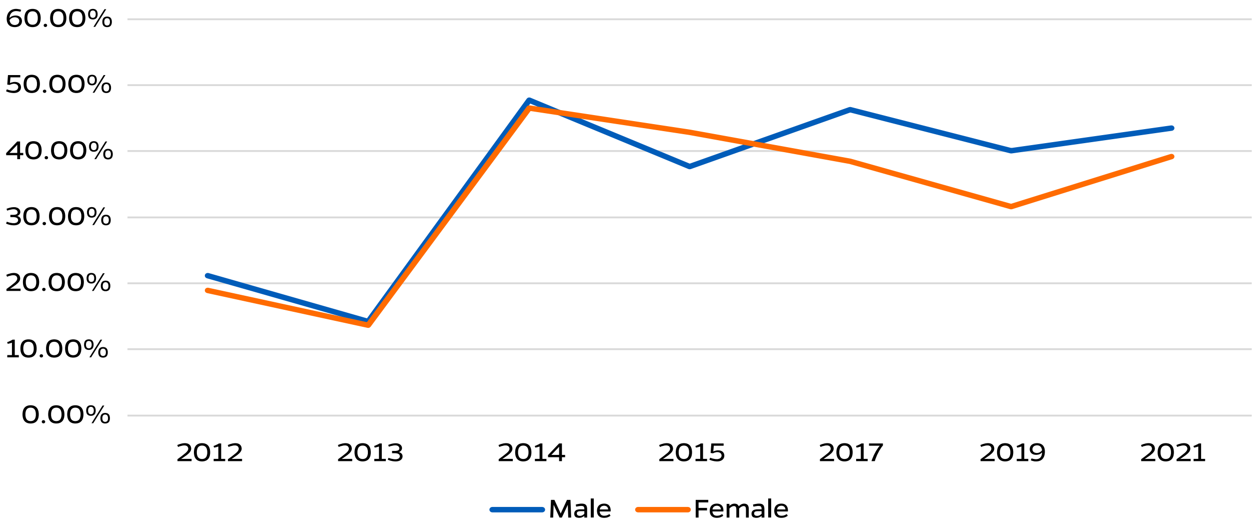
Did Meatless Monday ever influence you to not eat, cut back on, or consider cutting back on the amount of meat you eat?



By Gender

There were no significant differences in any year between the percentage of males and females who stated MM influenced their decision.

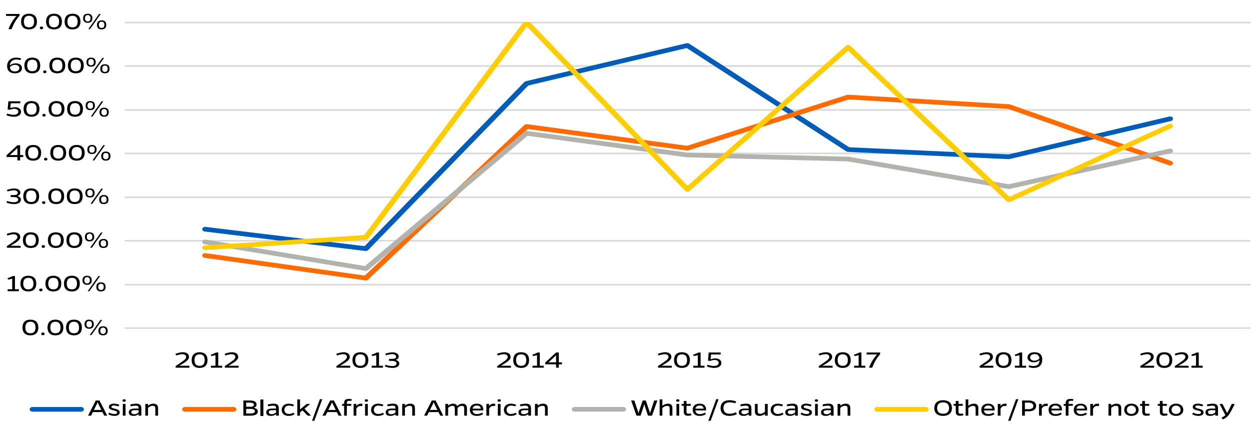
Percentage of each genter who reported Meatless Monday DID influence their decision to cut back on meat



By Race

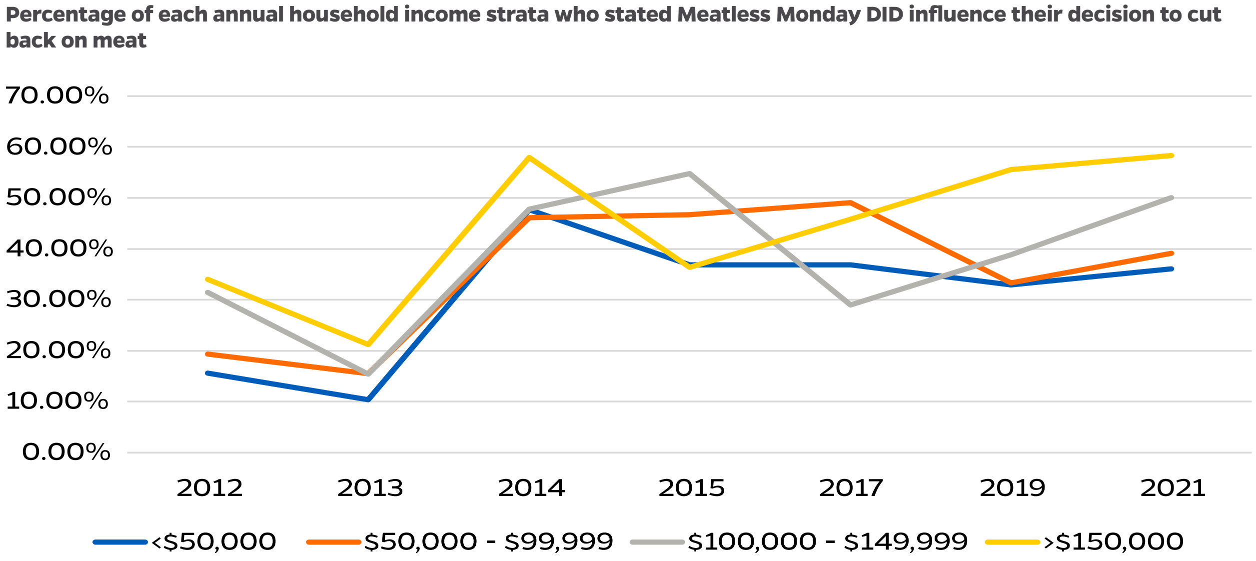
The percentage of White and Black respondents who stated MM influenced their decision to cut back on meat was similar, with only one significant difference in 2019 (p=0.006). Generally, there was a slightly higher number of Asian respondents compared to White and Black reporting MM influence, although this was only significant in 2015 (p=0.044) for White vs Asian groups.

Percentage of each race who stated Meatless Monday DID influence their decision to cut back on meat



By Household Income

Influence of MM increased significantly ($p<0.05$) from 2012-2021 in ALL household income strata indicating that influence of MM is growing regardless of household income. In all years except 2015, there was a higher percentage of respondents in the highest income strata indicating that MM impacted their decision to cut back on meat compared to the lowest income strata. This difference was significant in 2012, 2013, 2019 and 2021 ($p<0.05$). This indicates that MM was generally more likely to influence those with higher household incomes.

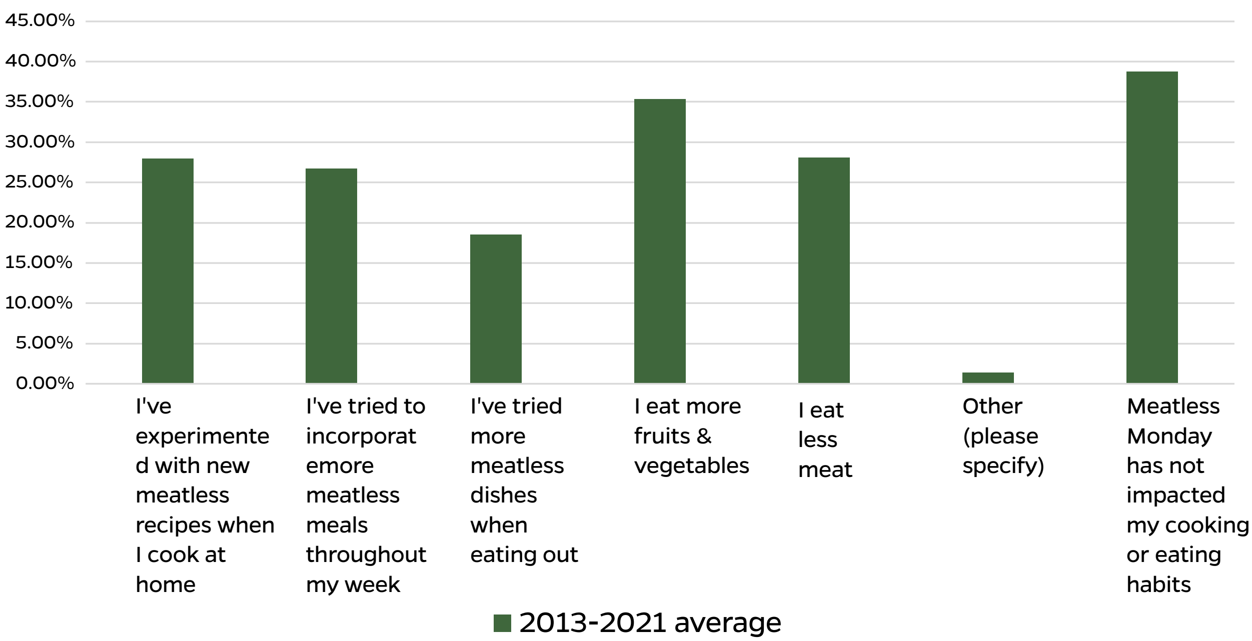


3. In what way(s), if at all, has Meatless Monday changed your cooking and/or eating habits? Select all that apply.

This question was asked for six years from 2013-2021 to participants who indicated that they HAD heard of MM. Given the nature of this question (select all that apply) and the inconsistency in how the question was asked (options were added and deleted), no statistical analysis was conducted on this question. However, it should be noted that there was considerable variation between years.

The bar graph shows an average of results from the six years in which the question was asked. Across the six years, "I eat more fruits and vegetables" was selected most frequently with a six-year average of 35.28% of participants selecting this as one of their changes. "I eat less meat" was only available as a response in 2017, 2019 and 2021 but in those years it was the second most selected option with a 3-year average of 28%. Experimenting with new meatless dishes while cooking at home and incorporating more meatless meals throughout the week were the next two most selected changes with an average of 27.92% and 26.71% respondents selecting this across the years.

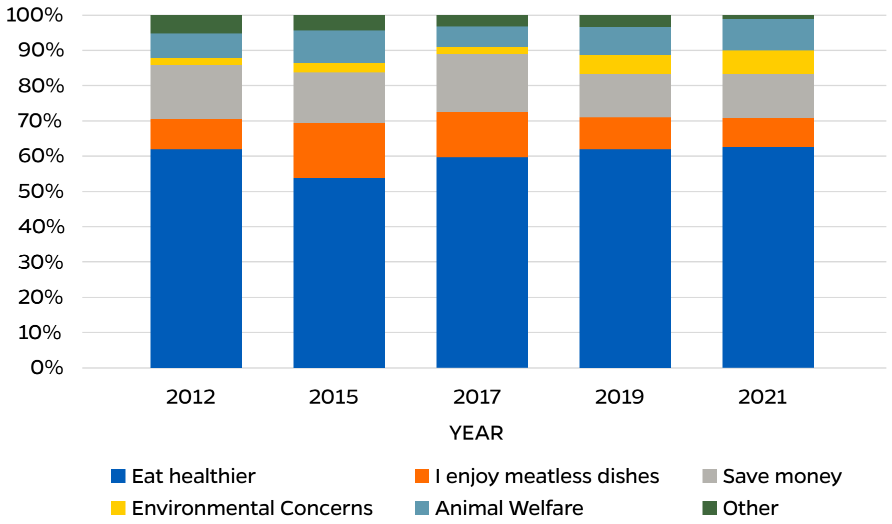
In what way(s), if at all, has Meatless Monday changed your cooking and/or eating habits? select all that apply.



4. What is your primary reason for cutting back on meat?

Overall

Primary reason for cutting back on meat



Primary Reason for Cutting Back on Meat

	2012	2021	Δ	p value
Eat healthier	61.99%	62.70%	0.71%	0.7749
I enjoy meatless dishes	8.61%	8.10%	-0.51%	0.7246
Save money	15.36%	12.40%	-2.96%	0.1044
Environmental concerns	1.99%	6.80%	4.81%	<0.000
Animal welfare concerns	6.89%	8.90%	2.01%	0.1446

There was a significant 4.81% increase from 2012-2021 in participants reporting environmental concerns as their primary reason for cutting back on meat ($p<0.000$).

There were no significant changes from 2012 to 2021 in the number of respondents choosing taste, cost, animal welfare or health as the primary reason.

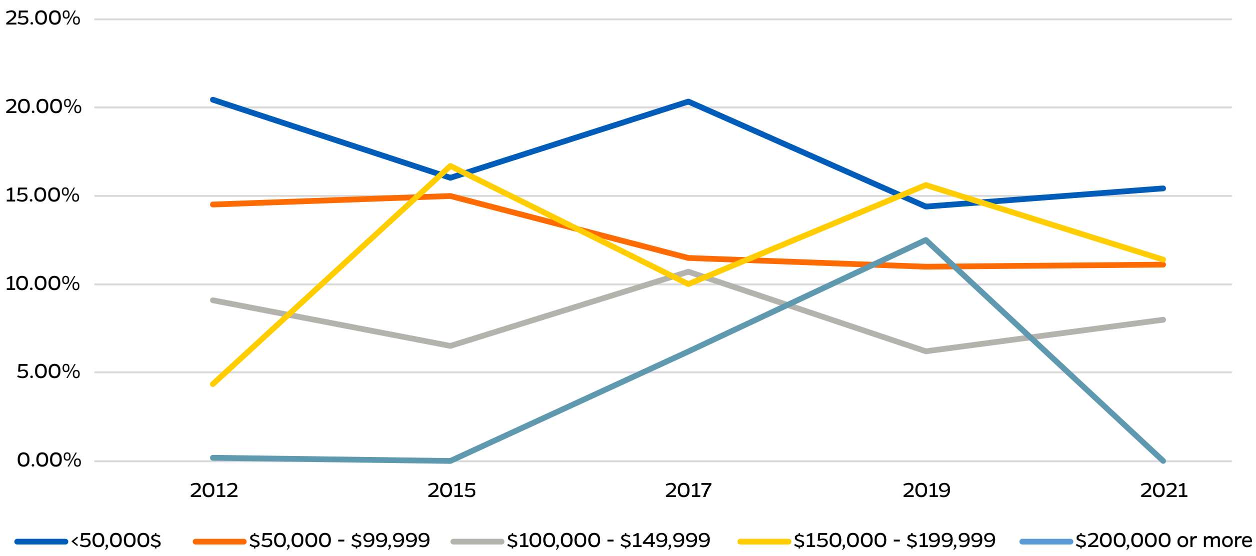
By Gender/Race

Among all races and genders, "Eat Healthier" was consistently the primary reason selected for cutting back on meat.

By Household Income

"Eat healthier" was consistently the top reason selected in all years among all household income levels. There was a consistent trend for those in the lower household income group (<50K) to choose save money as a primary reason more frequently compared to the top two strata of household incomes (100-150k and 150k+), but these differences were not significant in any years.

Percent in each annual household income strata who chose SAVE MONEY for primary reason

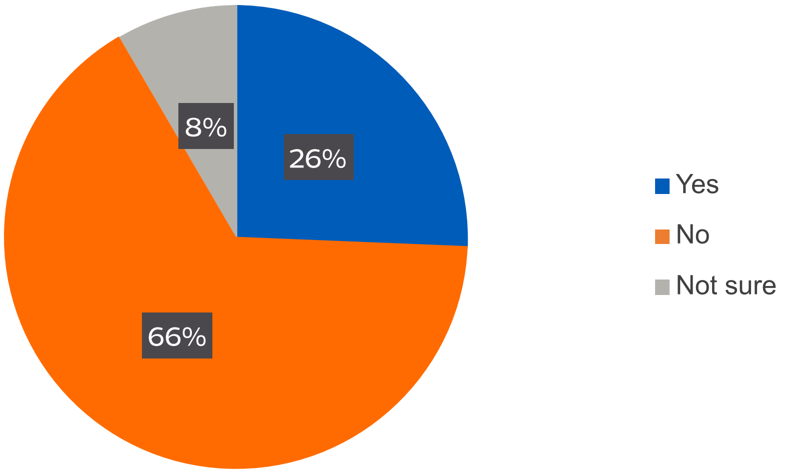


New Questions Asked in 2021 Survey

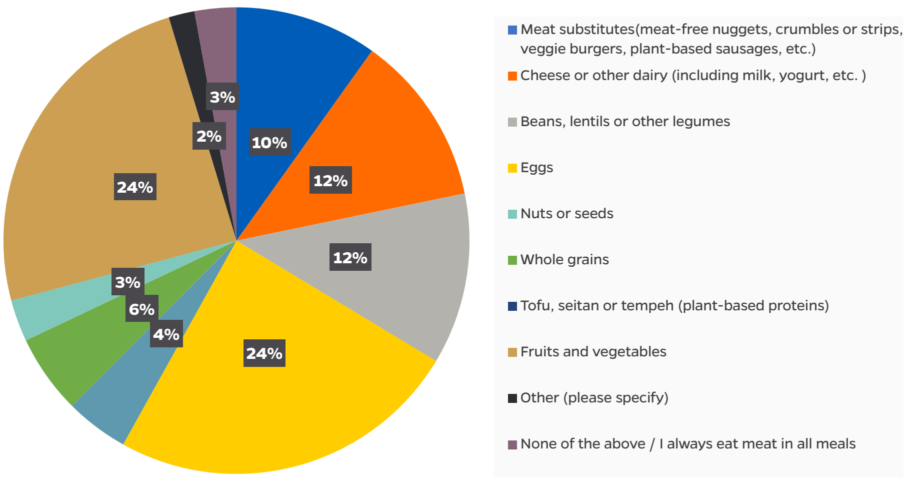
The most recent survey year had new questions regarding MM and behavior change. Of particular interest regarding the influence of MM include "Has Meatless Monday ever influenced you to increase consumption of beans or lentils?" and "For meals that don't contain meat, which of the following are you most likely to eat as an alternative to meat".

Just over a quarter of participants reported MM had influenced them to eat more legumes. Regarding alternatives, eggs (24%) and fruits/vegetables (24%) were the top choices followed by cheese (12%) and beans/lentils (12%).

Has Meatless Monday influenced you to eat more beans or lentils?



For meals that don't contain meat, which of the following are you MOST likely to eat as an alternative to meat? Choose only one.



Discussion

INFLUENCE OF MEATLESS MONDAY IS INCREASING

Overall, these survey results demonstrate that both the reach and impact of MM have grown from 2005 to 2021, although impact has leveled off in recent years and there has been a slight decline in awareness. Despite this decline, there was a significant 21.6% increase in the number of people who reported that MM influenced their decision to reduce meat consumption between 2012 and 2021. In 2021 over 40% of participants who had heard of MM indicated that it influenced them to reduce meat consumption, indicating that MM is effectively bringing about the desired behavior change.

Since its inception, many factors have contributed to the campaign's growth including corporate partnerships, celebrity endorsements, and an increasing social media presence. The MM website launched in 2003 but the Instagram account, which now has over 109,000 followers, did not launch until 2012. The newsletter and Facebook page started in 2009.

The large spike in awareness in 2011 is likely attributable to a combination of factors. By 2011 the newsletter and Facebook page had been around for two years, allowing time for these platforms to grow the audience. The 2011 spike also coincides with Oprah Winfrey introducing MM on her popular TV show that year. Additionally in 2011, the foodservice company Sodexo launched a MM initiative at the hospitals and schools it contracts with. Even when treating 2011 as an outlier, awareness has fluctuated in recent years and has declined slightly.

It should be noted that the question assessing awareness of MM was asked three different ways over the 13 surveys. Initially in 2005 and 2006 it was phased with minimal details "*Have you ever heard of Meatless Monday—a national public health campaign*?" From 2008-2010 the question was asked with more context as "*Meatless Monday is a public health campaign that encourages Americans to cut back on saturated fat found in red meat and high-fat dairy just one day a week. Just a 15% reduction in saturated fat can greatly reduce your risk of heart disease, diabetes, stroke, and cancer. Have you heard of Meatless Monday*?". From 2011 onward it was asked once again with less detail as "*Have you heard of Meatless Monday, which helps people reduce meat consumption by encouraging them to cut out meat once a week*?" These changes in wording may have contributed to a variation in the percentage of people indicating that they had heard of MM, especially in 2008-2010 when the most detail was provided.

Additional factors might be contributing to the lack of increase in awareness of MM in recent years. For example, there might be a need to tailor the current MM messaging strategy to target a younger audience. Additionally, it is possible that campaigns similar to MM have adopted the same messaging making it harder for people to recognize by name. It appears that the MM campaign has reached a stable point in terms of awareness and without any new approach it is not likely to grow further. This stagnation indicates the need for a new strategy moving forward to engage and impact new audiences.

The biggest jump in the influence of MM was between 2013 and 2014 with numbers hovering around 40% ever since. A number of factors likely contributed to this jump including the overall growth of the campaign and awareness as mentioned above. It was also about two years after the creation of the MM Instagram account and five years after the MM Facebook page started so it is possible this increase in influence is due in part to the social media accounts gaining traction.

DEMOGRAPHIC DIFFERENCES

While in recent years males and females have been reached by the campaign at similar rates, initially males reported higher awareness of MM and for a brief period females were reporting higher awareness. Despite these initial differences in awareness, there were no differences in the impact of MM among genders in any years, indicating that the MM campaign is impacting both genders equally.

Additionally, there was a similar level of awareness of the MM campaign among White, Black, and Asian, although a significantly higher level of awareness among Asian respondents was noted in three of the 13 survey years. The data also indicate that MM influenced White, Black, and Asian populations similarly.

The major difference in reach and impact of the MM campaign is among household income groups. Awareness of MM was significantly higher among those with higher household incomes compared to lower household incomes in all years but one. Similarly, in four out of the seven years this question was asked, a higher percentage of those in the higher income stratum compared to the lower income stratum. Despite these differences, the percentage of those who reported being influenced by MM increased significantly in all household income groups from 2012-2021. This indicates that the lower income groups are still being reached just to a lesser extent.

FRUIT AND VEGETABLE CONSUMPTION, MEAT REDUCTION ARE TOP CHANGES INSPIRED BY MEATLESS MONDAY

Over a third of respondents, on average, reported increasing fruit and vegetable consumption in response to MM messaging. This was the top reported change inspired by MM followed by eating less meat, which was reported by 28% of participants. Over a quarter of respondents on average reported experimenting with new meatless dishes at home and incorporating more meatless meals. This is consistent with the messaging of the MM campaign, which regularly promotes cutting back on meat and incorporating more vegetables. The campaign also regularly provides ideas for new recipes and information about various alternatives to meat through its social media and newsletter content.

A smaller percentage (18.5%) of participants reported eating meatless dishes while eating out. This could reflect the smaller role eating out plays in the overall diet of the average person compared to cooking at home or the perception of eating out as a "treat" which might make people less inclined to experiment with healthy options in this setting.

MEAT CONSUMPTION STATUS REMAINS OVERALL STABLE

Overall, there was little change from 2014-2021 regarding meat consumption status. The levels of those reporting that they were cutting back vs not cutting back vs non-meat eaters fluctuated slightly, but overall held stable over the seven-year period. The number of those reporting "I do not eat meat" ranged from 2.9% to 4.2% with no significant difference from 2014-2021. These findings are consistent with a series of Gallup polls taken in 1999, 2001, 2011 and 2018 which found that the number of self-reported vegetarians held steady at 5-6% and the number of vegans (a question added to the Gallup poll in 2011 and 2018) was steady at 2-3%.[2] Our levels of "I do not eat meat" were also similar to a 2016 Pew survey that found 3% were "strict vegetarians or vegans" and 6% were "mostly vegetarian or vegan".[3] In the 2019 Gallup poll participants were asked if they were "consuming more, less, or the same amount of meat," with 23% choosing less and 73% choosing the same amount.[4] Our survey in 2019 found that a slightly higher number of people (30.6% of respondents) were actively trying to cut back.

MORE BLACK PARTICIPANTS ARE CUTTING BACK ON MEAT IN RECENT YEARS COMPARED TO WHITE

While the number of people actively trying to cut back on meat in our survey during this time span did not change significantly, it is noteworthy that there was an 8% increase in Black respondents who reported actively trying to cut back. While this was also not statistically significant, in the three most recent years a significantly higher percentage of Black respondents were cutting back on meat compared to White respondents. Overall, there appears to be an increase in meat reduction among the Black population.

The 2018 Gallup poll mentioned above found that the rate of people consuming less meat was higher among non-White (31%) compared to White respondents (19%).[4] Additionally, it found that non-White respondents were three times more likely to be vegetarian compared to White respondents.[4] This, combined with our finding that Black respondents have recently been reporting that they are cutting back on meat at higher rates compared to White respondents, appears to indicate that plant-based diets are growing among some minority populations. Interestingly, in our survey, there was also a 10% decrease in Asian participants who stated they were actively trying to cut back. This was also not significant and did not lead to any significant differences between Asian and other groups. This indicates that changes in meat consumption may differ among minority groups and should be investigated further separately.

HEALTH IS PRIMARY REASON FOR DECREASING MEAT CONSUMPTION

Health is the primary reason for cutting back on meat consistently among all races, genders, and household income groups. The percentage of respondents choosing health as their primary reason ranged from 59.7% to 62.7% of respondents, which is slightly lower than the 2019 Gallup poll which had 70% of respondents choose health as a "major reason" for "eating less meat/rarely eat meat)/do not eat meat".[2] Our numbers are likely slightly lower, but both illustrate that health is the predominant reason for choosing to cut back on meat. One possible reason for this discrepancy could be that the MM campaign has been actively highlighting the negative environmental impacts of high meat consumption on the environment. Another possibility for the discrepancy could be that respondents were only allowed to choose one main reason in our survey while the Gallup poll allowed for selection of multiple.

ENVIRONMENTAL IMPACT IS A GROWING REASON FOR DECREASING MEAT CONSUMPTION

While all other categories have mostly remained stable, the percentage choosing environment as their reason for cutting back on meat in our survey has grown significantly from 2012-2021. This is consistent with the change in MM messaging, which started out focused solely on health but over time has included more environmental messaging.

Additionally, in recent years there has been a rise in environmental awareness, which may have also contributed to this change. A recent Gallup poll indicated that in 2005 (the initial survey year) 35% of respondents stated they worried "a great deal" about the quality of the environment.[5] By 2021, the most recent survey year, this number rose to 46%, a reflection of increased environmental awareness in the US.[5]

NEW QUESTIONS FROM 2021 SURVEY EXPLORE CHANGES TO EATING BEHAVIORS

New questions from the 2021 report examine what types of foods are being consumed by those cutting back on meat. What people are replacing meat with can have a big impact on individual and environmental health. The top choice was tied between eggs and fruits and vegetables, followed by cheese/other dairy and beans/lentils. Fruits and vegetables being a top choice for meat replacement aligns with the data from the question mentioned earlier regarding changes inspired by MM where participants most frequently selected "eat more fruits and vegetables."

Given that most Americans consume excess protein (and under-consume vegetables and fruit), it is not a problem that meat is being replace with fruits and vegetables. However, caution should be exercised with international audiences in countries where malnutrition is more prevalent to ensure that meat is being replaced with high protein plant-based foods.

Replacing meat with fruits, vegetables and legumes provides additional fiber and other important nutrients important for heart health that are often lacking in the traditional American style diet. Conversely, replacing meat with cheese and other dairy products might provide similar amounts of saturated fat as meat if full-fat options are chosen. It is additionally important to consider that not all plant-based protein sources are iron rich, which is a common shortfall nutrient. Legumes, beans, nuts and fortified meat substitutes are the best options for those at risk of iron deficiency.

An additional question examined the influence of MM on legume consumption. Over a quarter of respondents who had heard of MM indicated that they were influenced to consume more legumes. This indicates that MM is doing a good job promoting beans/legumes as an alternative to meat.

These questions should be watched for trends into the future.

LIMITATIONS

This report has several limitations. This report lacks the rigorous experimental design that would be needed to prove causality. This report can comment on trends and speculate as to the role of MM but is not able to prove MM was the sole cause of the impact.

There are some concerns about the quality of data that DDG is able to produce due to the sampling methodology. Early survey respondents skew heavily female and white. As the survey progressed, genders became well-balanced, and more effort was made to obtain a nationally representative sample with regards to race. Starting in 2017, there was a push to further improve the survey by oversampling groups that make up a smaller percentage of the US population. Some degree of the changes observed over time could be due in part to these changes in sampling strategy over the years.

Another limitation is that age, which may be an important factor in awareness and impact of MM, was not considered as part of this report. Finally, lack of consistency between years for the phrasing of certain questions was a barrier to assessing how reach/impact changed over the years.

OPPORTUNITIES FOR THE FUTURE

Continuing to ask the questions mentioned in this report consistently presents an opportunity to further track the trends of reach and impact of the MM campaign. An additional question that might be helpful in evaluating the MM campaign is “how many times per week do you consume meat?”

Messaging specifically targeted at younger generations and lower household income groups may be needed to increase awareness of MM in the future.

Conclusions

Overall, the MM campaign has effectively increased the reach and impact of the MM campaign over the past 20 years. In 2021, MM influenced over 40% of people who heard of it to cut back on meat, and this number has grown significantly (about 20%) since 2012. This trend is an indication that the campaign is having the desired impact on the behaviors of the population. While in the beginning the reach of MM grew annually, there has been a slight decrease in the reach of the campaign in the past 10 years, with significant fluctuation within this time period. Despite this, the impact of MM, as measured by the influence, continued to increase during that time. It is possible that while slightly less few people are hearing the MM messaging, it has grown more effective. This should be investigated further.

The campaign is currently reaching and impacting both genders equally and Black, White, and Asian groups similarly. There appears to be growth in the percentage of Black respondents who report they are actively cutting back.

There is room for improvement in reaching/influencing the lower household income groups, especially those earning <$50,000/year as the data indicate that this group is consistently reporting lower awareness and lower influence of MM. Focus groups, pilot testing messaging for these groups, and targeted campaigns could all be employed in efforts to increase reach for the low household income group moving forward. There is also an opportunity to target younger adults in this household income group as they might be more concerned with environmental messaging compared to older adults.

Future DDG surveys should ensure wording is held consistent from year to year and that options for responses are also held constant to allow for better comparison.

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Appendix A. 2005-2012

	2005	2006	2008	2009	2010	2011	2012
Total respondents	1,016	1,495	1,505	2,323	2,013	2,015	1,005
RACE							
American Indian or Alaska Native	0.5% (n=5)	0.7% (n=11)	0.5% (n=8)	0.6% N=13)	0.6% (n=11)	0.9% (n=18)	0.7% (n=7)
Asian/Asian American	1.5% (n=15)	1.4% (n=21)	4.5% (n=68)	3.3% (n=77)	4.1% (n=83)	4.5% (n=90)	2.5% (n=25)
Black/African American	5.1% (n=52)	5.8% (n=86)	8.1% (n=122)	5.5% (n=128)	7.8% (n=156)	7.3% (n=148)	6.6% (n=66)
Middle Eastern or North African	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Native Hawaiian or Pacific Islander	n/a	n/a	n/a	n/a	n/a	n/a	n/a
White/Caucasian	88.9% (n=903)	87.9% (n=1314)	83.9% (n=1263)	88.5% (n=2056)	85.6% (n=1724)	84.5% (n=1703)	86.7% (n=871)
Other (please specify)	1.0% (n=10)	1.1% (n=16)	2.3% (n=34)	1.3% (n=31)	1.3% (n=27)	2.0% (n=40)	2.0% (n=20)
Prefer not to answer	0% (n=0)	0% (n=0)	0.6% (n=9)	0.6% (n=13)	0.5% (n=10)	0.7% (n=14)	1.0% (n=10)
Latino/Hispanic	3.0% (n=31)	3.1% (n=47)	n/a	n/a	n/a	n/a	n/a
GENDER							
%Male	0% (n=0)	0% (n=0)	42.4% (n=638)	43.4% (n=1007)	42.3% (n=852)	45.7% (n=921)	33.2% (n=334)
%Female	100% (n=1016)	100% (n=1495)	57.6% (n=866)	56.6% (n=1316)	57.7% (n=1161)	54.3% (n=1094)	66.8% (n=671)
%Other/choose not to say	n/a	n/a	n/a	n/a	n/a	n/a	n/a
HOUSEHOLD INCOME							
<$50,000	44.1% (n=448)	42.1% (n=629)	37.8% (n=568)	34.3% (n=796)	37.4% (n=752)	35.9% (n-723)	36.6% (n=367)
$50,000 - $99,999	42.4% (n=431)	42.2% (n=630)	36.4% (n=547)	37.5% (n=870)	34.5% (n=695)	33.7% (n=679)	34.8% (n=350)
$100,000 - $149,999	*	*	13.8% (n=207)	13.6% (n=316)	11.7% (n=235)	12.8% (n=258)	15.8% (n=159)
>$150,000	*	*	7.0% (n=105)	10.1% (n=235)	11.9% (n=240)	13.7% (n=277)	6.5% (n=65)
Dont know	0% (n=0)	0% (n=0)	0.3% (n=5)	0.2% (n=5)	0.2% (n=4)	0.2% (n=4)	0.3% (n=3)
Prefer not to say	1.0% (n=10)	0.9% (n=13)	4.8% (n=72)	4.3% (n=101)	4.3% (n=87)	3.7% (n=74)	6.1% (n=61)
*							
$100,000 -$124,999	6.7% (n=68)	8.3% (n=124)					
$125,000-199,999	4.0% (n=41)	4.8% (n=72)					
$200,000 or more	1.8% (n=18)	1.8% (n=27)					

Appendix B. 2013-2021

	2013	2014	2015	2017	2019	2021
Total respondents	1,010	1,006	1,060	1,010	1,000	1,010
RACE						
American Indian or Alaska Native	0.4% (n=4)	1.1% (n=11)	1.0% (n=11)	0.8% (n=8)	1.3% (n=13)	2.1% (n=21)
Asian/Asian American	1.8% (n=18)	6.6% (n=66)	3.4% (n=36)	4.2% (n=42)	7.1% (n=71)	8.2% (n=83)
Black/African American	8.3% (n=84)	6.6% (n=66)	11.2% (n=119)	13.1% (n=132)	15.2% (n=152)	17.9% (n=181)
Middle Eastern or North African	n/a	n/a	n/a	0% (n=0)	0.3% (n=3)	0.6% (n=6)
Native Hawaiian or Pacific Islander	n/a	n/a	n/a	0.5% (n=5)	0.5% (n=5)	1.0% (n=10)
White/Caucasian	86.3% (n=872)	81.0% (n=815)	79.8% (n=846)	77.9% (n=787)	69.7% (n=697)	63.1% (n=637)
Other (please specify)	2.1% (n=21)	4.0% (n=40)	2.6% (n=28)	3.6% (n=36)	5.9% (n=59)	7.0% (n=71)
Prefer not to answer	1.1% (n=11)	0.5% (n=5)	1.5% (n=16)	0% (n=0)	0% (n=0)	0.1% (n=1)
Latino/Hispanic	n/a	n/a	n/a	n/a	n/a	n/a
GENDER						
%Male	29.6% (n=299)	34.9% (n=351)	26.0% (n=276)	48.7% (n=492)	46.8% (n=468)	45.6% (n=461)
%Female	70.4% (n=711)	65.1% (n=655)	74.0% (n=784)	51.3% (n=518)	53.1% (n=531)	54.3% (n=548)
%Other/choose not to say	n/a	n/a	n/a	n/a	0.1% (n=1)	0.1% (n=1)
HOUSEHOLD INCOME						
<$50,000	37.8% (n=382)	35.5% (n=357)	55.2% (n=585)	50.2% (n=507)	47% (n=470)	43.1% (n=506)
$50,000 - $99,999	34.4% (n=347)	41.2% (n=415)	28.2% (n=299)	35.0% (n=354)	33.9% (n=339)	30.9% (n=312)
$100,000 - $149,999	12.8% (n=129)	11.9% (n=120)	7.8% (n=83)	8.3% (n=84)	9.3% (n=93)	12.1% (n=122)
>$150,000	8.7% (n=88)	5.1% (n=51)	3.0% (n=31)	5.4% (n=54)	6.4% (n=64)	6.9% (n=70)
Dont know	0.3% (n=3)	0.9% (n=9)	0.5% (n=5)	1.1% (n=11)	3.4% (n=34)	0% (n=0)
Prefer not to say	6.0% (n=61)	5.4% (n=54)	56.4% (n=57)	0% (n=0)	0% (n=0)	0% (n=0)
*						
$100,000 -$124,999	6.7% (n=68)	8.3% (n=124)				
$125,000-199,999	4.0% (n=41)	4.8% (n=72)				
$200,000 or more	1.8% (n=18)	1.8% (n=27)				