AnalyticsIQ

RESEARCH REPORT

Impact of Inflation

Department of Cognitive Sciences

TABLE OF CONTENTS

INTRODUCTION

The end of 2022 was the first positive sign that inflation, which began rising in April 2021 approximately a year after the start of the COVID-19 pandemic, was cooling off[1]. After a year and a half of steady price increases, US consumers are continuing to adjust their finances, lifestyles, and future plans due to elevated interest rates and significant hikes in gas prices and consumer goods of all kinds. The beginning of 2023 has continued to show the inflation plateau, which was signaled in December, but because inflation rates rose to just over 9% in June of last year, economists are urging caution before taking celebratory steps and declaring inflation "over". In fact, some are saying it may take an extended period of time before the consumer price index returns to the 2%, we had seemingly taken for granted in pre-COVID days[2].

Since the price of consumer goods continues to remain in an elevated state, and experts project that our economy will remain like this for another year or two, there is significant need to understand what this means for consumers who still need to make everyday purchases and investments for themselves, their homes, and their families. With what seems like ever-tightening budget parameters, it should come as no shock that financial concern has been cited as the number one source of stress for American adults, according to a 2022 report by the American Psychological Association[3]. Financial stress is one of the top ten reasons that contributes to couples divorcing[4], and both the medical and psychological fields are rich with scientific data showing that stress has negative consequences for both our physical and mental states[5].

Given that much of how we live and feel about our lives is tied to our financial capacities, there is both economic and psychological value in assessing the magnitude of the effect that inflation has had on people's lives since spring of 2021, the adjustments they have made to align their lifestyle with their current financial realities, as well as the emotional toll that financial stress has had on individuals. The current research aims to address each of these areas.

1) Smialek, J. (2023). "Inflation Cooled Just Slightly, With Worrying Details," New York Times, https://www.nytimes.com/2023/02/14/business/economy/january-cpi-inflation-report.html?smid=url-share

2) "How Much Has Inflation Increased In 2022? And are Prices Still Rising" (2022). Forbes, https://www.forbes.com/sites/3qai/2022/12/12/how-much-has-inflation-increased-in-2022-and-are-prices-still-rising/?sh=600ad65068aa

3) "Stress In America" (2022). American Psychological Association, https://www.apa.org/news/press/releases/stress/2022/march-2022-survival-mode

4) Buscho, A.G. (2020). "Why Do People Divorce?" Psychology Today, https://www.psychologytoday.com/us/blog/better-divorce/202002/why-do-people-divorce

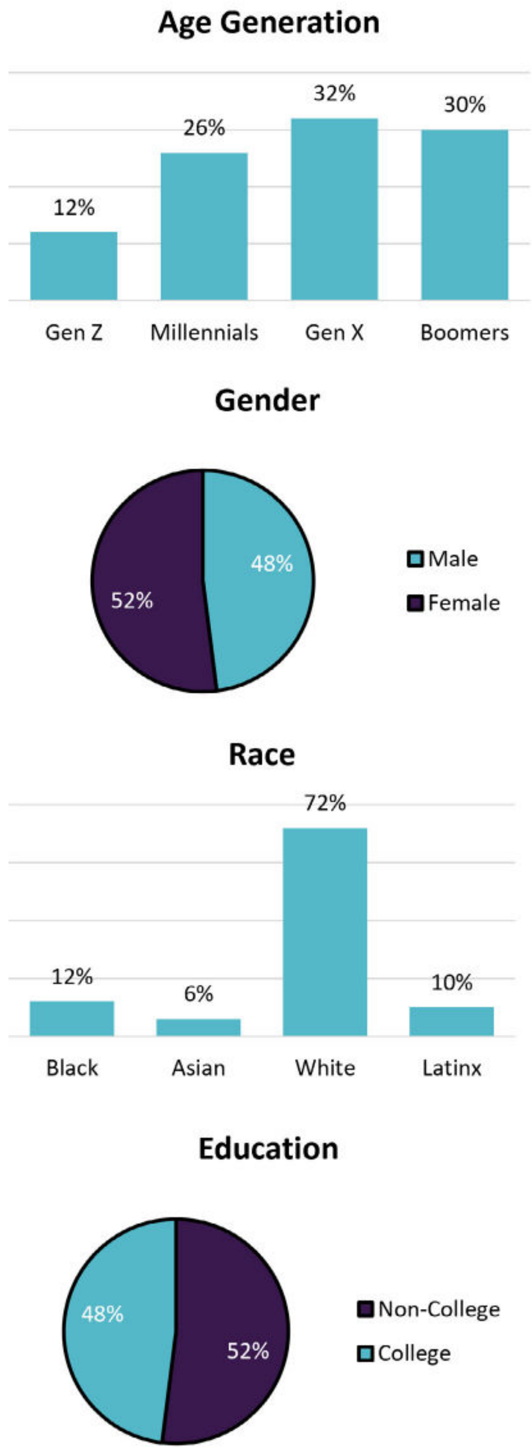
5) "Stress Symptoms: Effects On Your Body And Behavior" (2021). Mayo Clinic, https://www.mayoclinic.org/healthy-lifestyle/stress-management/in-depth/stress-symptoms/art-20050987

RESEARCH METHOD & PARTICIPANTS

In September of 2022, the Cognitive Sciences research team at AnalyticsIQ queried a large random sample of the US population on how much and in what ways recent economic inflation has impacted them. Our sample was representative of national US averages for age[6], gender, and race (US Census statistics, 2021[7]). All survey respondents voluntarily participated and were compensated for their time[8].

After reading and completing an informed consent agreement[9], respondents self-reported various demographic factors (e.g., age, gender, race, education status[10]), and then indicated the following: how much they had personally been affected my economic inflation, which life domains were impacted the most, what lifestyle or spending changes they had made, any emotional effects they were experiencing as a result of inflation, and their future financial outlook.

SURVEY DEMOGRAPHICS



6) Ages ranged from 18-84 years, with the median age being 47 years. Age Generation groups were created from self-reported age (in years) and were comprised as follows: Gen Z = 18-25 years, Millennials = 26-41 years, Gen X = 42-57 years, and Baby Boomers = 58 years and older.

7) US Census information was accessed via data.census.gov.

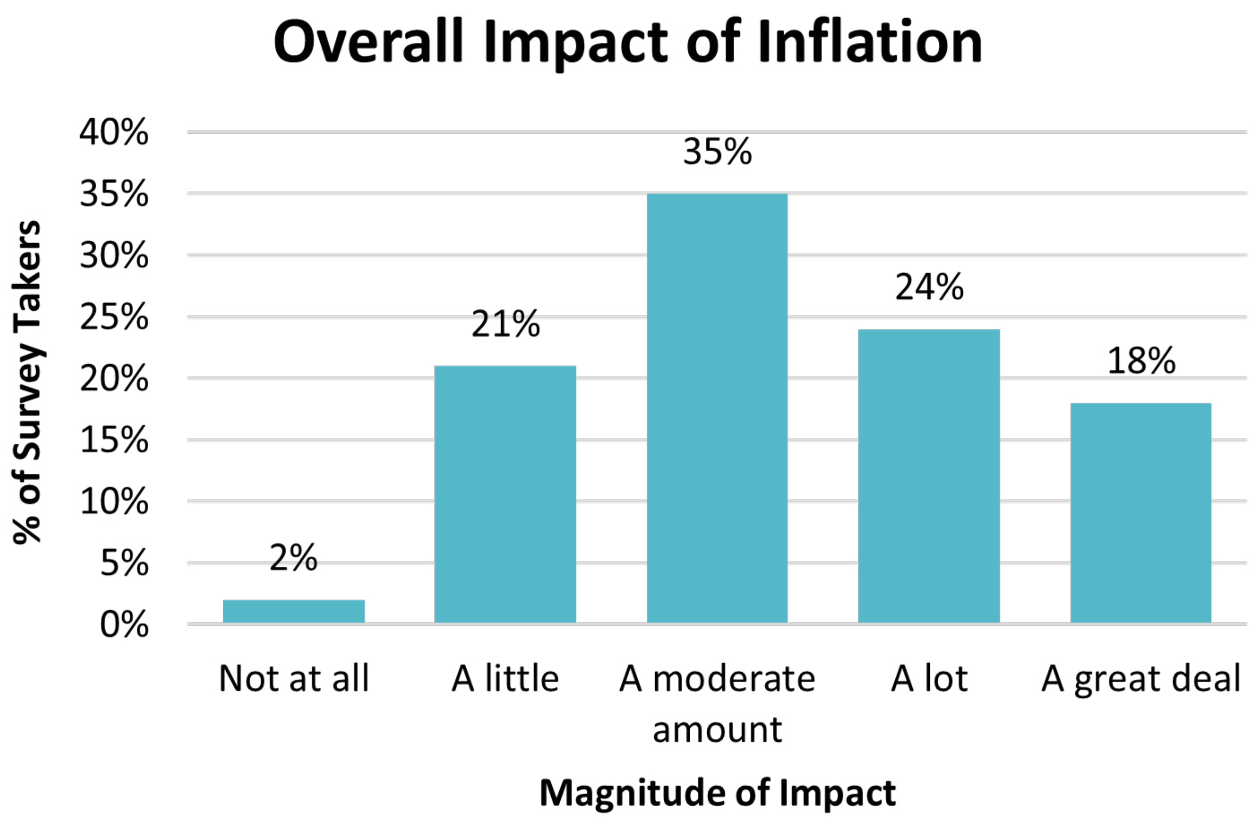
8) Median runtime for the survey was 8.5 minutes.

9) All respondents were presented with an informed consent prior to beginning our survey which outlined the scope of the survey questions they'd be asked and how their data would be used. All data presented in this report are reflective of those respondents who agreed to opt into our survey under the parameters outlined in the informed consent.

10) Participants self-reported the highest degree they had completed. Their responses were then coded into two groups: No College (no degree, high school, tech graduates) or College (bachelors, masters, doctorate).

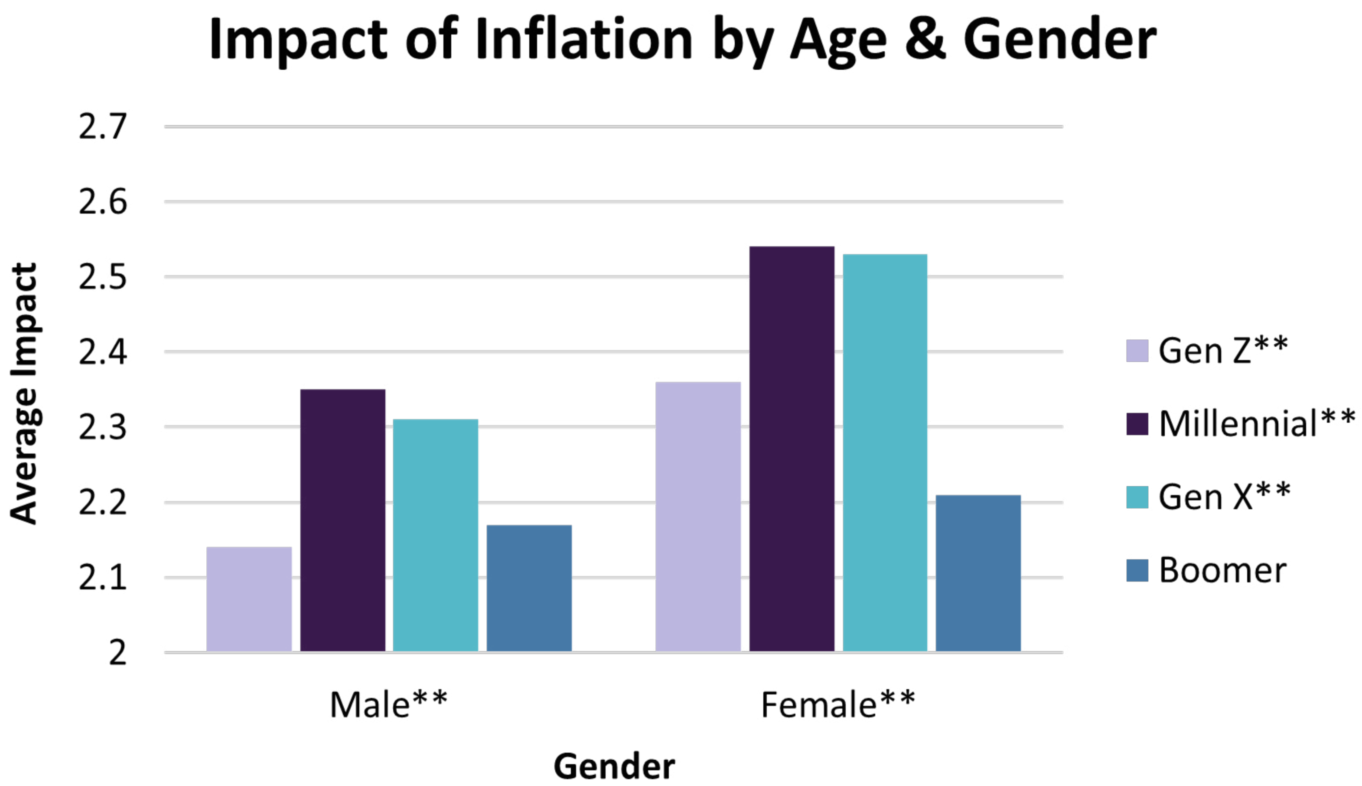
OVERALL IMPACT OF INFLATION

Survey takers were first asked to give an overall rating of how much recent inflation had affected them personally. The majority of our sample (76%) said inflation impacted them and their personal finances a moderate amount or more, whereas only 2% reported no impact of inflation at all. See Graph 1a.



Graph 1a. Survey takers indicated how much recent economic inflation had impacted them overall. Responses were given on a 1-5 Likert scale, with 1 indicating 'not at all' and 5 indicating 'a great deal'. Percentages in the above graph reflect the proportion of people who indicated each of the five response choices.

When we examined whether there were differences among population segments, we indeed found that age, gender, and education level are all significant contributors to the impact inflation was having in people's lives, independently and cumulatively[11]. Millennials and Gen X participants (*Ms* = 2.45 and 2.42, respectively) reported being impacted significantly more than Gen Z or Baby Boomer age groups (*Ms* = 2.25 and 2.19, respectively)[12]; women (*M*=2.41) reported a higher impact than men (*M*=2.24); and participants with no college education (*M*=2.44) indicated more impact of inflation in their lives than those with a college education (*M*=2.21).

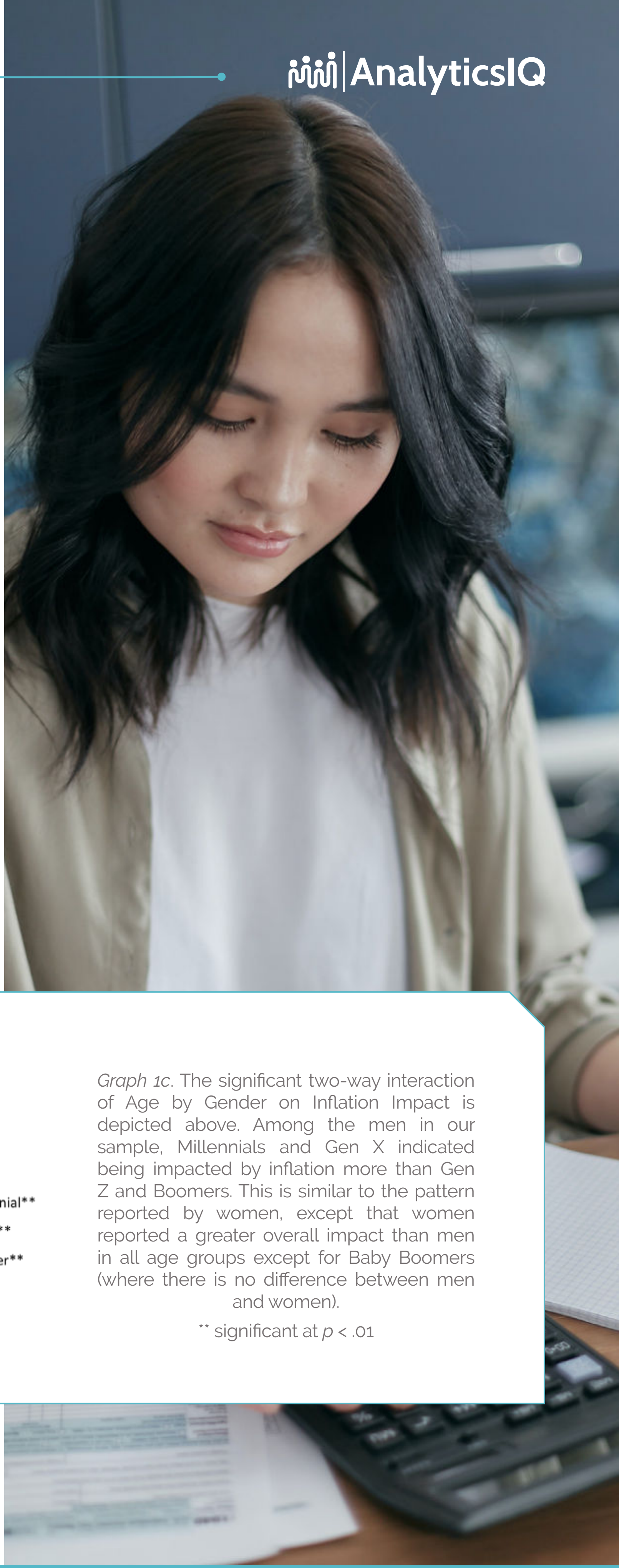


Graph 1b. The significant two-way interaction of Age by Gender on Inflation Impact is depicted above. Among the men in our sample, Millennials and Gen X indicated being impacted by inflation more than Gen Z and Boomers. This is similar to the pattern reported by women, except that women reported a greater overall impact than men in all age groups except for Baby Boomers (where there is no difference between men and women).

** significant at $p < .01$

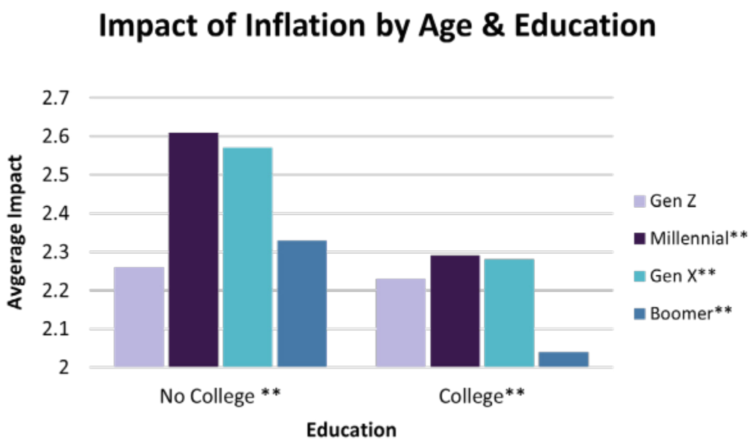
11) A univariate analysis of variance (ANOVA) was conducted with Age, Gender, and Race as independent variables (IVs) in the model, and overall impact of inflation as the dependent variable (DV). There were significant main effects of Age, Gender, and Education, as well as two, two-way interactions (Age by Gender and Age by Education); Main Effect of Age: $F(3,8951)=36.54$, $p<.01$; Main Effect of Gender: $F(1,8951)=34.57$, $p<.01$; Main Effect of Education: $F(1, 8951)=69.07$, $p<.01$; Interaction of Age x Gender: $F(3, 8951)=4.68$, $p<.01$; Interaction of Age x Education: $F(3, 8951)=3.30$, $p<.05$

12) There were no significant differences between Millennials and Gen X participants or between Gen X and Baby Boomers.



Deeper still, the interactive effect of age and gender was also significant and is depicted in Graph 1b. Millennial and Gen X women reported being impacted by inflation the most (not only when compared to their male counterparts of the same ages, but also when compared to Gen Z and Boomer women). Conversely, Baby Boomers across both gender groups were affected the least and did not statistically differ from one another.

Finally, the intersection of age and education also produced significant insights, see Graph 1c. Here again the main effect of age emerges but only among those without a college education. For these folks, Millennials report significantly higher financial challenges than Gen Xers, followed by Boomers, and then the Gen Z group[13]. But there is a different trend emerging among the college-educated group. For this segment, the youngest three generations (Gen Z, Millennials, and Gen X) all report statistically equivalent inflation impact, whereas the Baby Boomer age group report the least impact overall.



Graph 1c. The significant two-way interaction of Age by Gender on Inflation Impact is depicted above. Among the men in our sample, Millennials and Gen X indicated being impacted by inflation more than Gen Z and Boomers. This is similar to the pattern reported by women, except that women reported a greater overall impact than men in all age groups except for Baby Boomers (where there is no difference between men and women).

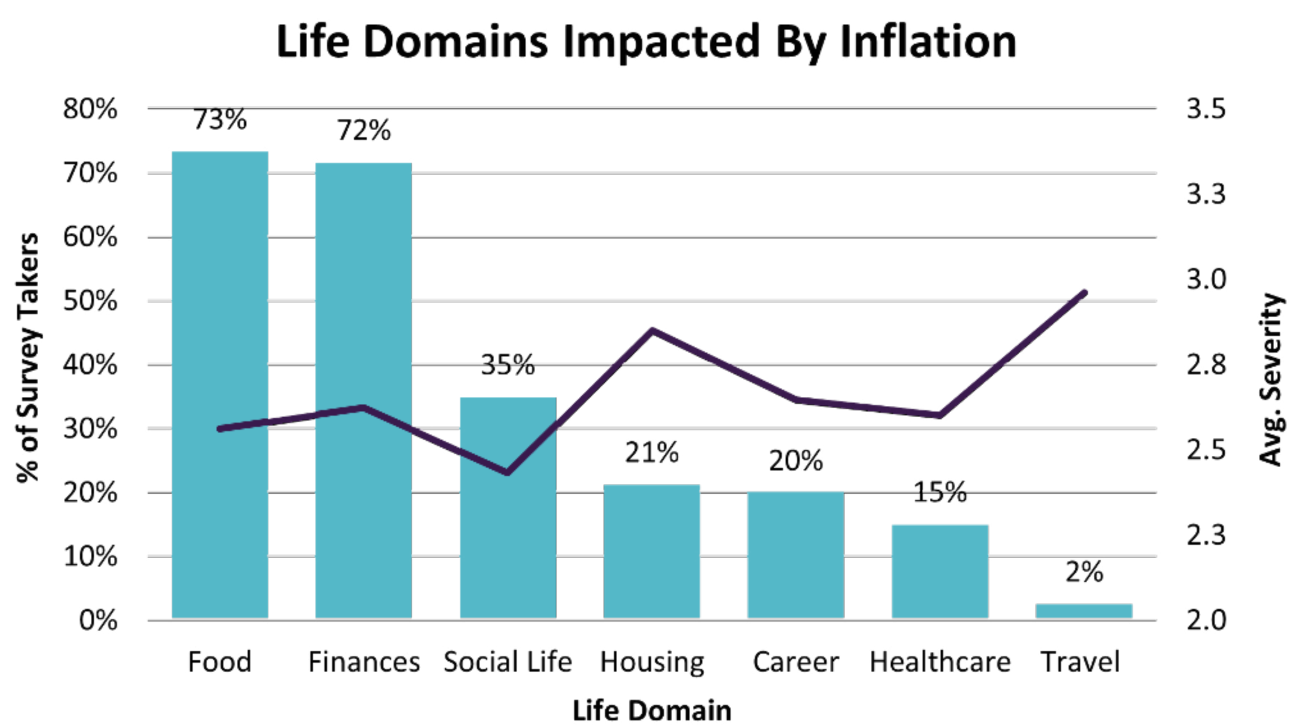
** significant at $p < .01$

13) All pairwise comparisons are statistically significant, $p < .01$

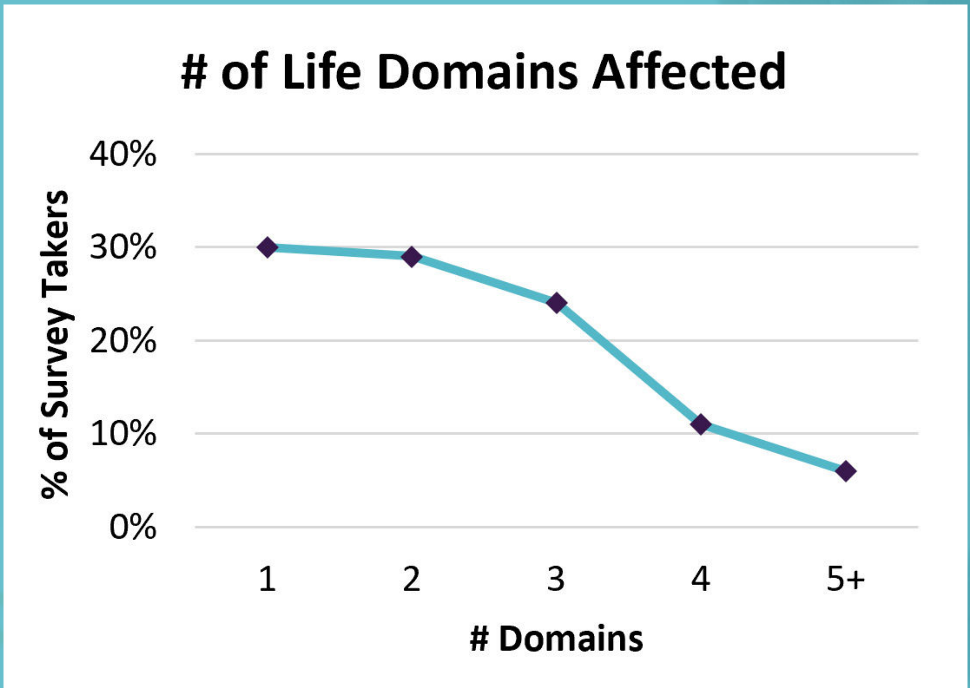
LIFESTYLE IMPACT OF INFLATION

Survey respondents were next queried about which areas of their life have been most affected by the economy, and what lifestyle changes they had made because of the impact they were experiencing. Life domains assessed include food (groceries, dining out), finances (bills, savings, spending), social life, housing, career (employment, business), healthcare (access, options), and travel (transportation, gas, vacation). Unsurprisingly, food and finances were the primary domains impacted by inflation for the majority of respondents (~73%), whereas just over a third said their social life had been impacted, and around a fifth said their housing options or career had been negatively impacted. Healthcare and travel were the least affected life domains reported.

Respondents then rated the severity of inflation's impact within each life domain they had selected. Surprisingly, we found that the domains selected most often were not the domains with the most severe impacts. Categories like food and finances, which were selected by most of our survey sample, had lower impact severity scores (*M*s = 2.6) than domains like housing or travel which were selected much less frequently, but had higher impact severity scores overall (*M*s = 2.9 and 3.0, respectively). See Graph 2.

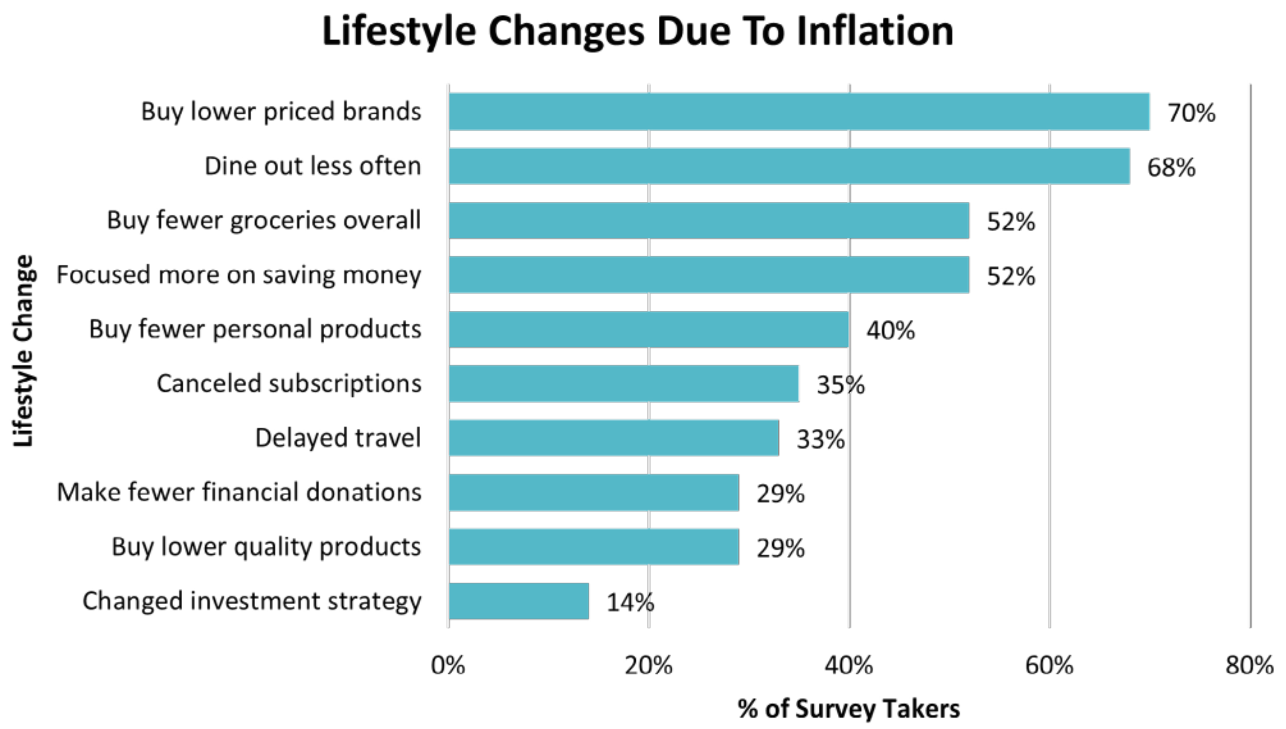


Graph 2. Survey takers identified which life domains had been impacted by inflation, and then provided a severity rating of how much each domain had been affected on a 5-point Likert scale, ranging from 0 (not at all) to 4 (a great deal). Percentages in the above bar graph reflect the proportion of people who selected each of the life domain categories. Average severity scores are depicted by the line overlay.



The majority of our sample (83%) reported that 1-3 areas of their life had been affected by inflation, whereas only 17% said four or more domains were impacted.

Finally, respondents indicated the types of lifestyle adjustments they had made to account for the financial hit their bank accounts were taking. For necessities (like food), people reported buying less quantity, lower quality, and less expensive, overall. For discretionary spending (like personal products, subscriptions, and travel), people told us they delayed, decreased, or canceled services and experiences altogether. And for future-oriented finances (like investments and savings), people said they are aiming to maximize their savings contributions, and some even reported reconsidering their overall investment strategy. See Graph 3.



Graph 3. Survey takers identified all the lifestyle changes they had made to adjust for the impact inflation has had on their finances. Percentages in the above graph reflect the proportion of people who selected each of the lifestyle changes. The majority of our sample (~61%) said they made between 2 and 5 lifestyle changes (*M*=4).

What are people saying about the lifestyle impacts of inflation?

"I cannot do necessary home and car repairs."

"I can't save money because there's nothing left after bills and groceries."

"I do without a lot of needed hygenie and food."

"I stock up when I find a sale."

"I've been monitoring my energy usage."

"I use coupons and look for deals more often."

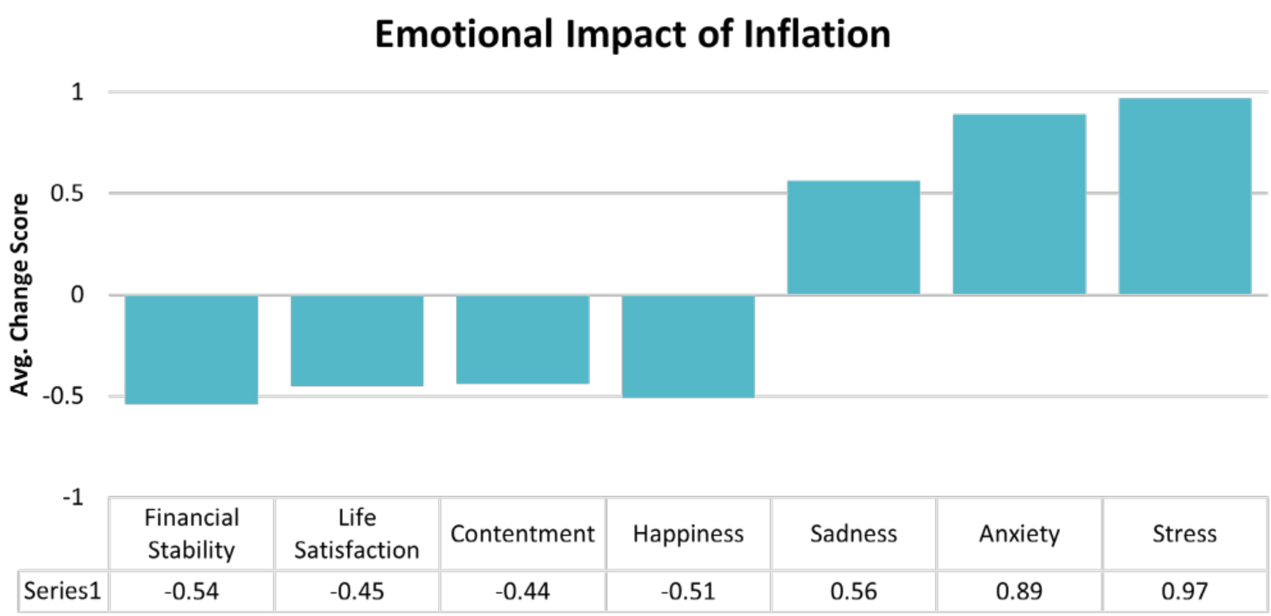
"I'm holding off on buying a house."

"I went back to work after retiring."

"I had to cancel or postpone visits to the doctor and dentist."

EMOTIONAL IMPACT OF INFLATION

Beyond the financial and lifestyle impacts, the emotional consequences of inflation have also been significant. Our survey participants also self-reported their emotional response to inflation along the following dimensions: stress, anxiety, sadness, happiness, contentment, life satisfaction, and financial stability. For each emotion assessed, we found a significant increase in sadness, anxiety, and stress, and a significant decrease in happiness, contentment, life satisfaction, and overall sense of financial stability[14]. See Graph 4. Moreover, these shifts in emotionality were most pronounced for the groups impacted the most by inflation (Women, Millennials, Gen X, and folks with no college education). The main effects of age, gender and education were significant for stress, anxiety, and sadness; and the main effects of age and gender, but not education, were significant for life satisfaction, contentment, and happiness[15].



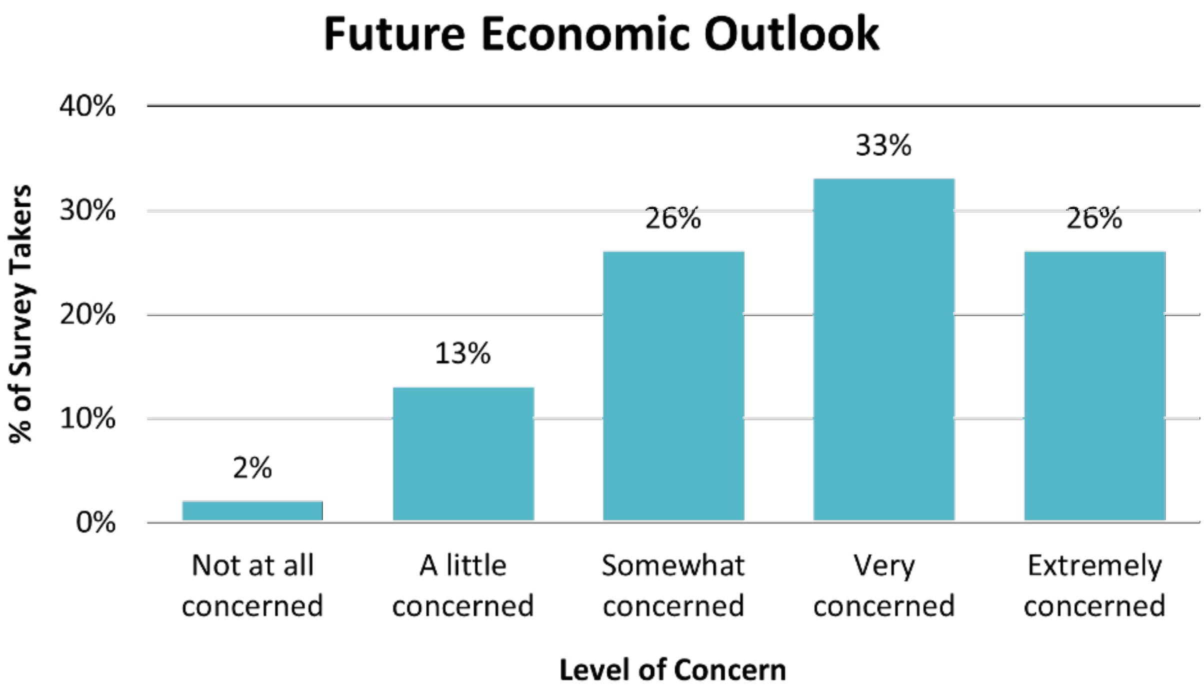
Graph 4. Survey takers indicated how much each of the above dimensions had changed due to inflation. All emotions were self-reported on a 5-point Likert scale, ranging from -2 (decreased a lot) to +2 (increased a lot), with 0 representing no change. Average change scores for each emotion are presented in the graph above. Overall, there was a significant decrease in positive emotions and a significant increase in negative emotions across all respondents.

14) A series of one sample t-tests were conducted, one for each emotion dimension represented here: Financial Stability, $t(8386) = -47.58$, $p<.01$; Life Satisfaction, $t(8386) = -44.78$, $p<.01$; Contentment, $t(8386) = -43.31$, $p<.01$; Happiness, $t(8386) = -54.20$, $p<.01$; Sadness, $t(8386) = 65.58$, $p<.01$; Anxiety, $t(8386) = 101.03$, $p<.01$; Stress, $t(8386) = 113.08$, $p<.01$.

15) A series of 4x2x2 univariate ANOVAs were conducted for each emotion dimension, with Age, Gender, and Education as IVs in the models: Main Effect of Age on Stress, $F(3,8935)=97.01$, $p<.01$; Main Effect of Gender on A series of 4x2x2 univariate ANOVAs were conducted for each emotion dimension, with Age, Gender, and Education as IVs in the models: Main Effect of Age on Stress, $F(3,8935)=97.01$, $p<.01$; Main Effect of Gender on Stress, $F(1,8935)=136.06$, $p<.01$; Main Effect of Education on Stress, $F(1,8935)=18.73$, $p<.01$; Main Effect of Age on Anxiety, $F(3,8935)=66.41$, $p<.01$; Main Effect of Gender on Anxiety, $F(1,8935)=129.24$, $p<.01$; Main Effect of Education on Anxiety, $F(1,8935)=5.55$, $p<.05$; Main Effect of Age on Sadness, $F(3,8935)=53.88$, $p<.01$; Main Effect of Gender on Sadness, $F(1,8935)=83.24$, $p<.01$; Main Effect of Education on Sadness, $F(1,8935)=41.72$, $p<.01$; Main Effect of Age on Life Satisfaction, $F(3,8935)=8.65$, $p<.01$; Main Effect of Gender on Life Satisfaction, $F(1,8935)=5.12$, $p<.05$; Main Effect of Age on Happiness, $F(3,8935)=12.11$, $p<.01$; Main Effect of Gender on Happiness, $F(1,8935)=5.53$, $p<.05$; Main Effect of Age on Contentment, $F(3,8935)=7.39$, $p<.01$; Main Effect of Gender on Contentment, $F(1,8935)=26.99$, $p<.01$.

FUTURE OUTLOOK OF INFLATION

The outlook on the longevity of inflation continuing is not optimistic (see Graph 5). Most of our sample (~85%) reported moderate to extreme concern for the continuation of economic inflation into the foreseeable future, and, as we saw previously, the amount of concern shifted significantly for the population segments who reported the overall greatest impact of inflation. Women, Millennials and Gen X, as well as those without a college education reported the highest concern for the future of inflation[16].



Graph 5. Survey takers indicated how concerned they were about inflation continuing into the future. Responses were given on a 1-5 Likert scale, ranging from 1 (not at all concerned) to 5 (extremely concerned). Percentages in the above graph reflect the proportion of people who indicated each of the five response choices.

16) A 4x2x2 univariate ANOVA was conducted with age, gender, and education as IVs in the model and future concern as the DV. All main effects were significant: Age: $F(3,8935) = 9.31$, $p < .01$; Gender: $F(1,8935) = 37.97$, $p < .01$; Education: $F(1,8935) = 59.51$, $p < .01$.

SUMMARY & CONCLUSIONS

The purpose of the current research was to examine how much and in what ways economic inflation has affected people throughout the US over the last two years. Based on the data we report here, we conclude the following:

- Demographics play a big role in how much people are financially impacted. Women, middle-aged groups (Millennials and Gen Z), and folks without a college education report being affected the most.
- Food and finances are the two most reported areas of impact for the majority of our sample (~73%), followed by social life, housing, and career; however, lesser cited domains (like housing and travel) have been impacted most severely.
- People are responding to the effects of inflation by buying less, buying cheaper, or totally going without. They are delaying necessary purchases for their home and health, saving more money where possible, and delaying (or canceling) services, subscriptions, and even travel plans where necessary.

INSIGHTS FOR INDUSTRIES FROM MARKETING

Where do these research insights leave data-driven leaders who are aiming to maintain engagement with their current base, continue growing their brand, and increase revenue despite the indication that consumer spending habits have become more judicious? Below are a few suggestions:

- Financial services brands could communicate and offer conservative investment and savings strategies for consumers on a tighter budget.
- Healthcare organizations may consider offering additional mental health resources to help individuals experiencing stress and strive to ensure patients stay up to date with appointments even amidst financial strain.
- Insurance carriers could analyze their customer's policies to identify cross-sell opportunities and bundle them for additional savings.
- Food & Grocery brands may consider adjusting their sale schedule or even product offering to meet the needs of consumers who may not be able to afford – or may choose to deprioritize – their usual purchases (i.e. shifting to non-organic products to save money).
- Entertainment brands might consider creative ideas to retain customers such as discounted time periods, pricing tiers, and additional revenue avenues such as advertising.
- Travel could focus on budget, DIY, or bundled travel options that give consumers the experiences they want at a price they can still afford, and could also shift towards capturing more business travel as consumers try to save money.

Have questions about this data or our research process? Reach out to **sales@analyticsiq.com** for more information.

ABOUT THE AUTHOR

Dr. Sarah Cavrak

Sarah Cavrak, PhD, is a research psychologist and the Senior Director of Cognitive Sciences at AnalyticsIQ. She has spent 23 years studying the psychological underpinnings of human behavior and is primarily interested in understanding the intersection between motivational dynamics and decision outcomes. Follow her on LinkedIn.

AnalyticsIQ