

BUSINESS

Baby bust rooted in economics

TheUpshot

Survey tracks causes of a persistent drop in American fertility

BY CLAIRE CAIN MILLER

Americans are having fewer babies. At first, researchers thought the declining fertility rate was because of the recession, but it kept falling as the economy recovered. Now it has reached a record low for the second consecutive year.

Because the fertility rate subtly shapes many major issues of the day — including immigration, education, housing, the labor supply, the social safety net and support for working families — there's a lot of concern about why today's young adults aren't having as many children. So we asked them.

Wanting more leisure time and personal freedom; not having a partner yet; not being able to afford child-care — these were the top reasons young adults gave for not wanting or not being sure they wanted children, according to a new survey conducted by Morning Consult for The New York Times.

About a quarter of the respondents who had children or planned to said they had fewer or expected to have fewer than they wanted. The largest shares said they had delayed or stopped having children because of concerns about having enough time or money.

The survey, one of the most comprehensive explorations of the reasons that adults are having fewer children, tells a story that is partly about greater gender equality. Women have more control over their lives, and many feel that motherhood has become more of a choice.

But it's also a story of economic insecurity. Young people have record student debt, many graduated in a recession and many can't afford homes — all as parenthood has become more expensive. Women in particular pay an earnings penalty for having children.

"We want to invest more in each child to give them the best opportunities to compete in an increasingly unequal environment," said Philip Cohen, a sociologist at the University of Maryland who has written about fertility.

At the same time, he said, "There is no getting around the fact that the relationship between gender equality and fertility is very strong: There are no high-fertility countries that are gender equal."

The vast majority of women in the United States still have children. But the most commonly used measure of fertility, the number of births for every 1,000 women of childbearing age, was 60.2 last year, a record low. The total fertility rate — which estimates how many children women will have based on current patterns — is down to 1.8, below the replacement level in developed countries of 2.1.

The United States seems to have almost caught up with most of the rest of the industrialized world's low fertility rates. It used to have higher fertility for reasons like more teenage pregnancies, more unintended pregnancies and high fertility among Hispanic immigrants. But those trends have recently reversed, in part because of increased use of long-acting birth control methods like IUDs.

In the Morning Consult and Times survey, more than half of the 1,858 respondents — a nationally representative sample of men and women ages 20 to 45 — said they planned to have fewer children than their parents. About half were already parents. Of those who weren't, 42 percent said they wanted children, 24 percent said they did not and 34 percent said they weren't sure.

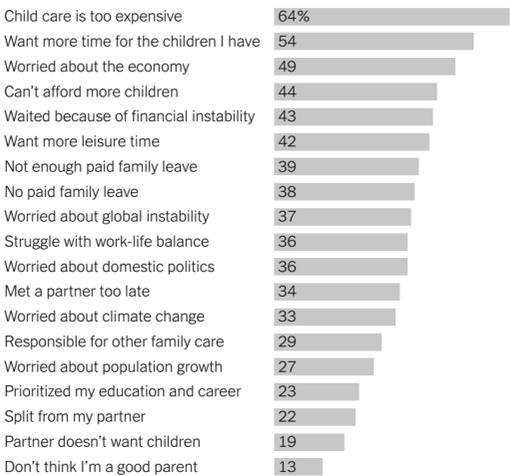
One of the biggest factors was personal: having no desire for children and wanting more leisure time, a pattern



Jessica Boer, of Portage, Mich., said she had such high expectations for parents that she wasn't sure she could meet them.

Why Young Adults Are Having Fewer Children

For the people who said they had or expected to have fewer children than what they considered ideal, here are the reasons that factored into their decision.



Source: Morning Consult survey of 1,858 men and women ages 20 to 45

that has also shown up in social science research. A quarter of poll respondents who didn't plan to have children said one reason was they didn't think they'd be good parents.

Jessica Boer, 26, has a long list of things she'd rather spend time doing than raising children: being with her family and her fiancé; traveling; focusing on her job as a nurse; getting a master's degree; playing with her cats.

"My parents got married right out of high school and had me and they were miserable," said Ms. Boer, who lives in Portage, Mich. "But now we know we have a choice."

She said she had such high expectations for parents that she wasn't sure she could meet them: "I would have the responsibility to raise this person into a functional and productive citizen, and some days I'm not even responsible."

This generation, unlike the ones that came before it, is as likely as not to earn less than their parents. Among people who did not plan to have children, 23 percent said it was because they were

worried about the economy. A third said they couldn't afford child care, 24 percent said they couldn't afford a house and 13 percent cited student debt.

Financial concerns also led people to have fewer children than they considered to be ideal: 64 percent said it was because child care was too expensive, 43 percent said they had waited too long because of financial instability and about 40 percent said it was because of a lack of paid family leave.

Women face another economic obstacle: Their careers can stall when they become mothers.

This spring, Brittany Butler, 22, became the first person in her family to graduate from college, and she will start graduate school in social work in the fall. She said it would probably be at least 10 years before she considered having children, until she could raise them in very different circumstances than in her poor hometown neighborhood in Baton Rouge, La.

She admits being "a little nervous" that it may become harder to get preg-

nant, but she wants to pay off her student loans and, most of all, be able to live in a safe neighborhood.

"A lot of people, especially communities of color, can't really afford that now," she said. "I'm just apprehensive about going back to poverty. I know how it goes, I know the effects of it, and I'm thinking, 'Can I ever break this curse?' I would just like to change the narrative around."

Starting a family used to be what people did to embark on adulthood; now many say they want to wait. Last year, the only age group in which the fertility rate increased was women ages 40 to 44. Delaying marriage and birth is a big reason people say they had fewer children than their ideal number: Female fertility begins significantly decreasing at age 32.

David Carlson, 29, graduated from college in 2010, when the job market was still rough. He and his wife had \$100,000 in undergraduate debt between them. They both work full time — he in corporate finance and she in counseling — but they don't yet feel they can take time away from their careers.

"Wages are not growing in proportion to the cost of living, and with student loans on top of that, it's just really hard to get your financial footing — even if you've gone to college, work in a corporate job and have dual incomes," said Mr. Carlson, who lives in Minneapolis and writes a personal finance blog for millennials.

He said they'd consider adoption if they decided to have children but had waited too long. Another option for having children later in life is egg freezing. Only 1 percent of female survey respondents said they had frozen their eggs — but almost half said they would if not for the cost.

Researchers say the United States could adopt policies that make it easier for people to both raise children and build careers.

High employment among women and high fertility don't have to be in conflict, but they will be without such policies, said Olivier Thevenon, an economist studying child and family policies at the Organization for Economic Cooperation and Development.

"Whether the young generation will catch up later is not certain," he said, "but will depend on their capacity to combine work and family."

Formula One's electrified cousins

Wheels

BY JACK EWING

ZURICH Back in the early days of the automobile, racetracks were proving grounds for newfangled inventions like shock absorbers, disc brakes and seatbelts.

Something similar is happening at the dawn of what may be the age of battery-powered transportation. It was on vivid display in Zurich last month, as the silence of a warm summer Sunday was broken by a high-pitched sound reminiscent of the rebel fighters attacking the Death Star.

The whine came from battery-powered racecars running laps on a course laid out on the streets of Zurich — the first urban circuit race in Switzerland in more than half a century. On June 10, the normally staid Swiss banking city hosted the Formula E series, which will culminate in Brooklyn on July 14 and 15.

Formula E, the electrified cousin of Formula One, is first and foremost about marketing, a 140-mile-an-hour riposte to those who think battery-powered cars are part of a conspiracy by tree-huggers to take the fun out of driving.

But the racing series, which has attracted support from major automakers like Renault, Volkswagen's Audi division, Mahindra of India and Citroën, is also the place to test out new ways of addressing the unique challenges of battery-powered transportation: range, charging technology and management of the performance-sapping heat that bedevils electric cars.

Formula One, for all its immense popularity, no longer produces many innovations that are useful in mass-market vehicles, said Sébastien Buemi, a driver for the Formula E team sponsored by Renault.

"The good thing with Formula E is that you can develop many things that you will be able to transfer to road cars," said Mr. Buemi, who has also driven in Formula One.

For example, he said in a telephone interview, the powertrain in the Renault Zoe, a compact vehicle with a maximum range of about 150 miles per charge, is based on a Formula E design.

"A Formula One engine is impossible to put in a road car," he said. During a pre-race stroll through the pit area in Zurich, it was obvious that managing the heat generated by high-voltage electric car batteries is arguably a more vexing problem than range or charging time.

ABB, the electrical and industrial equipment manufacturer based in Zurich that is Formula E's lead sponsor, has demonstrated technology that needs just eight minutes to zap enough power into a battery for about 120 miles of driving. But a recharging station with six of these high-voltage chargers would put enough strain on the electricity grid to cause a blackout and melt ordinary power cables, said Ulrich Spiesshofer, ABB's chief executive.

ABB, which is supplying recharging equipment for Formula E and has ambitions to be the global leader in charging stations for electric cars, sees the series partly as a way to generate public support for infrastructure investments.

"When you have a racecar that accelerates and brakes all the time in a very extreme way, in humid conditions, in cold conditions, in wet conditions, in dry conditions, it's a great opportunity to test new technology," Mr. Spiesshofer said.

The heat was a particular problem here, where the race-day weather was sunny and hot enough to attract crowds of bathers to the shores of Lake Zurich, a stone's throw from the course.

The problem, it must be said, is not quite solved in a way that would make sense for everyday driving. Shortly before the race began in the late afternoon, pit crews shoveled nuggets of dry ice directly into the air intakes of the racecars to keep batteries cool. Some teams employed a decidedly low-tech cooling method: shielding their battery and motor compartments

with ordinary umbrellas.

Formula E teams and their auto industry sponsors can gain a competitive advantage if they can work out a better solution than rivals to such problems. And those advantages could translate from the track to the sales floor.

BMW, which will compete as a manufacturer next season, assigned the same engineering team that works on the company's i Series battery-powered vehicles to design technology for Formula E.

"The experience they have will have an influence on what they do next in production," said Jens Marquardt, BMW's director of motor sport.

The BMW team developed a motor for next season that is half the weight and a third the size of previous generations, while delivering twice the performance, Mr. Marquardt said.

The motor would be too expensive for mass-market cars, he said, but some of the know-how that went into it — which Mr. Marquardt declined to describe, for competitive reasons — is transferable, he said.

"What is happening in Formula E is exactly like the early days of motor sport," he said.

One area where teams compete intensely is in systems that recapture energy from braking and feed it back to the battery. All the Formula E teams use the same battery and deploy two cars during the race, switching to the second when the first runs low on juice.

The car switch boldly underscores the biggest complaints about electric vehicles: limited range and slow charging. But the technology is improving quickly. Next season, the Formula E cars will get new, more efficient batteries that will last the entirety of the roughly 60-mile races, which take about an hour to complete.

Still, making the most of the finite store of electrons will remain crucial to Formula E tactics. The more cleverly that teams can contrive combinations of software and mechanics to recover energy when the cars slow for curves, the more power they can unleash on straightaways.

"The race is all about energy saving," Paul Fickers, engineering director for the team sponsored by NIO, a Chinese electric car start-up, said on the sideline of the pit area. "You learn a lot about magnetic fields."

The driver who best mastered the Zurich course was Lucas di Grassi of the Audi Sport ABT Schaeffler team. But the Brooklyn event, a double-header that will determine the season championship, will be a contest between Sam Bird of DS Virgin Racing, who was second in Zurich, and Jean-Éric Vergne of the Chinese Techeetah team, the driver with the most points this season. Mr. Bird is the only driver with a chance of picking up enough points in Brooklyn to surpass Mr. Vergne.

The Zurich event was the first leg car race on Swiss streets since 1954. Switzerland banned urban racing after a horrific accident in 1955 at the 24 Hours of Le Mans race in France. A Mercedes-Benz ricocheted off the track and into a spectator area, killing more than 80 people, the worst disaster in racing history.

But Formula E's green credentials helped persuade Swiss officials to lift the racing ban. Though Formula E cars aren't exactly quiet, they produce much less noise than the gasoline-powered Formula One cars, and the electric cars are emissions free — although some Zurich residents pointed out that the vehicles involved in building the race venue generated plenty of noise and pollution.

As European cities increasingly restrict traffic in an attempt to cut alarming levels of air pollution, Formula E demonstrates what may be the auto industry's best hope for remaining welcome in urban areas.

"A lot of cities told us there is no way we would do a race with internal combustion cars," said Benoit Dupont, head of sporting for Formula E. "What we can do," he said, "we can do because we are electric."



The Formula E race in Zurich last month. The series moves to Brooklyn this month.

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Limits of gene tests

GENETIC TESTS, FROM PAGE 7

second companies rely on databases that may contain errors — so even if the genetic information found by the first company is correct, the analysis can be wrong.

Ambry found such patients in its recent analysis.

Greg Lennon, a co-founder of Promethease, said that the company's reports include a disclaimer saying the data are "not intended for medical or health purposes." Customers are warned to seek out "an independent, clinically validated test" if they are told of a mutation and to seek out a genetic counselor.

When errors occur, they usually derive from mistakes in the raw DNA data, said Mike Carias, also a co-founder of Promethease.

The variations in DNA in 23andMe's raw data "are not for medical or diagnostic use," said Shirley Wu, the company's director of product science.

"The data hasn't undergone the same kind of quality control and validation as our variations in our health reports," she said.

The company warns customers of this before providing their raw data, Dr. Wu said.

For the consumer who expects validated diagnoses, it's all a bit confusing. Testing companies like 23andMe say

they are not at fault, because they make it clear that their data are not meant to be used for medical diagnoses.

The companies that provide deeper analyses, like Promethease, say they take only raw genetic profiles created elsewhere and use publicly available data to scan for mutations that can increase disease risk. Promethease didn't author any of it.

Dr. Clayton learned only after weeks of agonizing that his Lynch syndrome diagnosis wasn't really a diagnosis at all.

"My wife and I were talking about having children," he recalled. "What do you do? Do you make that decision to pass this on to them?"

And what about disability insurance? If he got cancer, he might not be able to work. But could he even get insurance?

Dr. Clayton searched online for Lynch syndrome experts and found Dr. Theodora Ross, director of the cancer genetics program at the University of Texas Southwestern Medical Center in Dallas.

She had Dr. Clayton's DNA tested at a lab certified to make the diagnosis. That was how he found out the report was wrong.

He was lucky, he said, that he had medical training and knew where to find help.

"I don't think that applies to a lot of people," he said.