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# The Whys and Hows of Generations Research

**FOR FURTHER INFORMATION  
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## The Whys and Hows of Generations Research

At the center of the Pew Research Center’s mission is a commitment to measuring public attitudes on key issues and documenting differences in attitudes between demographic and political groups.

An individual’s age is one of the most common predictors of differences in attitudes and behaviors. On issues ranging from foreign affairs to social policy, age differences in attitudes can be some of the widest and most illuminating. Age denotes two important characteristics about an individual: their place in the life cycle – whether a young adult, middle-aged parent or retiree – and their membership in a cohort of individuals who were born at a similar time. The nature of age as a variable allows researchers to employ an approach known as cohort analysis to track a group of people over the course of their lives.

Age cohorts give researchers a tool to analyze changes in views over time; they can provide a way to understand how different formative experiences interact with the life-cycle and aging process to shape people’s view of the world. While younger and older adults may differ in their views at a given moment, age cohorts allow researchers to go further and examine how today’s older adults felt about a given issue when they themselves were young, as well as to describe how the trajectory of views might differ across age cohorts.

Generations are one way to group age cohorts. A generation typically refers to groups of people born over a 15-20 year span, such as the Millennial generation, currently the youngest adult generation. Generational analysis is an important tool used by Pew Research Center and other researchers. This report aims to describe the basic approach of generational analysis at the Pew Research Center and some of the key insights it provides into understanding public attitudes and behaviors.

## Defining Generations

The Pew Research Center's approach to generational analysis involves tracking the same groups of people on a range of issues, behaviors and characteristics. Setting the bounds of generations is a necessary step for this analysis. It is a process that may be informed by a range of factors including demographics, attitudes, historical events, popular culture, and prevailing consensus among researchers. As a result, the lines that define the generations are useful tools for analysis, but they should be thought of as guidelines, rather than hard-and-fast distinctions.

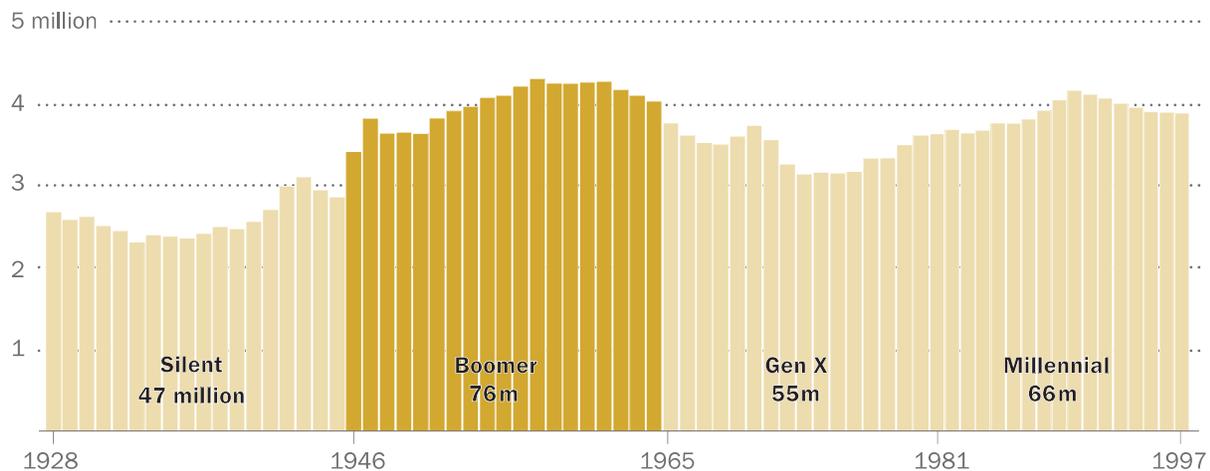
Each of the commonly-used current generations has been defined by a unique mix of factors.

The Baby-Boom generation is an example of a generation that is largely delineated by demography. Its oldest members were part of the spike in fertility that began in 1946, right after the end of World War II. Its youngest members were born in 1964, shortly before a significant decline in fertility that occurred after the birth control pill first went on the market.

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### Births Underlying Each Generation

*Number of U.S. births by year and generation*



Source: U.S. Dept. of Health and Human Services National Center for Health Statistics

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Other generations are less strictly defined by demography, though it plays an important role in designations including Generation X and Millennials – the two generations that followed the Baby Boomers.

Generation X describes people born from 1965 through 1980. The label overtook the first name affixed to this generation: the Baby Bust. In part, this generation is defined by the relatively low birth rates in these years compared with the Baby Boom generation that preceded them and the Millennial generation that followed them. The label for this generation was popularized by a 1991 book by Douglas Coupland titled, *Generation X: Tales for an Accelerated Culture*.

The bounds of the Millennial generation, sometimes characterized as the “echo boom,” are also informed by demographics. This generation is largely made up of the children of the Baby Boom generation. The name for this cohort refers to those born after 1980 – the first generation to come of age in the new millennium. As this generation was first entering adulthood, some used the term Gen Y to refer to them, and its boundaries were slightly different. This is another example of how the names and spans of generations can change over time.

The Silent generation describes adults born from 1928 through 1945. Children of the Great Depression and World War II, their “Silent” label refers to their image as conformist and civic-minded. Time Magazine coined the term in a 1951 article describing the emerging generation of the time. The Silent label is not widely recognized by the public: fewer say they have heard of it than the labels for any other of the living generations. (See [here](#) for our report on generations and identity.)

The Greatest generation (those born before 1928) “saved the world” when it was young, in the memorable phrase of Ronald Reagan. This is the generation that fought and won World War II, and became the subject of a best-selling book by Tom Brokaw. Pew Research Center no longer reports current data on the Greatest generation because they now represent such a small share of the adult population (roughly 2%) that standard public opinion surveys do not yield large enough sample sizes for reporting.

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## The Generations Defined

### **The Millennial Generation**

Born: After 1980  
Age of adults in 2015: 18 to 34\*  
Share of adult population: 30%

### **Generation X**

Born: 1965 to 1980  
Age in 2015: 35 to 50  
Share of adult population: 27%

### **The Baby Boom Generation**

Born: 1946 to 1964  
Age in 2015: 51 to 69  
Share of adult population: 30%

### **The Silent Generation**

Born: 1928 to 1945  
Age in 2015: 70 to 87  
Share of adult population: 11%

### **The Greatest Generation**

Born: Before 1928  
Age in 2015: 88 to 100  
Share of adult population: 2%

\* The youngest Millennials are in their teens. No chronological end point has been set for this group.

Source: Pew Research Center analysis of Census Bureau population projections for 2015.

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An age cohort spanning 15-20 years will necessarily include a diverse assortment of people — and often there are meaningful smaller cohorts within these generations. Changes in political circumstances, societal mores and economic conditions over a period of 15-20 years can lead to people within a cohort having different formative experiences. Understanding these differences within a cohort is an essential component of generational analysis.

## Life Cycle, Cohort, and Period Effects

The factors associated with generational differences can be complex and overlapping. Researchers often think about three separate effects that can produce differences in attitudes between age groups: life cycle effects (sometimes called age effects), period effects and cohort effects.<sup>1</sup>

The first is the *life cycle, or age, effect*. When a life cycle effect is at play, differences between younger and older people are largely due to their respective positions in the life cycle. For example, young people are far less likely than older adults to vote and engage in politics. This may be because they are less informed about politics or feel they have less at stake in political or policy debates. As people age, they vote at higher rates and their level of political engagement rises. Millennials are less engaged in politics today than are older generations, but the same was true of Baby Boomers in their youth. Today, Boomers are among the most likely to vote and participate in politics.

The second process is a *period effect*. Period effects are seen when events and circumstances (for instance, wars, social movements, economic booms or busts, scientific or technological breakthroughs) as well as broader social forces (such as the growing visibility of gays and lesbians in society) simultaneously impact everyone, regardless of age. Period effects are typically thought to have lasting effects on an entire population.

An example of a period effect may be the impact of the events of the early to mid-1970s — the end of the Vietnam War and the Watergate affair — on views of government. This was a time in U.S. history that coincided with a sharp drop in public trust in government across generations. Overall trust in government has ebbed and flowed since the 1970s, but has never returned to levels seen before that period.

Another example of a lasting period effect is the shift in public views on the issue of terrorism and the priority given to homeland defense and combatting terrorism globally following the September 11, 2001 terrorist attacks. However, other shifts in opinion following 9/11 proved to be less

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<sup>1</sup> For more discussion of “age-period-cohort” (APC) analysis see, for example: Glenn 1977; Brady and Elms 1999.

enduring: expressions of patriotism and unity were short-lived as the country soon entered a fractious debate over the Iraq war and deep partisan divisions on political issues soon reemerged.

Finally, there is a *cohort effect*.<sup>2</sup> Differences between generations can be the byproduct of the unique historical circumstances that members of an age cohort experience, particularly during a time when they are in the process of forming opinions. In some cases, this may be the result of a period effect an older generation experienced that subsequent generations did not (e.g., the younger generations of today did not experience the Vietnam War or other social movements of the 1960s and 1970s, because they were not yet born).

In other cases, a historical moment can have an outsize effect on members of one generation. This may be because it occurs during a key point in the life cycle, such as adolescence and young adulthood, when awareness of the wider world deepens and personal identities and value systems are being strongly shaped. The Great Depression and its aftermath had the effect of helping shape a cohort of Americans who were strong supporters of the Democratic Party for decades to come.

Understanding what drives generational differences strengthens our understanding of how public attitudes are being shaped. Is a shift in views broad-based, reflecting a fundamental change in how all generations view an issue? Or is the change concentrated among a particular generation, reflecting the composition and formative experiences of one group, but not the public more broadly? These are some of the questions that cohort analysis – through the use of generations – help researchers answer.

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<sup>2</sup> Separating out the independent effects of age, period, and cohort can be difficult because any two of these effects is a linear function of the other (e.g. cohort=period-age). See, for example, Dinas and Stoker, 2014; Winship 2008 for more discussion.

## Examples of Generational Analysis: Same-Sex Marriage and Marijuana Legalization

Views on the issue of same-sex marriage are a good example of how researchers can use generations to understand shifting public attitudes.

The accompanying chart shows the percent that support allowing gays and lesbians to marry legally across generations from 2005 to 2015. Over this time period, support for same-sex marriage has grown from 36% to 55% among the public overall. (See [this interactive](#) for opinions of same-sex marriage over time.)

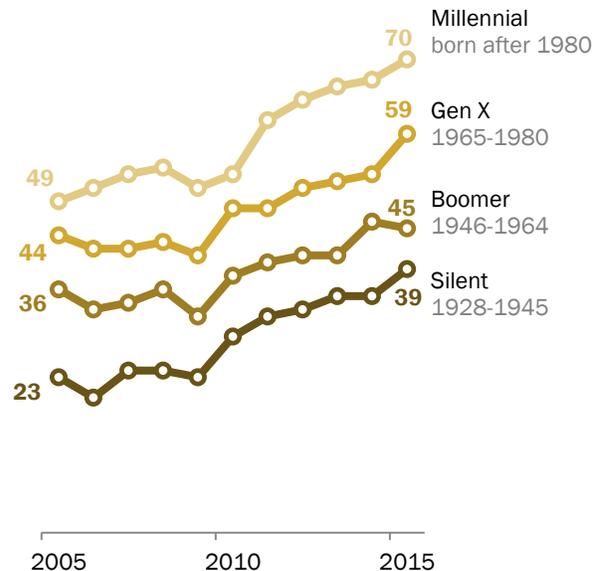
When it comes to same-sex marriage there have long been significant differences between older and younger people at individual points in time. Cohort analysis of these attitudes illustrates that these differences persist across the generations.

Millennials and Gen Xers came into the population more supportive of allowing gays and lesbians to marry legally than older generations, and those greater levels of support have persisted over time. As a result, some of the explanation for an overall shift in attitudes about same-sex marriage is attributable to a “generational replacement” as members of older, less supportive, generations pass away, they are “replaced” in the adult population by members of younger, more supportive, generations entering adulthood.

But at the same time, all generations – younger and older alike – have become more likely to support same-sex marriage over the past decade, suggesting a *period effect* separate from age or cohort.

### Generations and Same-Sex Marriage

% who favor allowing gays and lesbians to marry legally



Figures based on all surveys conducted in each year.

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Another example of how generational analysis can aid in understanding public opinion is the case of attitudes about marijuana.

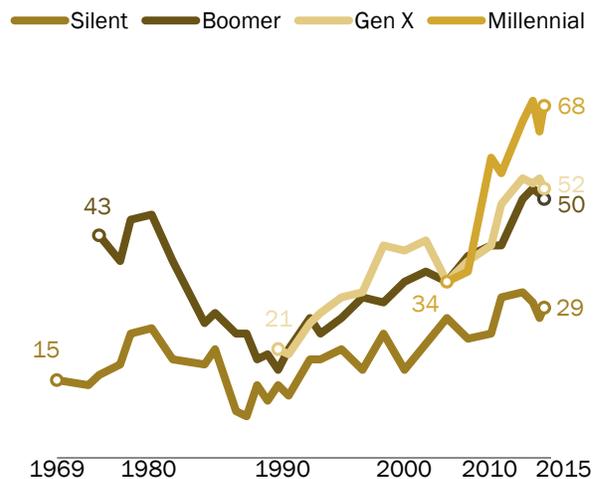
In recent years, there has been a fundamental shift in attitudes toward legalization of marijuana. When Gallup first asked about this issue in 1969, just 12% of the public favored legalizing the use of marijuana, while 84% were opposed. [In March of this year](#), 53% said the use of marijuana should be made legal, while 44% disagreed. However, the shift in attitudes over time has not been linear — support for marijuana legalization rose throughout the 1970s, fell in the 1980s, before steadily growing over the last quarter century.

The trend in opinion on legalizing marijuana highlights how overall societal mood or forces (*period*) can shift attitudes, as well as how people may be differentially influenced by those forces at different ages (*cohort*). In 1973, the Baby Boom generation was coming of age, with its adult members then between the ages of 18 and 27. At that time, 43% of Boomers favored legalizing the use of marijuana; by comparison, just 16% of those in the Silent Generation (who were then ages 28 to 45) favored legalization.

During the 1980s, the administrations of Presidents Ronald Reagan and George H.W. Bush took a hard-line approach to illicit drug use as concern over the dangers of marijuana rose. Between 1978 and 1990, support for the legal use of marijuana fell by 30 percentage points among Boomers (from 47% to 17%) and by 11 points among Silents (from 25% to 14%). Though one potential hypothesis is that these shifts were attributable to *life-stage* (that people might become less supportive of marijuana as they move into middle age) opinion among the youngest generation at that time, Gen X, suggests the importance of the period. Among Xers, whose oldest members were in their early to mid-20s in 1990, just 21% favored legalization at the time; they were far less supportive of legalization than Boomers had been at a comparable stage in their lives.

## Generational Differences on Marijuana

% favor legal marijuana by generation ...



Survey conducted March 25-29, 2015.

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Since then, overall support for marijuana legalization has increased across all three of these generations. But the patterns are somewhat different for each. Among Boomers, support for marijuana legalization now surpasses levels from when they were young (50% today vs. 43% in 1973). But among Silents, support remains far lower compared to other generations: Their support for legal marijuana has been low since the question was first asked in 1969 (when they were then 24-41), and today just 29% say it should be legal. Among Gen Xers, who came of age in a period of little support for legalization, support has more than doubled since their youth (52% say its use should be legal today, compared to 21% in 1990).

Millennials (who were born in the 1980s and 1990s, and have come of age in a period when support for legalization was rising among their elders) are the most supportive of legalization: Since 2006, the share of Millennials favoring the legal use of marijuana has doubled, from 34% to 68%, reflecting a sharper rise in support than seen among Xers and Boomers.

While the generation lens is especially powerful for an issue such as marijuana legalization, meaningful generational patterns are not seen across all issues. Views on [gun control](#), for example, are an area where there are only modest differences by generation, with larger opinion gaps seen across other variables, including gender, education and population density.

## Key Differences Between the Generations

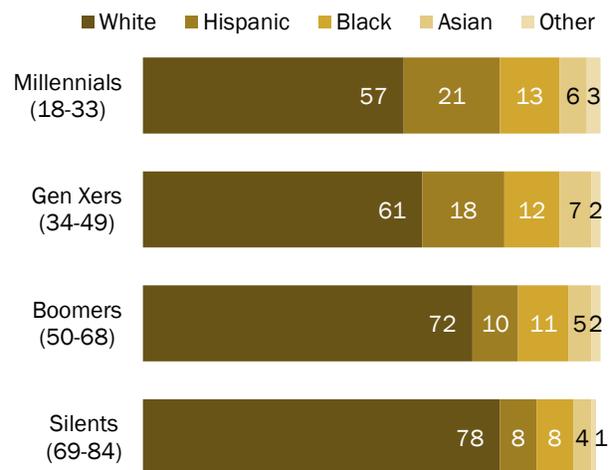
There are fundamental differences across generations, from their racial and ethnic composition, to how quickly they reach certain milestones such as marriage, to their political and ideological orientations.

Some are enduring differences that will shape the generations over the course of their lifetimes. Others are largely a function of age or life-stage.

One example of an enduring difference across the current generations is their racial and ethnic composition. Millennials are the most diverse adult generation: 57% are non-Hispanic whites, while 21% are Hispanic, 13% are black and 6% are Asian. Each older generation is less diverse. Non-Hispanic whites make up 61% of Generation X, 72% of Baby Boomers and 78% of the Silent generation.

The current demographic composition of the country guarantees that the next generation will be even more diverse than Millennials. The unique demographic profiles of the generations are unlikely to change a great deal over time and often underlie opinion dynamics on issues.<sup>3</sup>

### Race and Ethnicity by Generation, 2014



Ages shown are as of 2014. Members of the Silent generation were 69 to 86 in 2014. Since the Current Population Survey aggregates those ages 85 and older into one category, results for 69 to 84 year-olds are shown. Hispanics are of any race. Racial groups include only non-Hispanics. Figures may not add to 100% because of rounding.

**Source:** Pew Research Center tabulations of the 2014 March Current Population Survey from the Integrated Public Use Microdata Series (IPUMS)

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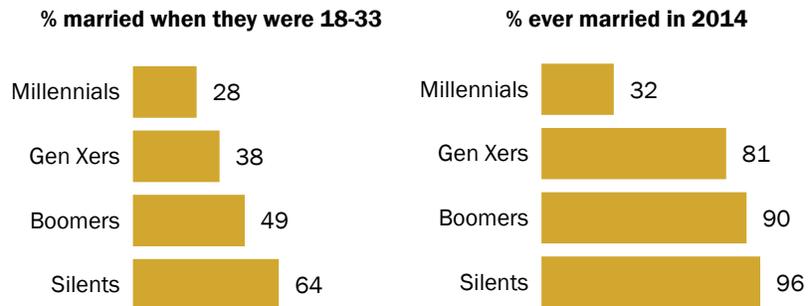
<sup>3</sup> While the racial and ethnic composition of generations generally changes little over time, the growth of a cohort through immigration can impact these characteristics as a generation continues to take shape.

In addition to their racial and ethnic composition, the generations also differ in life-shaping behaviors, such as marriage – behaviors that are not cast by the composition of a cohort but are informed by values and economic circumstances.

In 2014, just 28% of Millennials were married. This makes them remarkably different than members of the Silent

Generation at the same stage in their lives: fully 64% of Silents were married when members of their generation were between the ages of 18 and 33. About half (49%) of Baby Boomers and 38% of Gen Xers were married when their generation was ages 18 to 33. Generational analysis allows for these comparative snapshots, but it also lets researchers track what happens as these cohorts age.

### Marriage Rates by Generation



Ages shown are as of 2014. Members of the Silent generation were 69 to 86 in 2014. Since the Current Population Survey aggregates those ages 85 and older into one category, results for 69 to 84 year-olds are shown.

Source: Pew Research Center tabulations of the 2014, 1998, 1980 and 1963 Current Population Surveys from the Integrated Public Use Microdata Series (IPUMS)

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For example, just 38% of Generation X were married when they were ages 18 to 33, but many of those who weren't married at that age did not reject the institution of marriage altogether. Instead, a large share of Gen Xers have married later in life than previous generations. As of 2014, fully 81% of Generation X (then ages 34-49) had *ever* been married, resulting in a narrowing of the gap between Xers and the two older generations – Baby Boomers (90%) and Silents (96%) – in the percent who at that point had *ever* been married.

Marriage rates among Millennials are at an even lower starting point than for Gen X. However, marriage rates will continue to rise among Millennials as they age. The exact trajectory of marriage rates among Millennials is unclear, however. A recent [Pew Research Center analysis](#) projects that by the time they reach middle age, as many as 25% of Millennials will have never married – an all-time high.

The pattern of religious identity is another fundamental difference between the generations. Older generations identify overwhelmingly as Christian. For example, 85% of the Silent generation identify as a member of a Christian denomination, while just 11% say they are religiously unaffiliated (defined as atheist, agnostic or “nothing in particular”). By contrast, smaller majorities of Millennials (56%) and Gen Xers (70%) identify as Christian, while as many as 35% of Millennials and 23% of Gen Xers do not identify with any organized religion.

### Generational Replacement Drives Growth of Religiously Unaffiliated

	Evangelical Protestants	Mainline Prot.	Historically black Prot.	Catholic	Other Christian groups	Other groups	Unaffil.
Silent generation (1928-1945)	30%	22	5	24	3	4	11
Baby Boomers (1946-1964)	28	17	7	23	3	5	17
Generation X (1965-1980)	25	13	7	21	4	6	23
Millennials (1981-1996)	21	11	6	16	3	8	35

2014 Religious Landscape Study, conducted June 4-Sept. 30, 2014. Figures may not add to 100% because of rounding. Don't know/refused answers not shown. "Other Christian groups" includes Mormons, Orthodox Christians, Jehovah's Witnesses and a number of smaller Christian groups.

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Over the past seven years, the share of the U.S. population that does not identify with an organized religion has grown since 2007. Much of this change has occurred due to generational replacement; the youngest adults who are aging into the population are more likely to be religiously unaffiliated than the oldest adults they are replacing.

While marriage rates are expected to rise among younger generations as they move through the life cycle, there is no indication that younger cohorts will become more [religiously affiliated](#) as they age. In fact, Pew Research Center's 2015 [Religious Landscape report](#) found that the share of those who do not identify with

### Religiously Unaffiliated Make Up Growing Share Across Generations

% of each generation that identifies current religion as atheist, agnostic or nothing in particular

	2007 %	2014 %	Change
Silent generation (b. 1928-1945)	9	11	+2
Baby Boomers (b.1946-1964)	14	17	+3
Generation X (b. 1965-1980)	19	23	+4
Older Millennials (b. 1981-1989)	25	34	+9
Younger Millennials (b. 1990-1996)	n/a	36	n/a

2014 Religious Landscape Study, conducted June 4-Sept. 30, 2014. All changes are statistically significant.

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a religion had grown across generations. Between 2007 and 2014, for example, the share of older Millennials (born 1981-1989) who do not identify with a religion rose nine percentage points, from 25% to 34%. Among Gen Xers, there was a four-point rise in the share who do not identify with a religion (19% in 2007 to 23% in 2014).

## Partisan Affiliation and Ideology

Overall, the share of political independents in the public has been rising in recent years, and in 2014 reached 39%, the highest percentage in more than 75 years of polling.

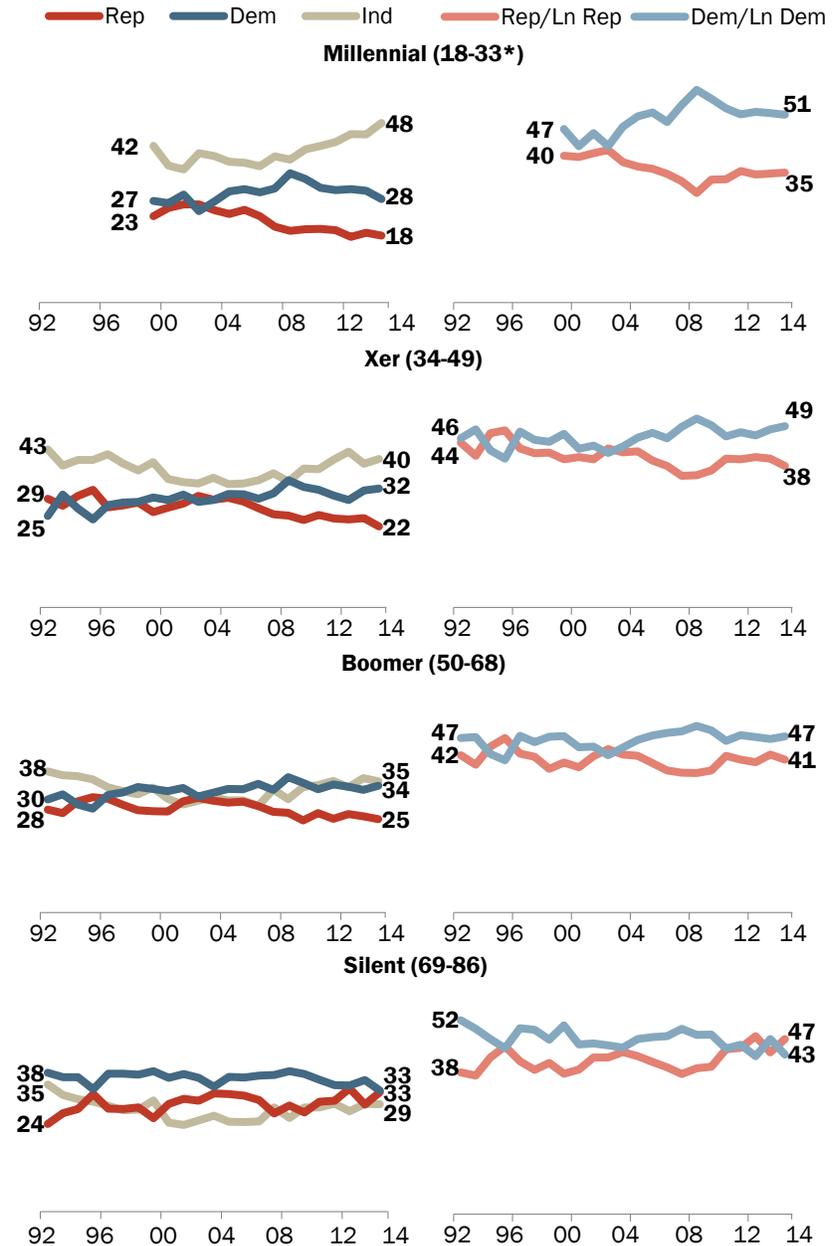
An analysis of long term trends in party identification, released in [April](#), found that Millennials are more likely than older cohorts to identify as independents. Nearly half of Millennials (48%) identify as independents, compared with 40% of Gen Xers and smaller shares of Boomers (35%) and Silents (29%).

When the partisan leanings of independents are taken into account, Millennials are the most Democratic generation, while Silents are the most Republican.

The political climate of early adulthood may continue to influence the political tilt of a generation throughout its life span, as noted in a [2011 Pew Research Center report on generations](#). For example,

### Partisan Affiliation by Generation: 1992-2014

% who identify as/lean toward...



Data points represent annual totals based on monthly political surveys conducted by Pew Research in each calendar year. \*Age ranges are for 2014.

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members of the Greatest Generation, who came of age during the Great Depression and the Franklin Roosevelt administration, carried strong Democratic tendencies throughout their adulthood.

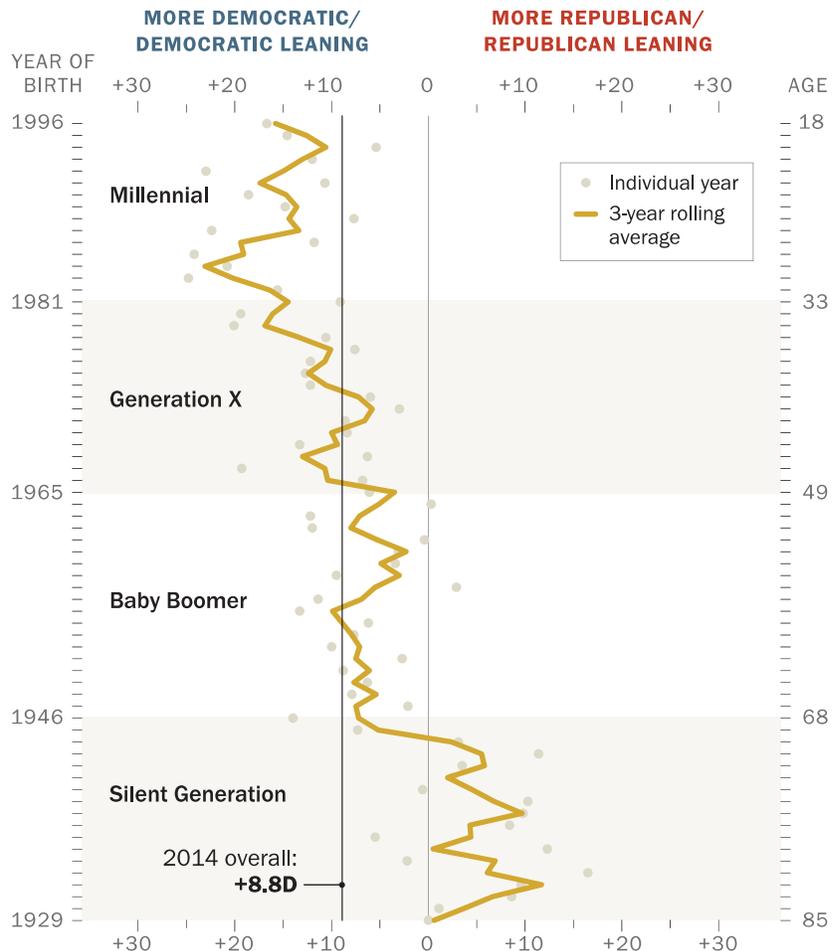
Yet the differences in partisan affiliation across generations tell only part of the story; there also is considerable variance *within* generations. And, with sufficient data, cohort analysis can be used to investigate within-generation differences by examining smaller age spans.

The accompanying graph [showing partisan leanings in 2014 for adults based on the year they were born](#) is an example of this. The line shows the percentage identifying or leaning Democratic minus the percentage identifying or leaning Republican. The further left the line on the graph, the larger the Democratic advantage for that year; the further right, the larger the Republican advantage.

Older Baby Boomers have consistently had a more Democratic imprint than younger Boomers. Older Boomers were born in the late 1940s and early 1950s and came of voting age in the late 1960s and early 1970s, during Richard Nixon's presidency. Younger Boomers were born later (in the mid-to-late 1950s and early 1960s) and largely came of age in the 1970s and early 1980s, during the presidencies of Jimmy Carter and Ronald Reagan.

## 2014 Partisan Advantages by Year of Birth

Among general public



Source: Merged Pew Research Center surveys conducted in 2014.

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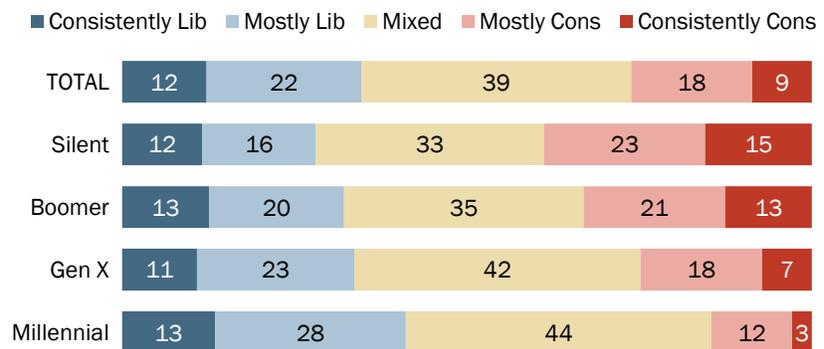
Older Gen Xers are more Republican (and less Democratic) than younger Gen Xers, whose strong Democratic leanings more closely resemble those of older Millennials.

As with partisan affiliation, there are substantial differences in the ideological leanings of generations. Based on data from the Pew Research Center's [2014 Political Polarization survey](#), Millennials are currently the least conservative generation.

Across a set of 10 political values questions on issues such as the role of government, the environment and business, just 15% of Millennials express either consistently or mostly conservative views compared with 44% who have a mix of liberal and conservative views and fully 41% who express consistently or mostly liberal views. By comparison, more Gen Xers (25%), Baby Boomers (33%) and Silents (39%) express consistently or mostly conservative views across this set of 10 questions.

### Wide Ideological Divide by Generation

*% with political values that are...*



Source: 2014 Political Polarization in the American Public (N=10,013). Ideological consistency based on a scale of 10 political values questions.

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## The Post-Millennial Generation

Given all that we know about generations how do we identify where to draw the line between the Millennial generation and the next generation? Today's youngest adults are Millennials, but the 16-year span of Millennial birth years (1981-1997) is already about as wide a range as those of the other living generations. And Millennials are [projected to surpass Baby Boomers](#) in 2015 as the nation's largest living generation, according to a Pew Research Center analysis of Census Bureau data. So it seems likely that in the near future the youngest adults will be members of a post-Millennial generation.

Historical and demographic markers will factor into determining the dividing line between Millennials and post-Millennials. But it is unlikely that any single indicator or an 'aha' moment will mark the end of the Millennial generation, absent some unexpected event. More likely is that an end-point definition will emerge over time as debate among researchers and usage in popular culture forms a working definition. As with Generation X and its original "Baby Bust" label, there may be different names attached to the post-Millennial generation before one eventually sticks.

Regardless of where and when the line is drawn to end the Millennial generation, it will take several years before enough post-Millennials have reached adulthood to allow for meaningful statements about the next adult generation. One thing is clear: the next generation, today's children and teens, will likely be shaped by very different influences and forces than the generations that preceded it.

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### Selected References

The academic literature on cohort analysis is extensive, and these articles are meant to provide a (by no means comprehensive) starting point for those looking for more information on the topic.

Brady, Henry E. and Laurel Elms. 1999. "[Age-Period-Cohort Analysis with Noisy, Lumpy Data.](#)" Working paper, prepared for the annual meeting of the political methodology group of the American Political Science Association.

Dinas, Elias and Laura Stoker. 2014. "Age-Period-Cohort analysis: A design-based approach." *Electoral Studies*. <http://dx.doi.org/10.1016/j.electstud.2013.06.006> (fee)

Glenn, Norval D. 1976. "Cohort Analysts' Futile Quest: Statistical Attempts to Separate Age, Period and Cohort Effects." *American Sociological Review*.

Neundorf, Anja and Richard G. Niemi. 2014. "Beyond political socialization: New approaches in age, period, cohort analysis." Special symposium issue of [Electoral Studies](#). (fee)

Glenn, Norval D. 1977. *Cohort Analysis*. Sage publications.

Winship, Christopher and David J. Harding. 2008. "[A mechanism-based approach to the identification of Age-Period-Cohort models.](#)" *Sociological Methods and Research*. (fee) [www.pewresearch.org](http://www.pewresearch.org)

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