

Public Attitudes Towards STEM Education in Washington

Findings from a Statewide Survey of Registered Voters

January 2017



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METHODOLOGY

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Strategies 360 conducted a **live telephone survey** of 600 registered voters in Washington state.

- Interviews were conducted January 4 – 9, 2017. A combination of landline and mobile phones were called to ensure greater coverage of the population sampled.
- An oversample was conducted to bring the total number of Clark County interviews to 153. Oversample interviews were then weighted to accurately reflect regional population distributions.
- The margin of error for a survey of 600 interviews is $\pm 4.0\%$ at the 95% confidence level. The margin of error for other subsamples may be higher.
- Other sources of error not accounted for by the stated statistical margin of error include, but are not limited to, question wording, question order, coverage bias, and response bias.

EXECUTIVE SUMMARY

STEM education continues to be regarded as a critical part of Washington's school system. Voters have a strong appetite to increase public education's focus on STEM learning and preparing students for careers in STEM fields.

- Throughout the survey, there is broad and strong agreement that focusing on STEM education should be a focus for education in Washington. Voters believe that STEM is a very important part of the state's obligation to fund basic education and there is strong support for policies and ideas which bolster STEM education in the state.
- Given the many unfilled job opportunities in Washington, as well as the potential for STEM to expand opportunities to disrupt the cycle of poverty, voters place a very high priority on ensuring all students have access to a high quality STEM education, regardless of their gender, race, socioeconomic status, or community.
- Voters agree that demand for STEM workers is on the rise, but are underwhelmed by the quality of STEM education currently offered. They want to see more done to ensure that students and workers in Washington have the necessary skills to take advantage of those opportunities and are willing to embrace a variety of policy changes to accomplish this goal.

STEM education in Washington receives mixed reviews, but knowledge and familiarity with STEM has grown.

- Voters are underwhelmed with the quality of STEM education in Washington; just 42% say schools offer a high quality STEM education, while 29% disagree. Further, voters are divided in their satisfaction with the job schools are doing preparing students for good jobs and opportunities in the state.
- Despite mediocre reviews of quality, recognition of the term “STEM” continues to increase. Sixty-two percent of voters now report having heard the term; this is double the share who were familiar with the moniker in 2013.
- When asked about Washington’s higher education institutions, 58% of voters say that Washington colleges and universities are doing a good job of preparing students for careers in STEM fields. However, this represents a slight drop from 2016 when 66% felt colleges and universities were doing a good job.

Voters readily recognize that STEM education is a key component of basic education.

- Eighty-three percent of voters believe that ensuring that every student receives a high-quality STEM education is a necessary part of the state’s obligation to provide basic education.
- Moreover, voters overwhelmingly rate a high-quality STEM education as a “very important” component of the state’s obligation to provide basic education.
- STEM is also believed to be an important funding priority. When asked to prioritize various uses for additional McCleary funding, most STEM-focused priorities were rated as high or top priorities, including improving math and science education, expanding access to computer science, and expanding career-connected learning opportunities.

The important connection between STEM education and the health of Washington's economy is broadly recognized.

- Voters agree that STEM skills offer future Washingtonians more opportunities, that these skills are in increasing demand, and that an increased focus on STEM education can positively impact regional and the state's economies.
- However, voters lag in their awareness of the STEM skills gap. Half (52%) of voters are unaware of the gap between the number of STEM job openings and the number of qualified workers. This lack of awareness is particularly acute among lower income households, voters without a college degree, voters of color, and voters in Eastern Washington.
- Once informed of the skills gap, every proposed idea to address the gap receives widespread support. Upwards of 90% of voters support policies that would offer teachers more training, expand career-connected learning and out-of-school opportunities, and work with parents to encourage students to follow a STEM path.

Voters strongly believe in providing all children with an equal opportunity for a great STEM education. However, awareness of inequity in STEM industries continues to lag behind voters' professed support for equal opportunity.

- Voters believe that increasing STEM access among all children can have positive impacts in fighting inequality. Overwhelmingly, 94% of voters agree that every child should have access to a high quality STEM education. Further, 88% agree that children who grew up in poverty have a better chance to break the cycle of poverty if they have a strong STEM education.
- Despite this, consistent with the 2015 survey, only 58% agree with the notion that there are not enough women in STEM careers. Further, only 49% agree that there are not enough racial and ethnic minorities working in STEM careers; however, perceptions of racial underrepresentation are on the rise with agreement up 11-points since 2013.

Career-connected learning is broadly popular and policies expanding access are strongly supported.

- Ninety-two percent of voters agree that it is important for students at every level to have access to career-connected learning opportunities; nearly two-thirds (65%) strongly agree with this statement. Further, 94% of voters believe that these career-connecting learning opportunities are a good idea to try to address the STEM skills gap in Washington.
- As such, 71% say expanding career-connected opportunities is a top or high priority for additional funding.
- Voters are strongly supportive of using public-private partnerships to expand career-connected learning opportunities. This includes broad, bipartisan support across all demographic groups.

Throughout the survey, voters endorsed policies expanding access to computer science classes in Washington.

- Voters express strong support for policies that increase the number of students who receive computer science training and degrees. Support for policies focused on K-12 schools are especially popular, with more than nine-in-ten voters supporting a computer science curriculum and expanding classroom access.
- Further, nearly two-thirds of voters believe that increasing the number of schools that offer computer science classes should be a top or high priority for additional McCleary funding.
- Similar to career-connected learning, voters are strongly supportive of public-private partnerships that would increase the number of schools that offer computer science classes; 85% support such partnerships.

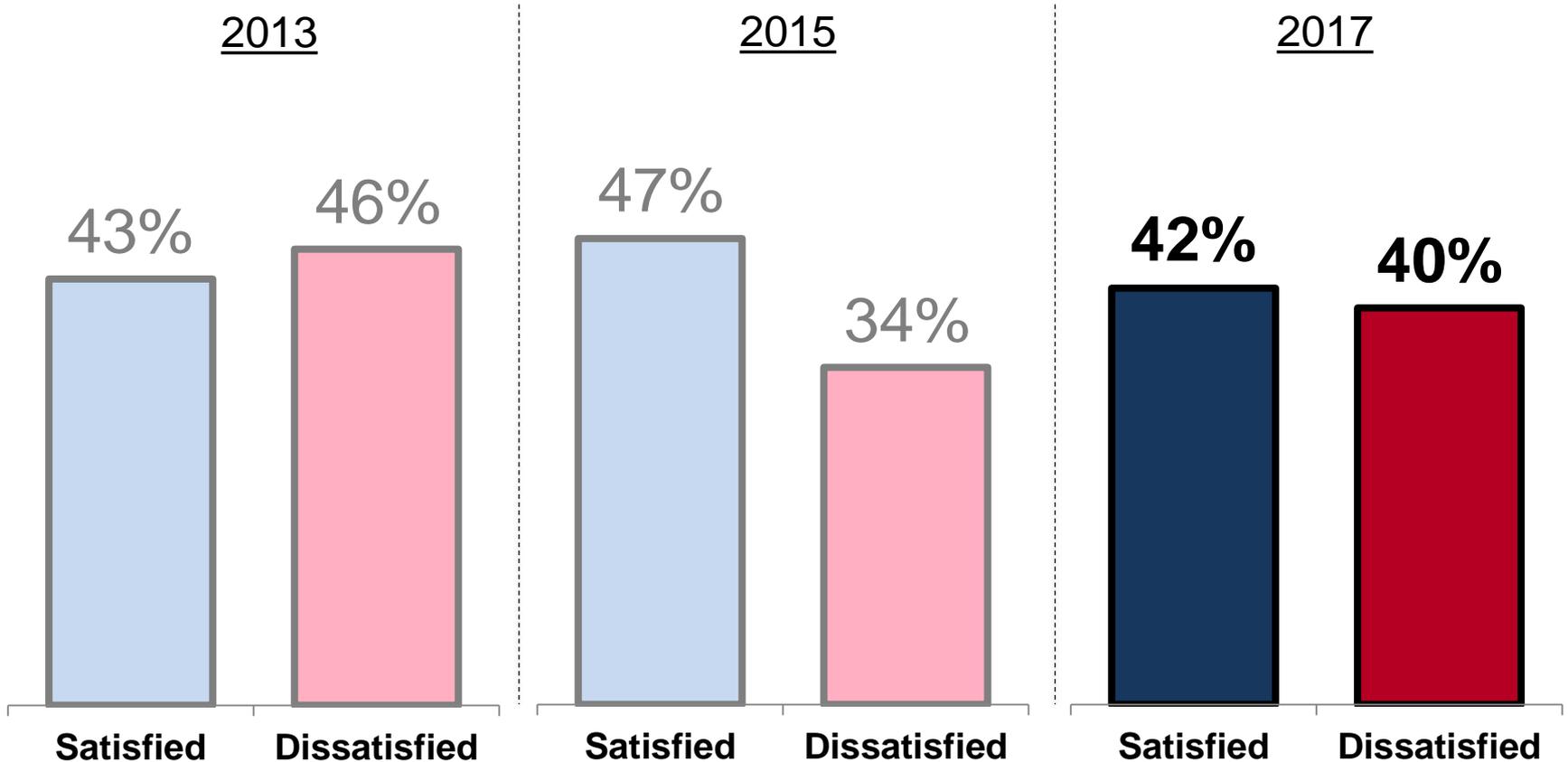
The opinions expressed by Clark County voters largely align with statewide opinions but some differences exist.

- Clark County voters recognize the important role of STEM in Washington's economy and express strong support for Washington STEM's legislative priorities (though the margin of support varies). Further, large majorities of Clark County voters believe that STEM is an important component of basic education.
- Yet, compared to statewide opinions, Clark County voters are generally more satisfied with the job schools are doing preparing kids for jobs and opportunities. Clark County also tends to give it's teachers slightly stronger ratings with 58% saying teachers are doing a good job teaching STEM subjects (compare to 51% statewide).
- Clark County tends to lag in perceptions of gender and racial inequity in STEM industries. Fifty percent in Clark County believe there are not enough women working in STEM careers while 39% say the same of racial minorities; these figures are 58% and 49% statewide.
- Clark County also lags in awareness of the STEM skills gap. Only 34% have heard of this issue compared to 46% statewide.

GENERAL ATTITUDES TOWARD STEM EDUCATION

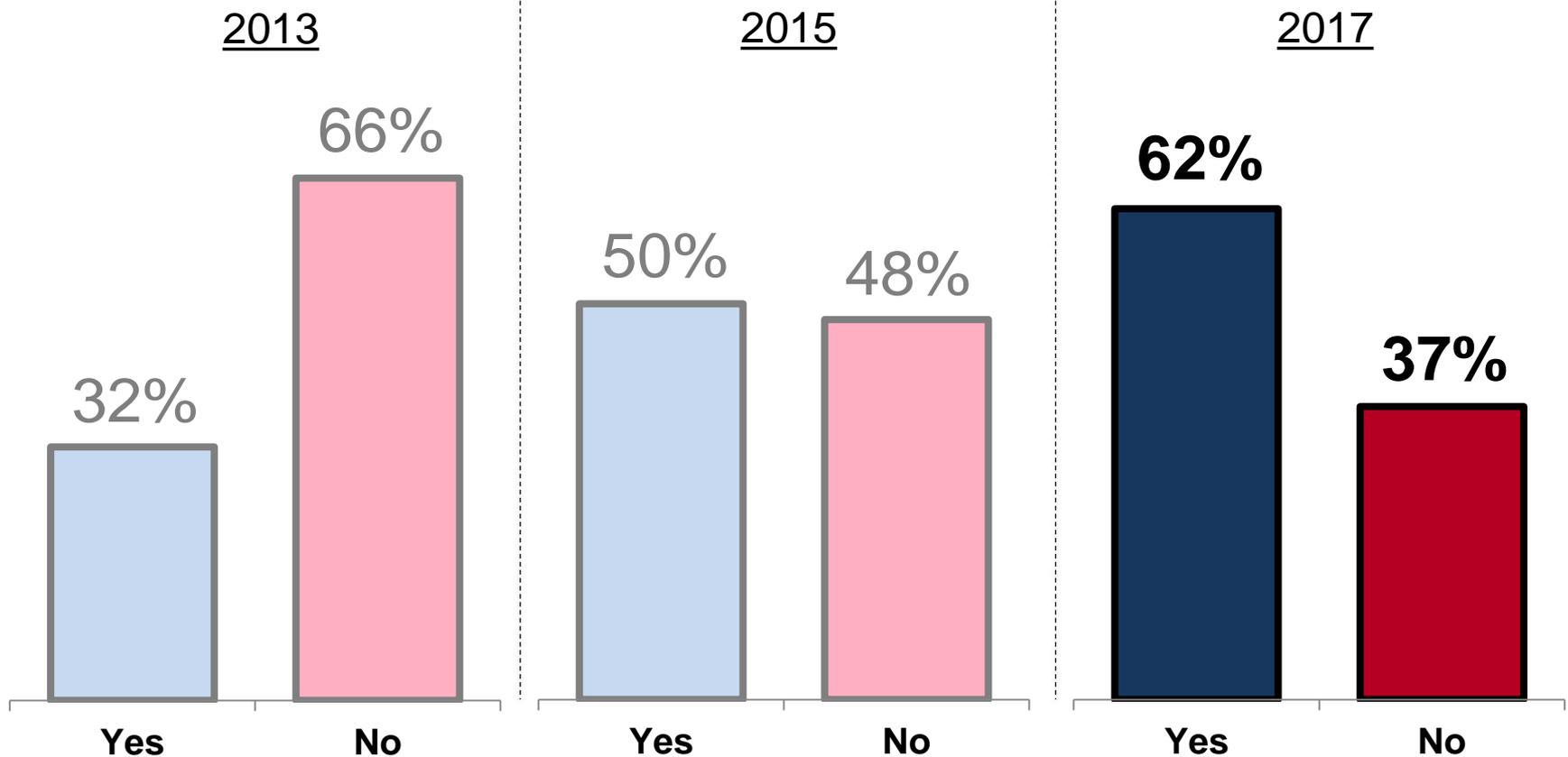
Voters are split in their satisfaction with the job public schools are doing at preparing children for good jobs and opportunities. This represents a negative trend from 2015.

Would you say you are satisfied or dissatisfied with the job that Washington's public schools are doing at preparing students for good jobs and opportunities in the state?



STEM recognition continues to grow with almost two thirds of voters now familiar with the moniker.

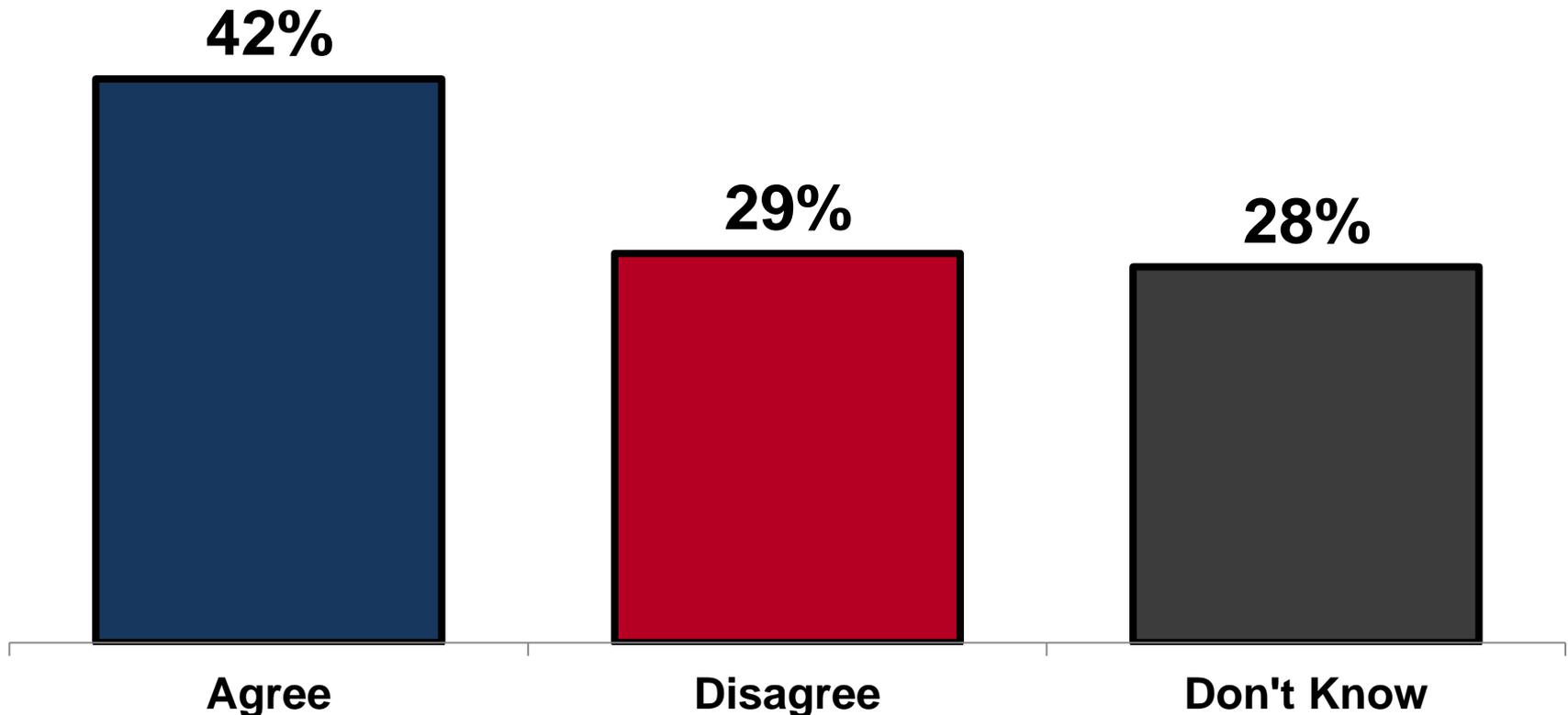
Have you ever heard of the abbreviation STEM, which stands for Science, Technology, Engineering and Mathematics?



Currently, only four-in-ten say Washington offers a high quality STEM education. Nearly a third disagree and a quarter are undecided.

Do you agree or disagree with this statement?

“Overall, the quality of STEM education in Washington is high.”



Perceptions about the quality of STEM education in Washington vary by gender, age, race, and community type.

“Overall, the quality of STEM education in WA is high.”	Agree – Disagree	Margin
Men	38-33	+5
Women	47-26	+21
Age 18-49	46-28	+18
Age 50+	39-31	+8
White Voters	40-31	+9
Voters of Color	51-25	+26
Urban	45-30	+15
Suburban	47-26	+21
Small Town	40-28	+12
Rural	33-37	-4

Women tend to have a more optimistic view of STEM education compared to men.

Older voters are less likely to believe students receive a high quality STEM education.

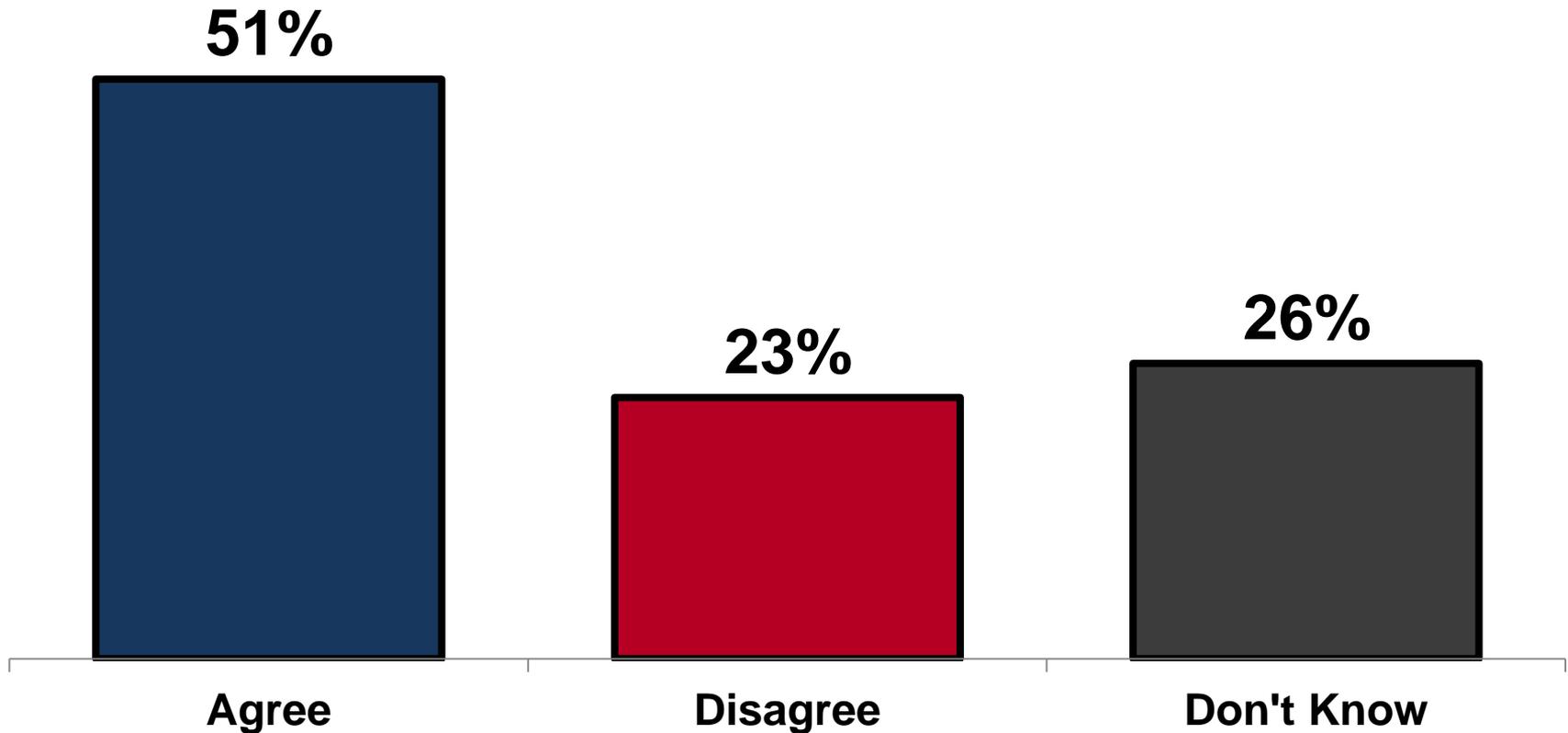
Voters of color are more likely to agree with the statement.

Rural voters are the least enthusiastic about the quality of STEM education – and are indeed the only group who are more likely to disagree than agree.

Half of voters believe that teachers in Washington are doing a good job teaching STEM subjects.

Do you agree or disagree with this statement?

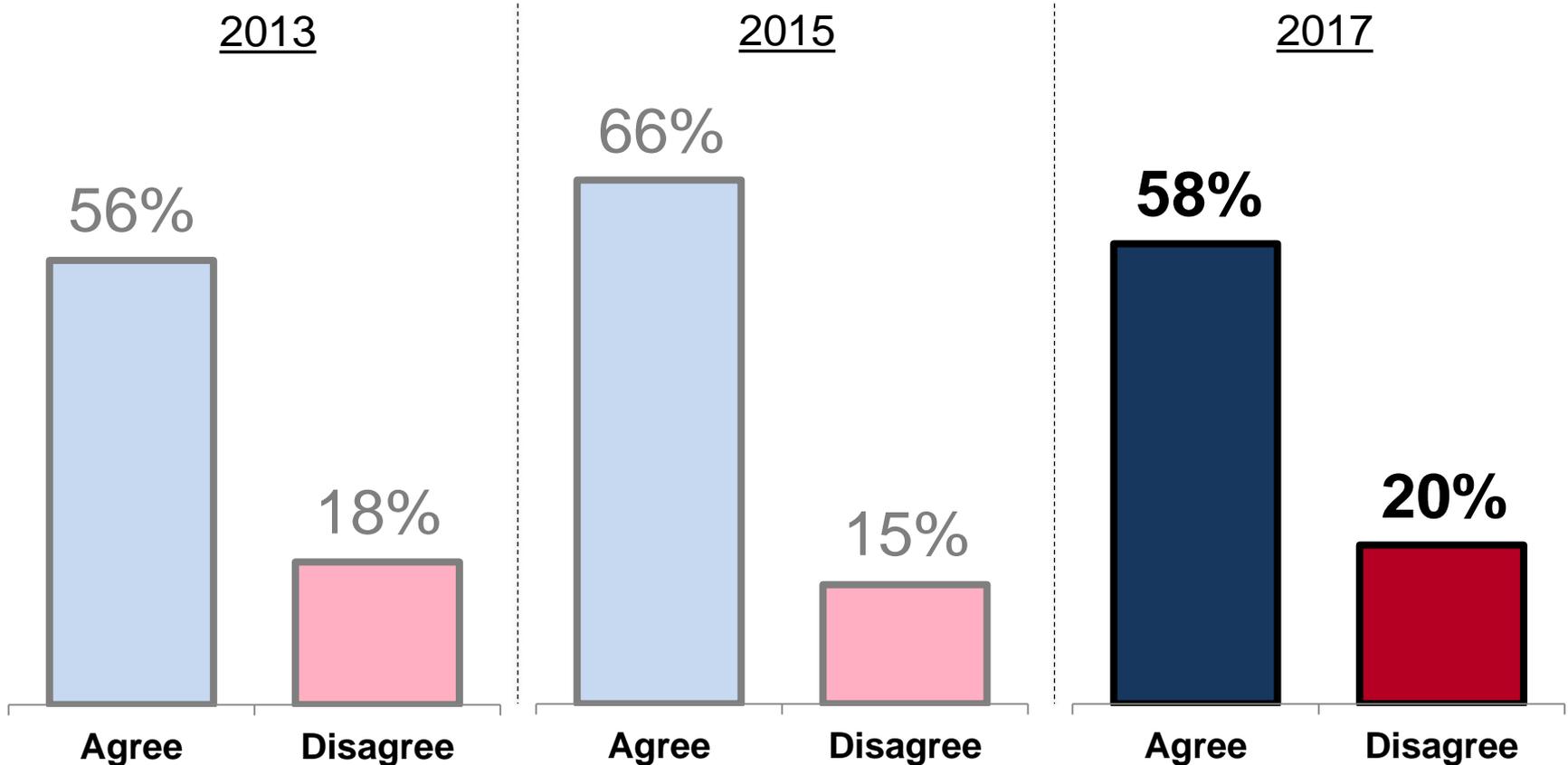
“Washington teachers are doing a good job at teaching STEM subjects.”



Voters' agreement that colleges and universities are preparing students for STEM careers has regressed slightly since 2015.

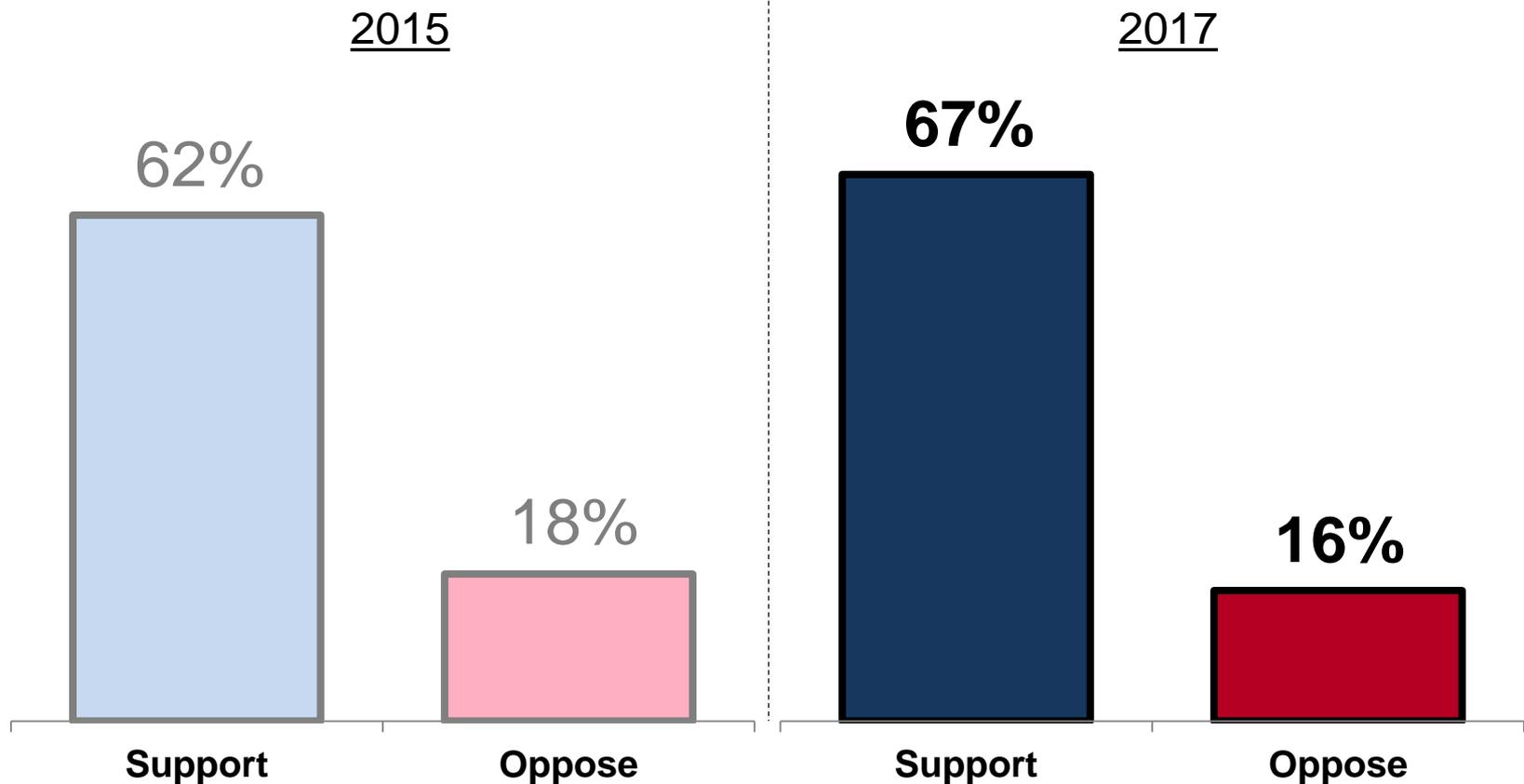
Do you agree or disagree with this statement?

"Washington colleges and universities are doing a good job of preparing students for careers in STEM fields."



Two-thirds of voters claim to support Washington’s learning standards, a slight increase compared to 2015. However, it is important to note the question did not mention Common Core.

Do you support or oppose WA’s new Kindergarten through 12th grade learning standards in English, math, and science?



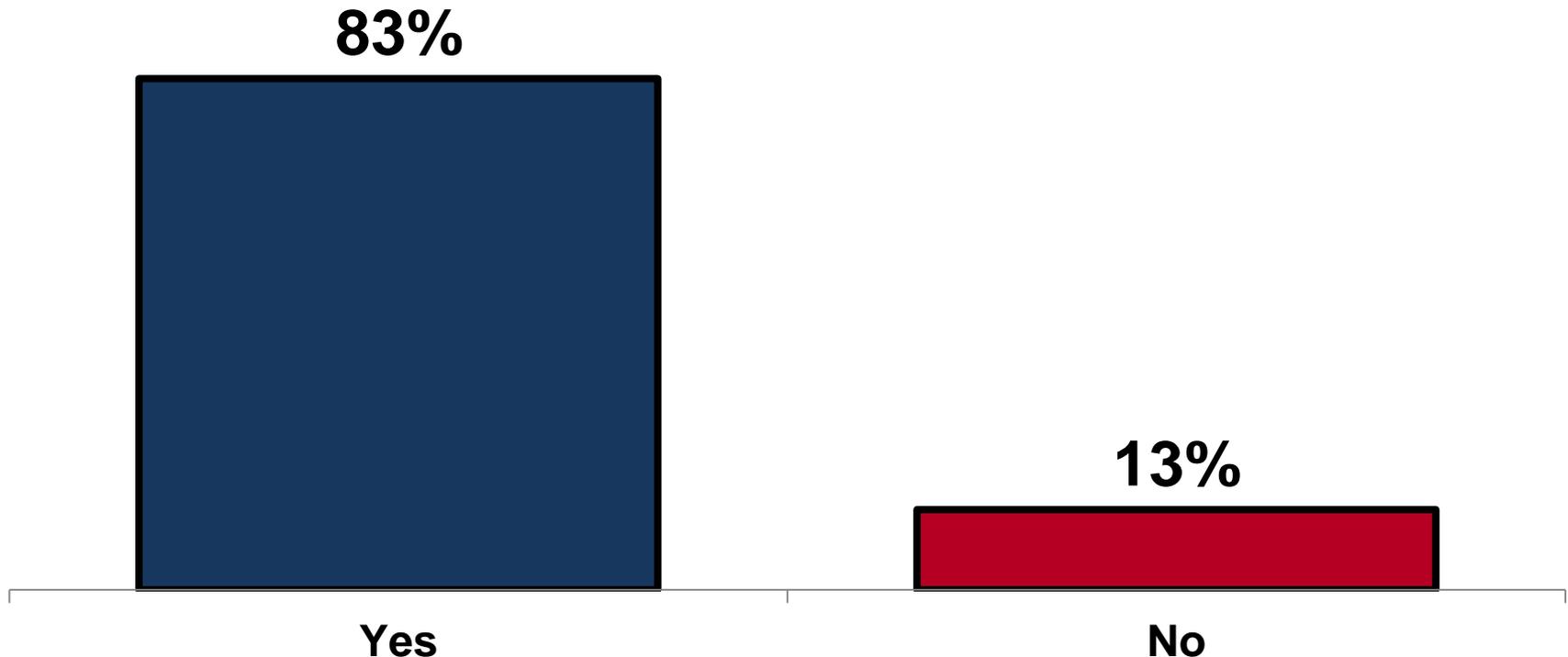
Parent opposition to Washington's learning standards is three times that of non-parents. Previously, attitudes among parents and non-parents were in closer alignment.

	2015	2017	Shift since 2015
Parent	64-23	60-27	-4
Non-Parent	61-15	70-10	+9

STEM AND BASIC EDUCATION

Voters overwhelmingly believe that a high-quality STEM education is a necessary part of the state's obligation to provide basic education.

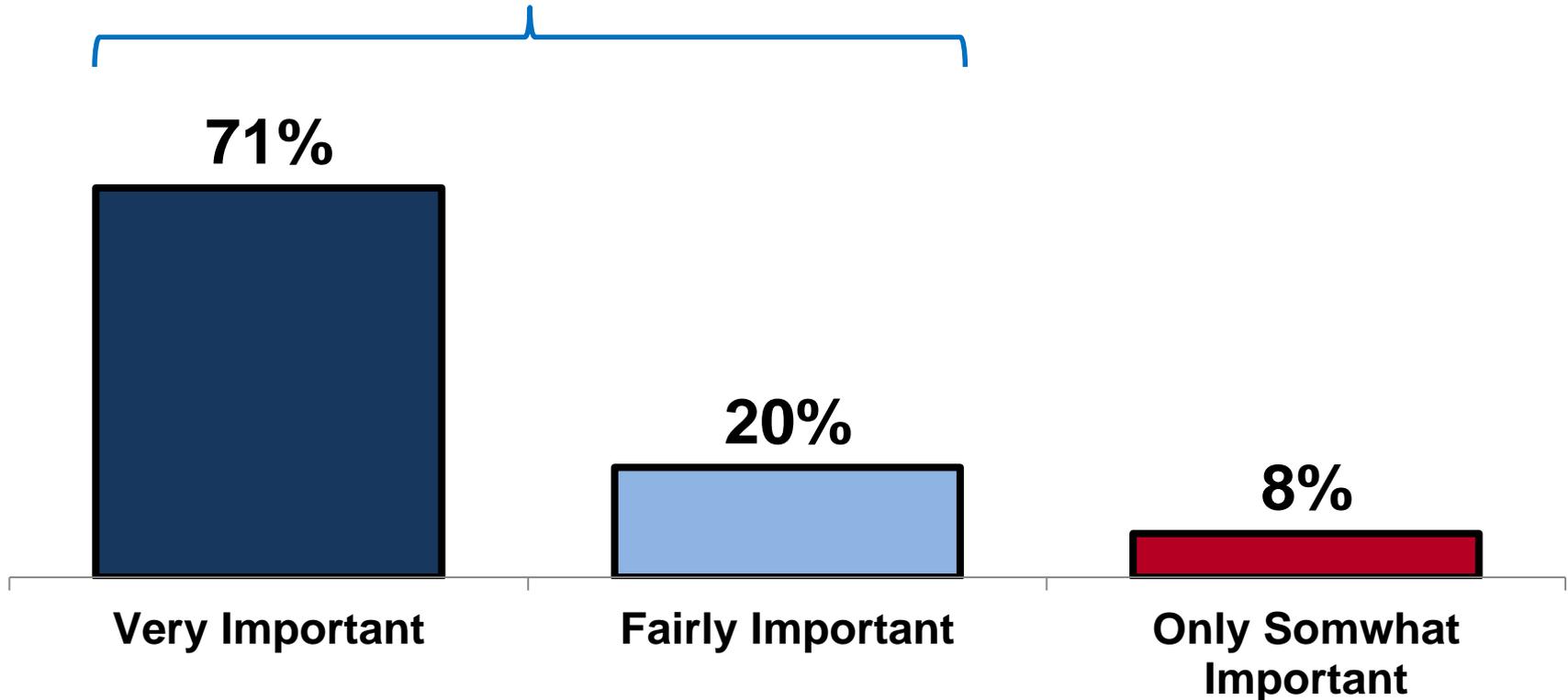
As you may know, the state of Washington has a constitutional obligation to provide a basic education, which means students are given the opportunity to develop the knowledge and skills necessary to graduate with a meaningful high school diploma that prepares them for postsecondary education, gainful employment, and citizenship. Do you think ensuring that every student receives a high-quality STEM education is a necessary part of the state's obligation to provide basic education?



More than 70% of voters believe a high quality STEM education is a “very important” part of the state’s obligation to provide basic education.

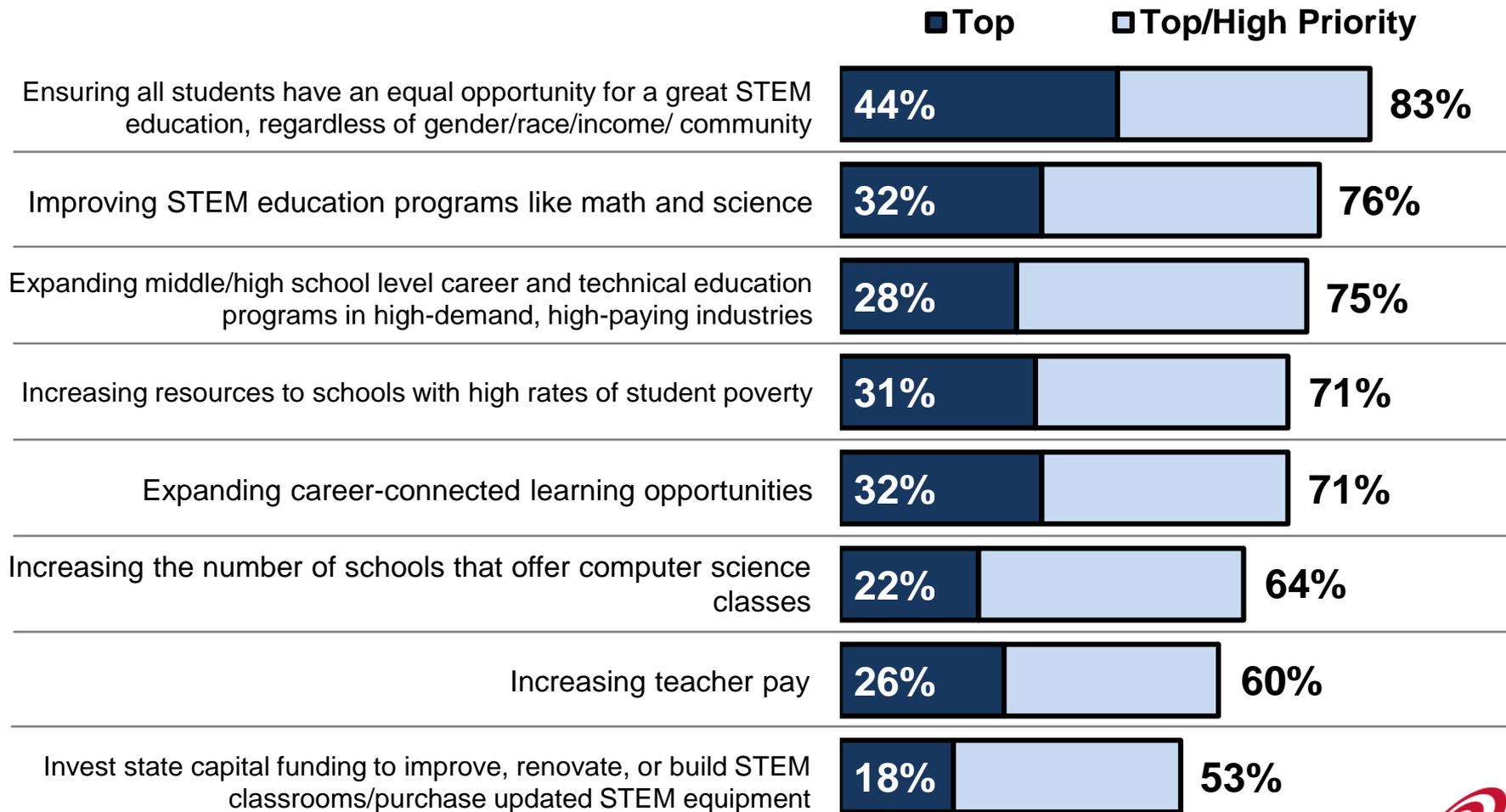
In your opinion, is a high-quality education in STEM subjects like math and science a very important part of the state’s obligation to provide basic education, a fairly important part, or only a somewhat important part?

91% Very/Fairly Important

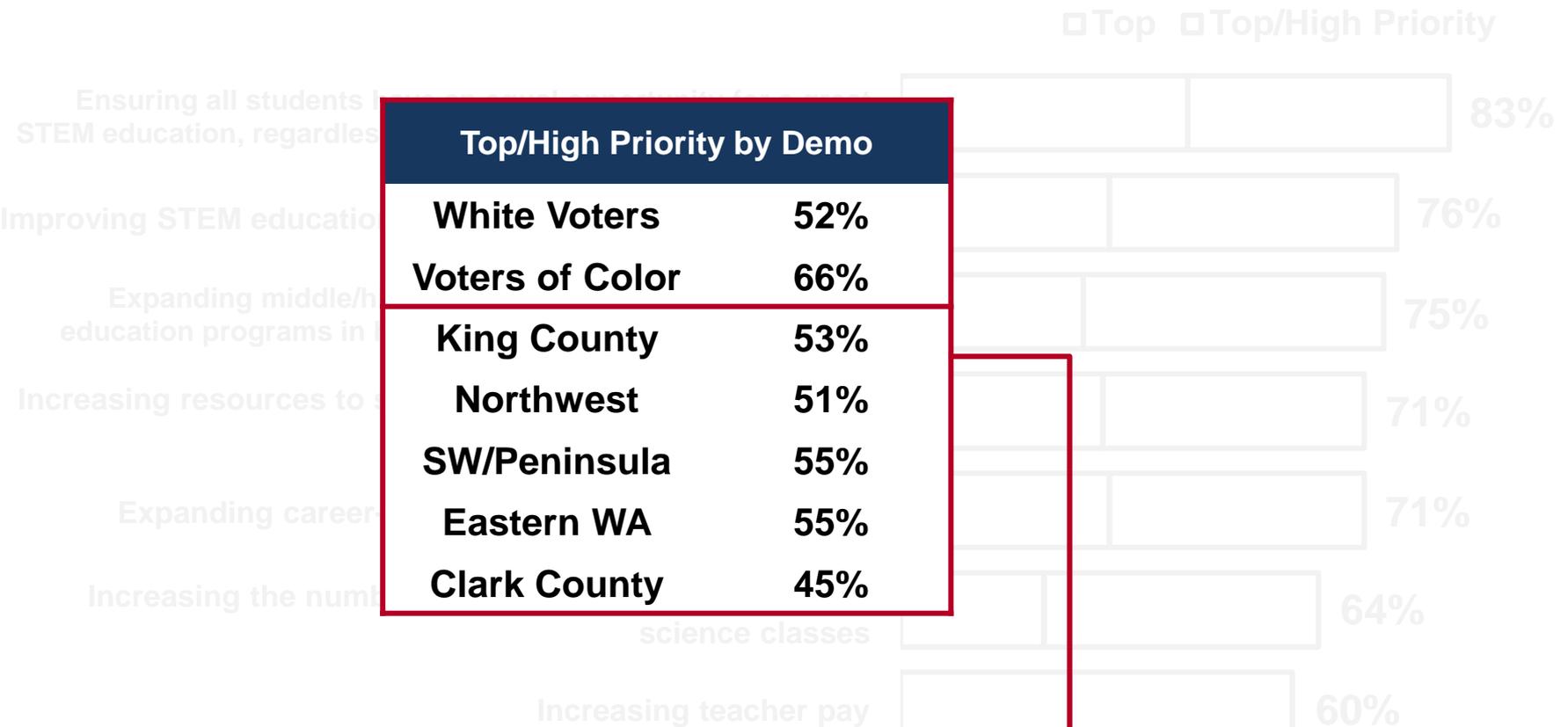


Voters endorse STEM as a high priority for McCleary funding, especially ensuring equal opportunity for a high-quality STEM education.

As you may know, the state's supreme court recently ruled that the state is inadequately funding public education and has ordered that education funding be increased. I'm going to read you a list of ways the state could use that additional funding. As I read each of the following, please tell me if you think each one should be a priority for additional funding.



Improving STEM classrooms is the lowest funding priority. There are notable differences by race and region with white voters and those in Clark County less supportive than their counterparts.

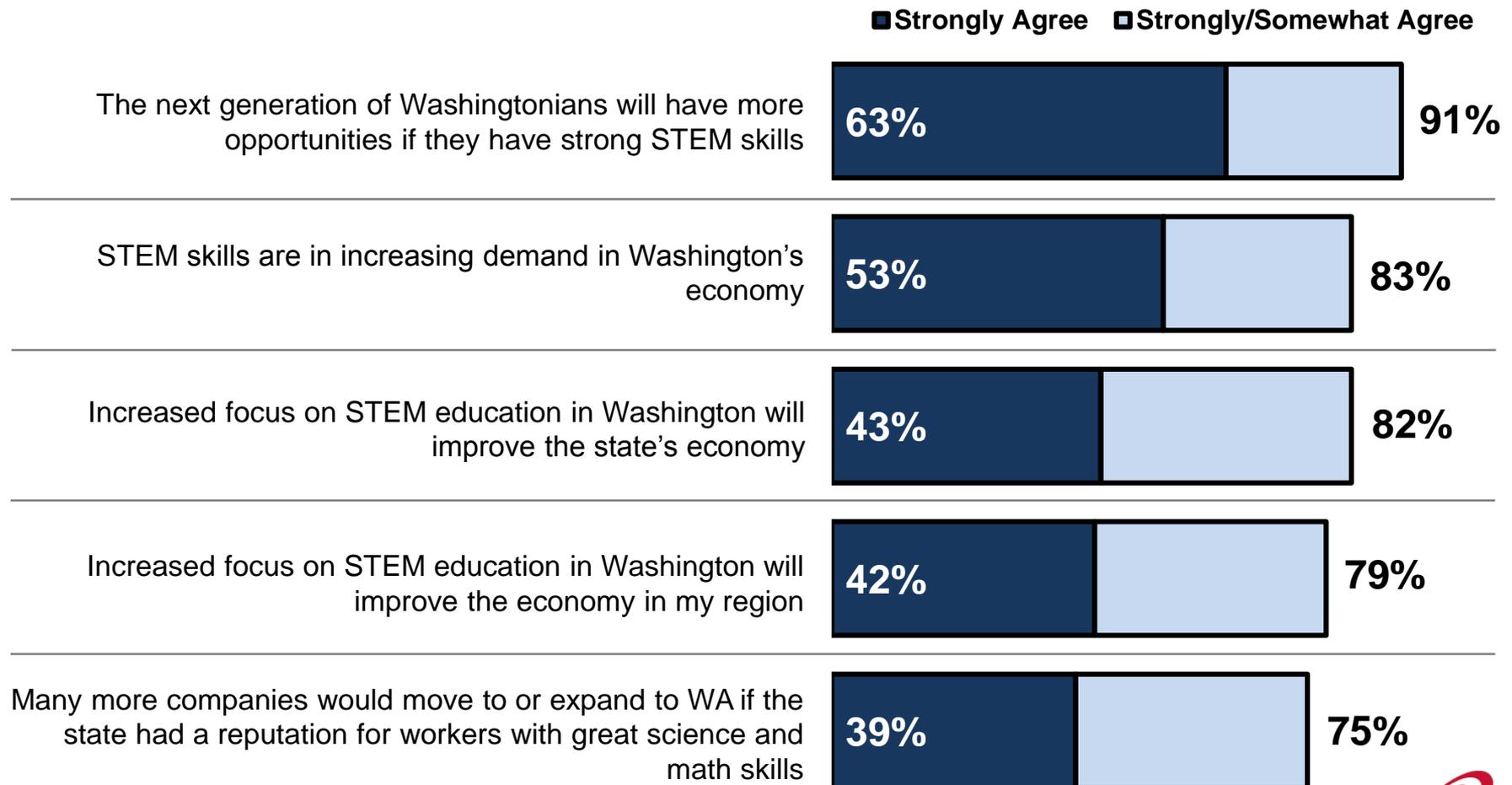


Invest state capital funding to improve, renovate, or build STEM classrooms/purchase updated STEM equipment 18% 53%

STEM AND THE ECONOMY

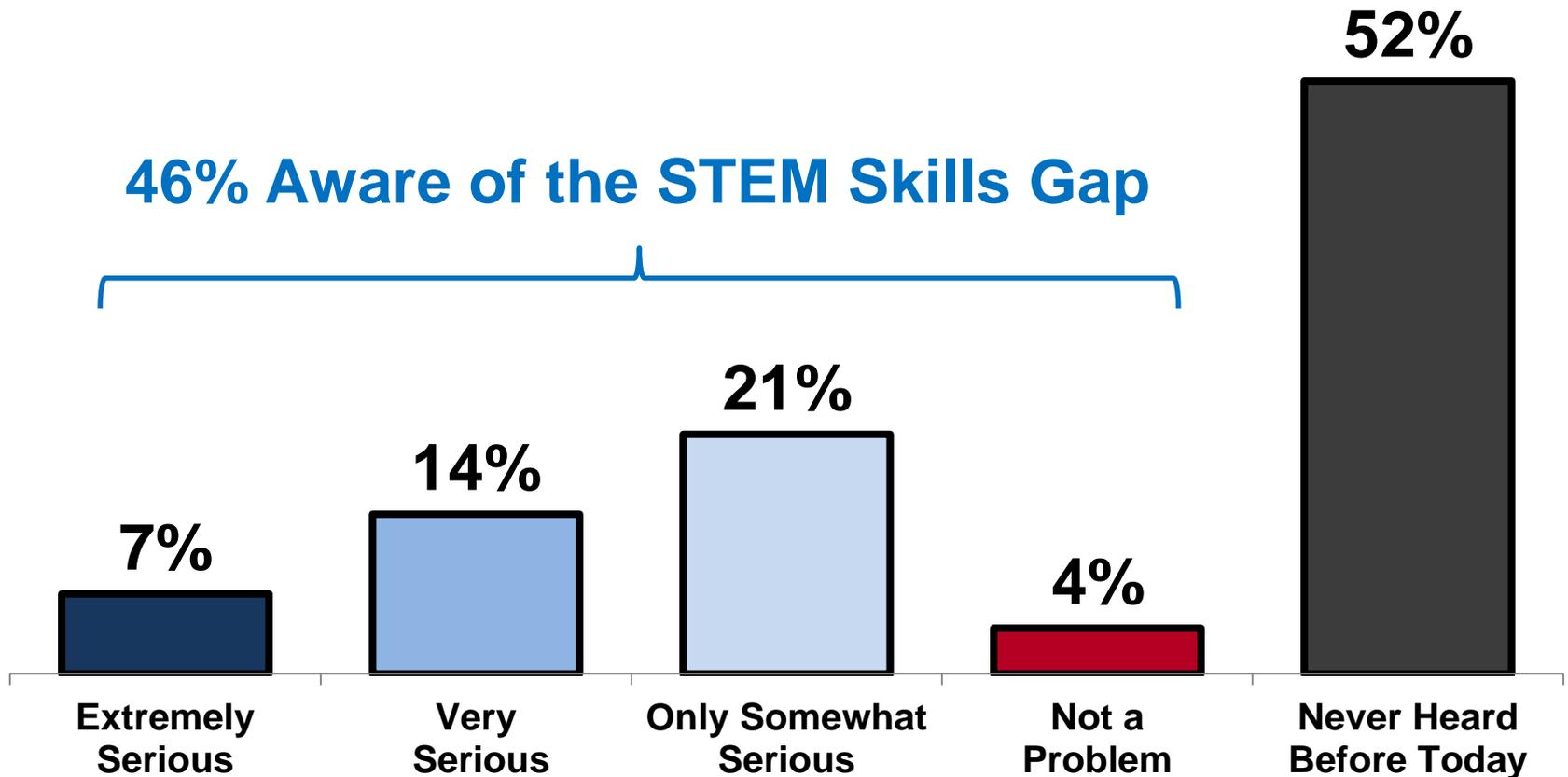
Voters of all backgrounds recognize the links between a high quality STEM education and a strong and prosperous economy.

Do you agree or disagree with this statement?



Despite broad agreement about the link between STEM and the economy, less than half of voters report being familiar with the STEM skills gap. Further, opinions are divided about the seriousness of the gap.

Some say that Washington's economy is being hurt because there aren't enough workers with strong STEM skills to fill the jobs that are being created by fast growing STEM businesses and industries. Before today, had you ever heard or read anything about this particular issue?



Awareness about the skills gap varies by race, region, education, and income level. Parents are no more likely to be aware than non-parents.

	Total Awareness
Parents	46%
Non-parents	46%
White Voters	49%
Voters of Color	32%
King County	50%
Northwest	52%
SW/Peninsula	46%
Eastern WA	36%
No Bachelors Degree	35%
Bachelors Degree or More	57%
HHI <\$50K	33%
HHI \$50-100K	47%
HHI \$100K+	58%

Fewer than half of parents are aware of the skills gap.

Among voters of color, only one-in-three are aware of the skills gap.

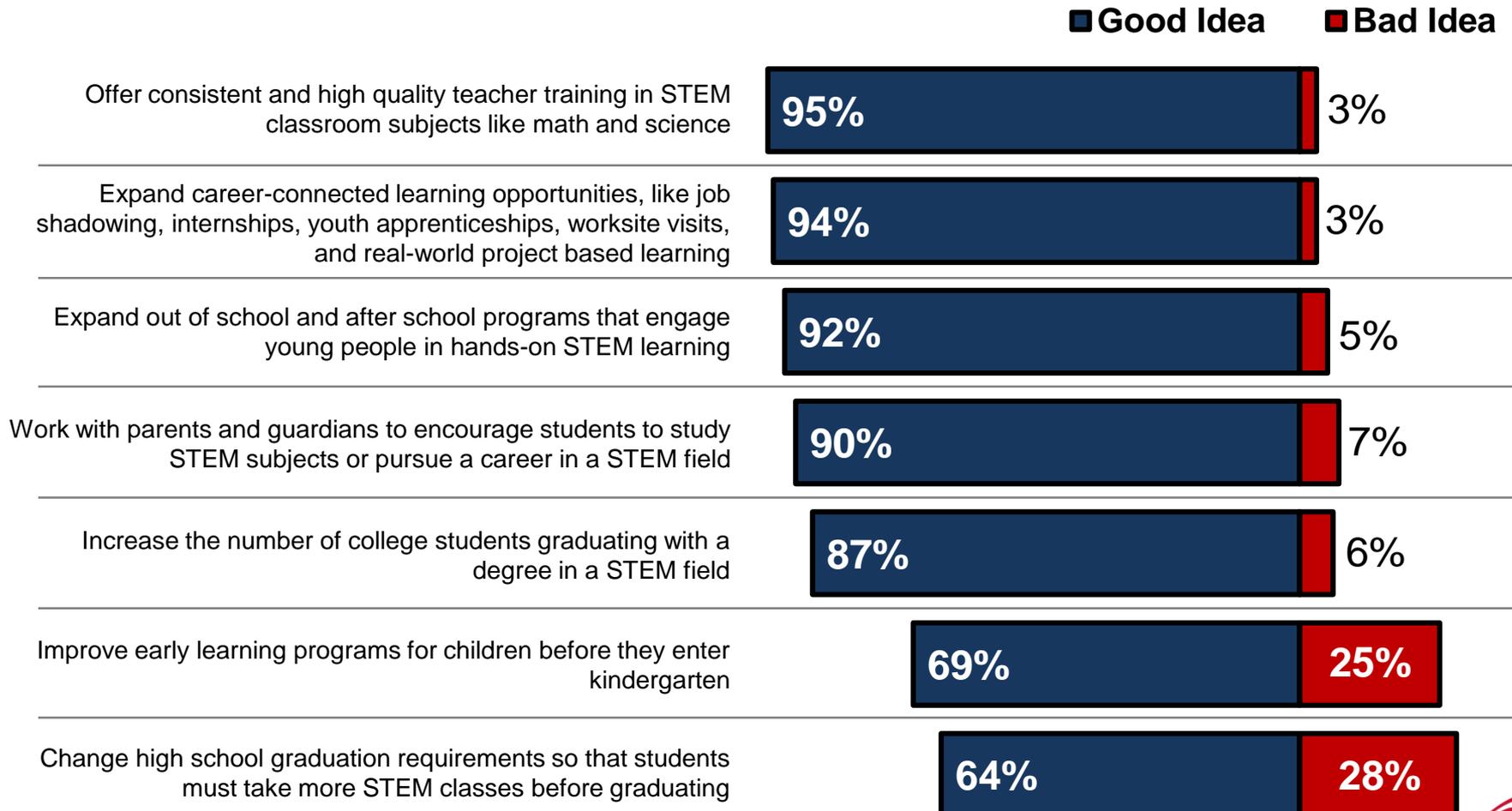
Voters in Eastern WA are notably less likely to be familiar.

There is a large awareness gap by educational attainment.

Voters in the lowest income bracket are far less likely to be familiar with the skills gap.

Despite middling awareness of the issue, ideas for addressing the STEM skills gap are very popular.

Ideas to Address the STEM Skills Gap

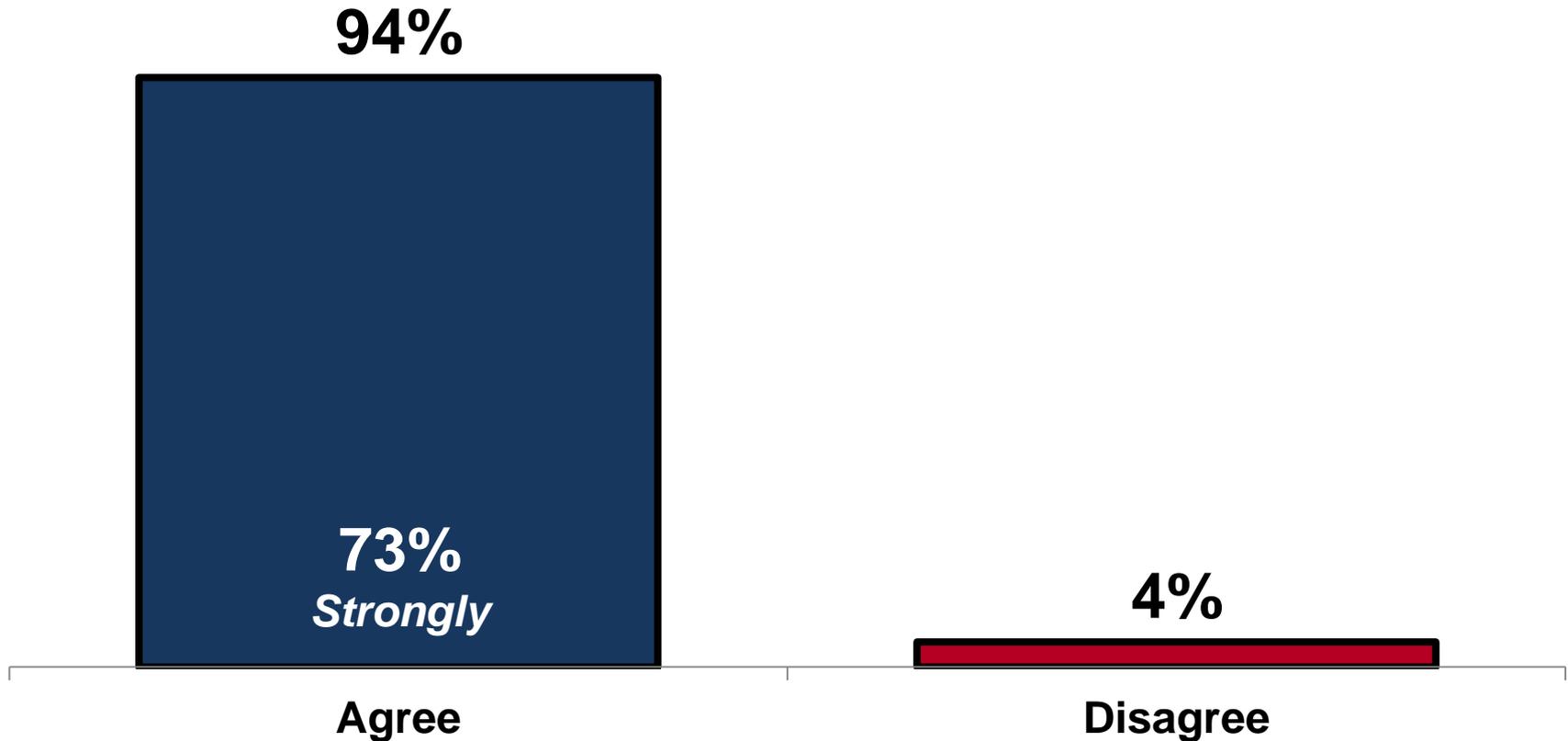


STEM AND EQUITY

Voters overwhelmingly agree that every child should have access to a high quality STEM education. Three-quarters of voters strongly agree.

Do you agree or disagree with this statement?

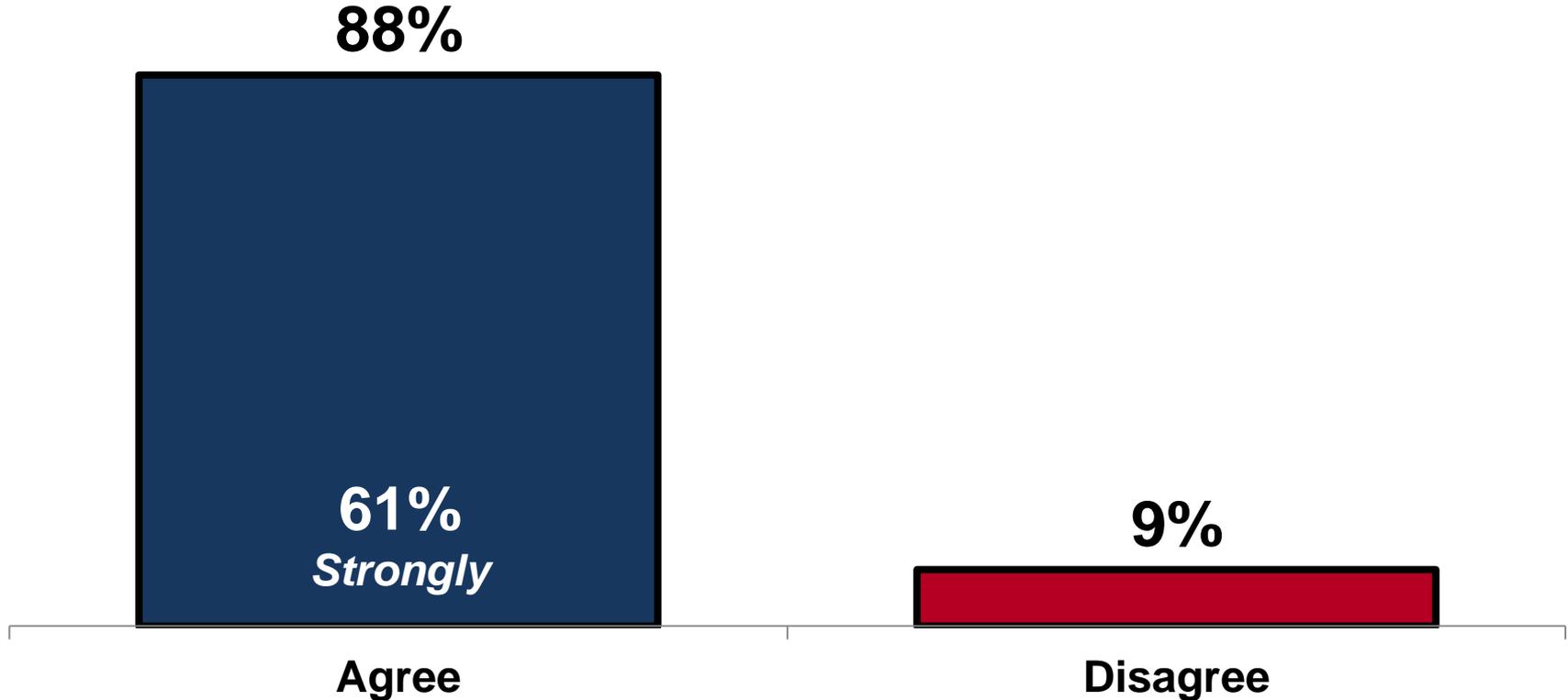
“Every child should have access to a high quality STEM education in Washington’s K-12 public schools.”



Almost nine-in-ten voters agree that children who have grown up in poverty have a better chance of breaking the cycle of poverty if they have a strong STEM education.

Do you agree or disagree with this statement?

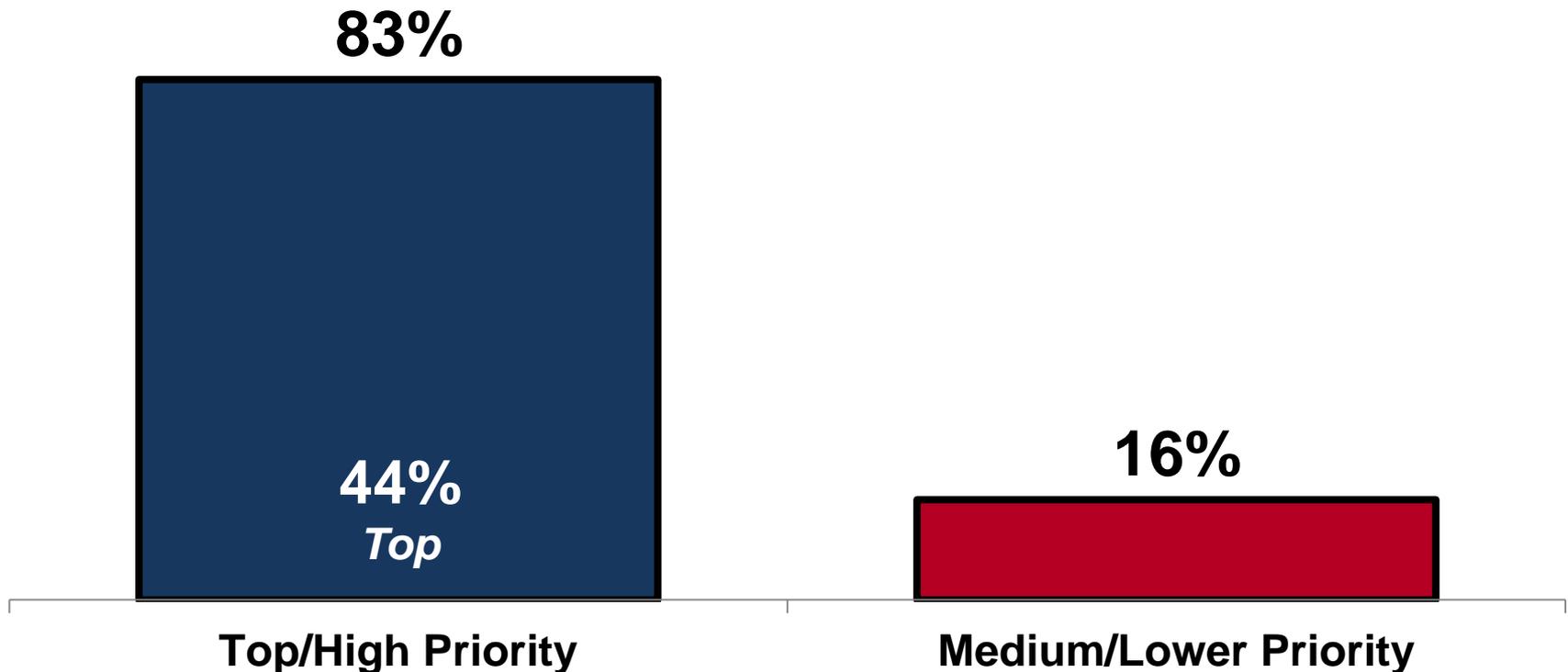
“Children who grew up in poverty will have a better chance to break the cycle of poverty if they have a strong STEM education.”



Voters believe that ensuring all students have a great STEM education, regardless of their demographics or circumstances, should be a top or high funding priority. Almost half believe that it should be a top priority.

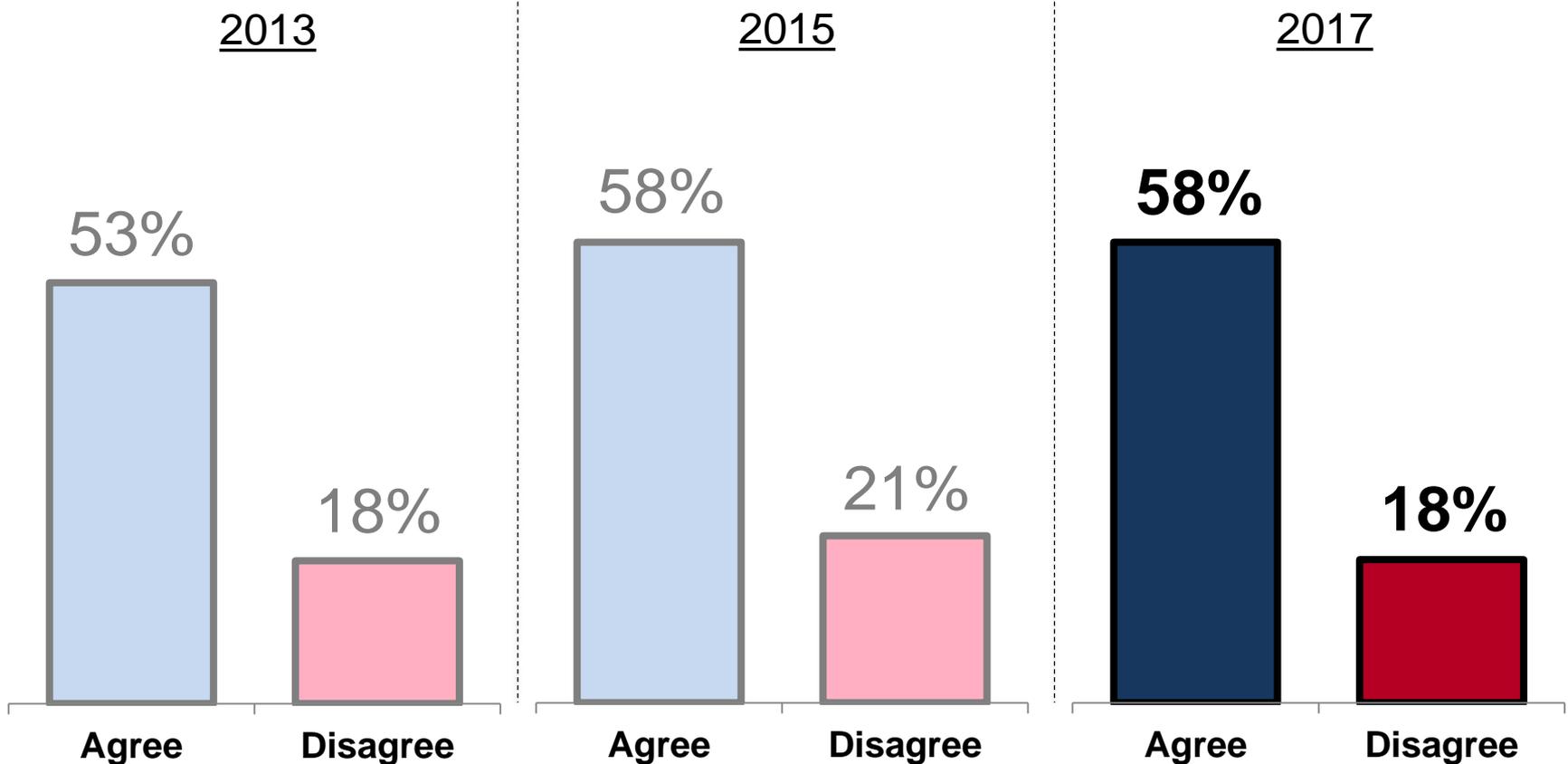
How high of a priority is _____ for additional funding?

“Ensuring all students have an equal opportunity for a great STEM education regardless of their gender, race, income, or community.”



Agreement with the sentiment that there are not enough women in STEM careers remains consistent with 2015 at 58% agreement.

Do you agree or disagree with this statement?
"There are not enough women working in STEM careers."



This statement finds different levels of agreement by demographic and political party.

<i>“There are not enough women working in STEM careers.”</i>	Agree – Disagree	Margin
Women Age <50	64-19	+45
Women Age 50+	56-16	+40
No Bachelors Degree	51-22	+29
Bachelors Degree or More	66-14	+52
Democrats	77-9	+68
Independents	50-20	+30
Republicans	42-30	+12

Younger women are more likely to agree with the statement.

Voters without a college degree are notably less likely to agree with the statement.

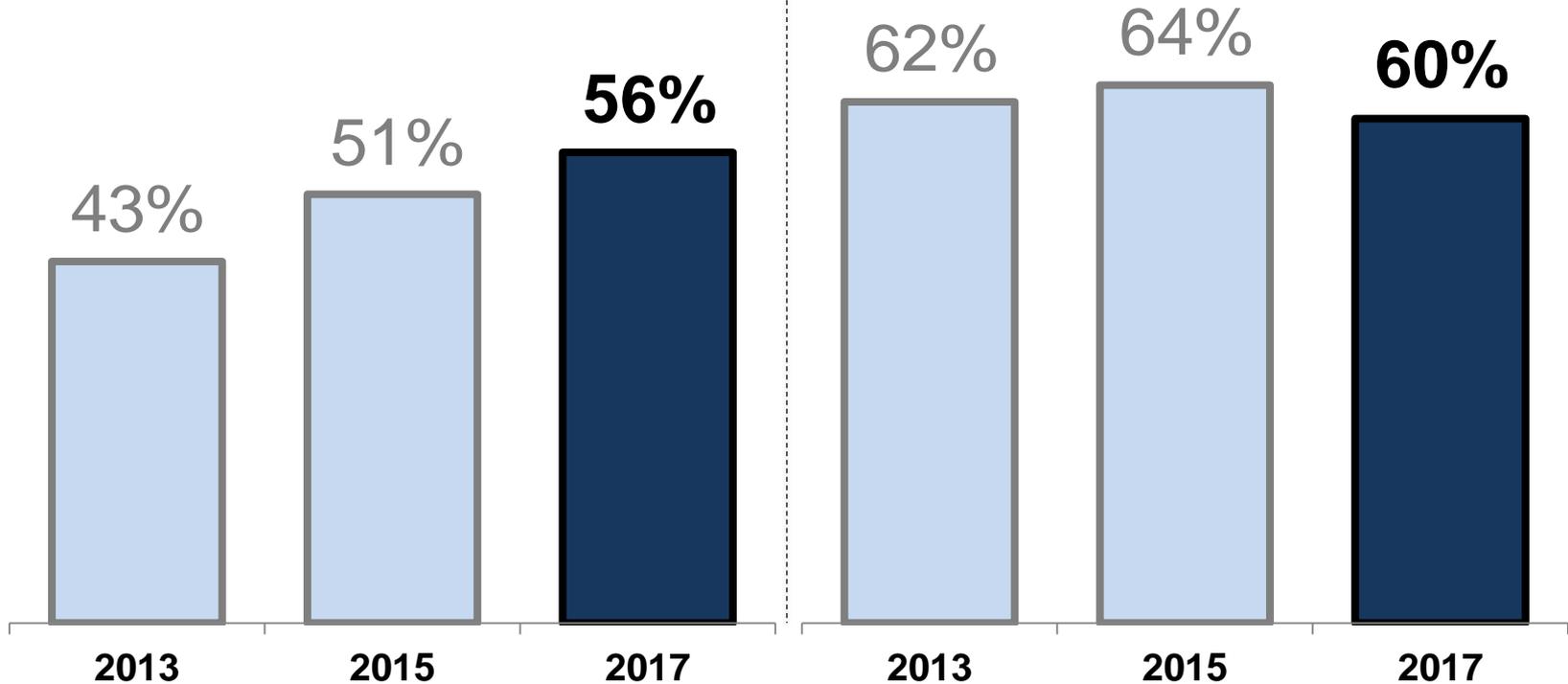
Agreement varies by party ID with Democrats much more likely to agree than their more conservative counterparts.

Year over year, men have been steadily increasing in their belief that women are under-represented in STEM careers.

Do you agree or disagree with this statement?
"There are not enough women working in STEM careers."

Agreement Among Men

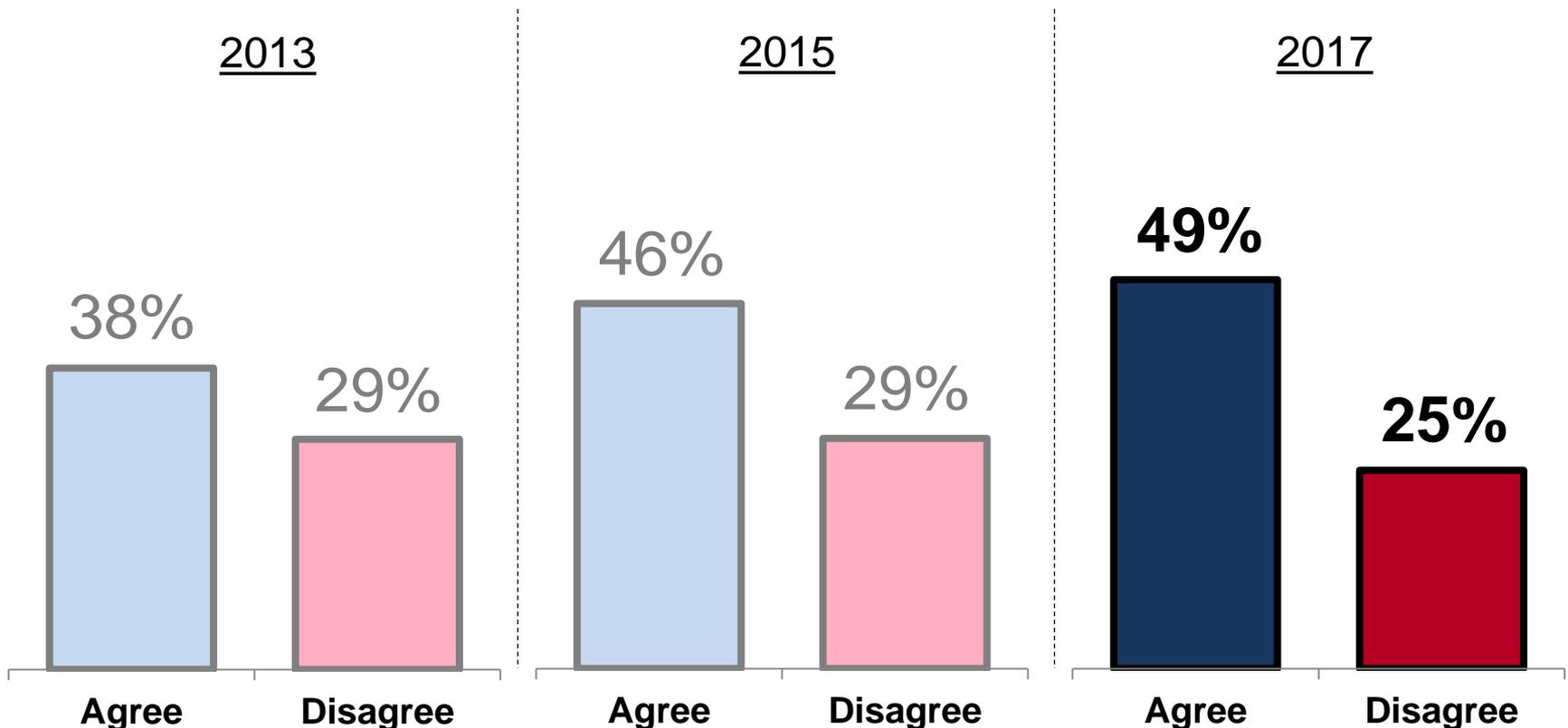
Agreement Among Women



Agreement with the sentiment that there are not enough racial/ethnic minorities working in STEM careers continues to grow.

Do you agree or disagree with this statement?

“There are not enough racial and ethnic minorities working in STEM careers.”



Belief in the need for greater diversity in STEM industries differs by race, education level, and political party.

<i>“There are not enough racial and ethnic minorities working in STEM careers.”</i>	Agree – Disagree	Margin
White Voters	48-25	+23
Voters of Color	56-27	+29
No Bachelors Degree	41-30	+11
Bachelors Degree or More	56-20	+36
Democrats	68-13	+55
Independents	41-28	+13
Republicans	35-37	-2

Voters of color are more likely to agree with the statement compared to their white counterparts.

College educated voters are far more likely to see a need for more racial diversity in STEM industries.

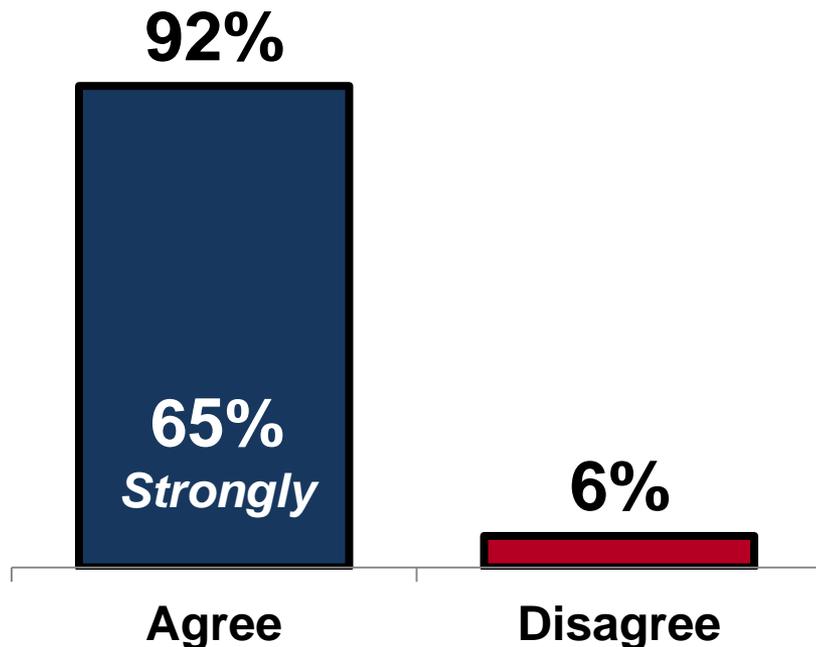
Democrats agree by a wide margin. Republicans and Independents are more divided in their views.

CAREER-CONNECTED LEARNING

Over 90% believe in the importance of providing children with access to career-connected learning opportunities. A similar percentage believe it to be a good way to address the STEM skills gap.

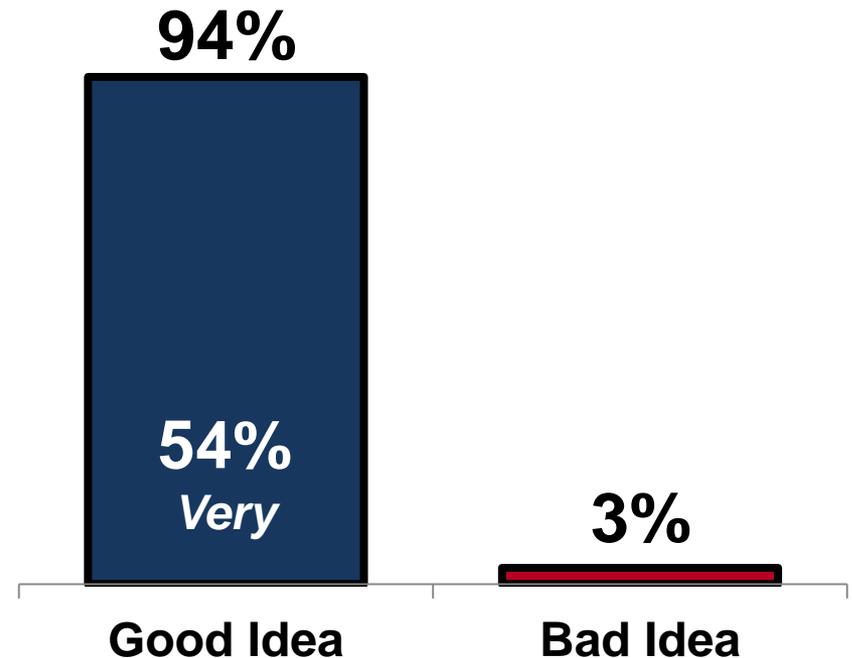
Do you agree or disagree with this statement?

*“It is important for students at every level to have access to **career-connected learning** opportunities like internships, youth apprenticeships, and real-world project based learning, which expose them to high-demand careers in their region.”*



Is _____ a good idea or a bad idea for addressing the STEM skills gap?

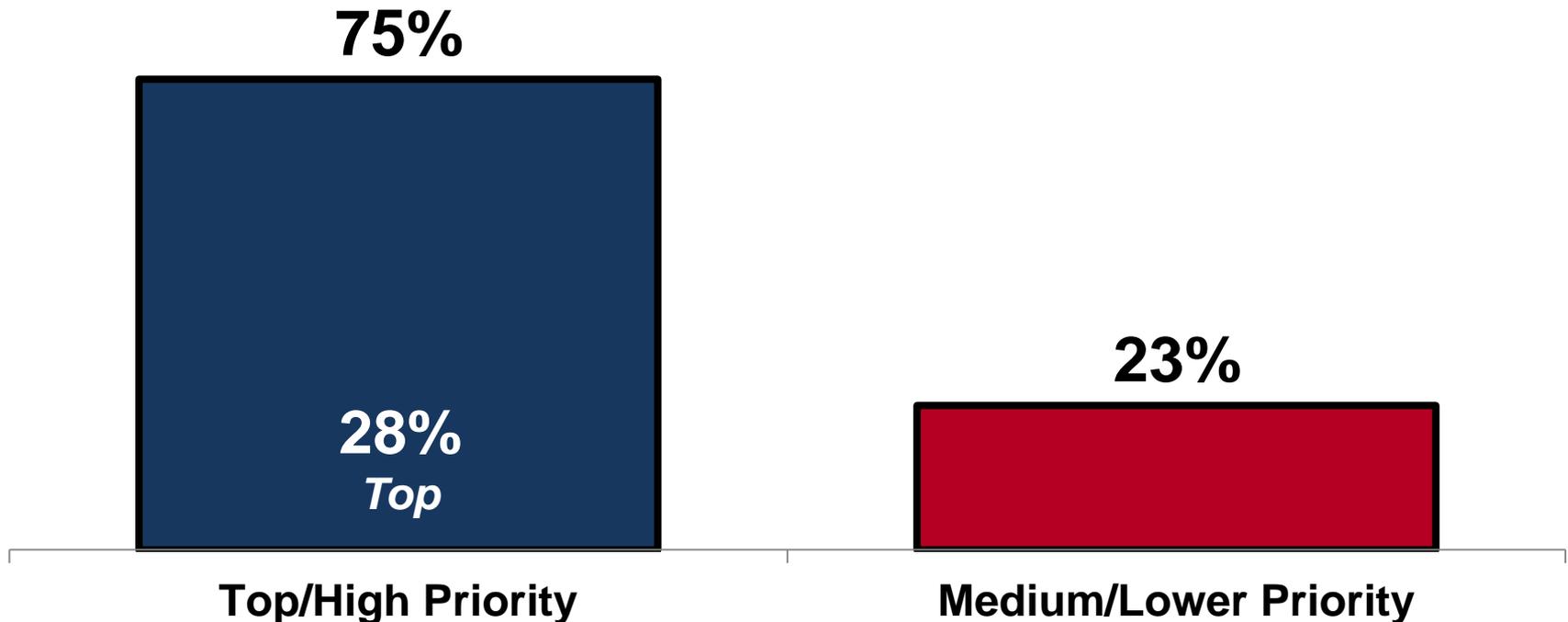
*“Expanding **career-connected learning** opportunities, like job shadowing, internships, youth apprenticeships, worksite visits, and real-world project based learning.”*



Expanding career and technical education programs is a top or high funding priority for three-quarters of voters.

How high of a priority is _____ for additional funding?

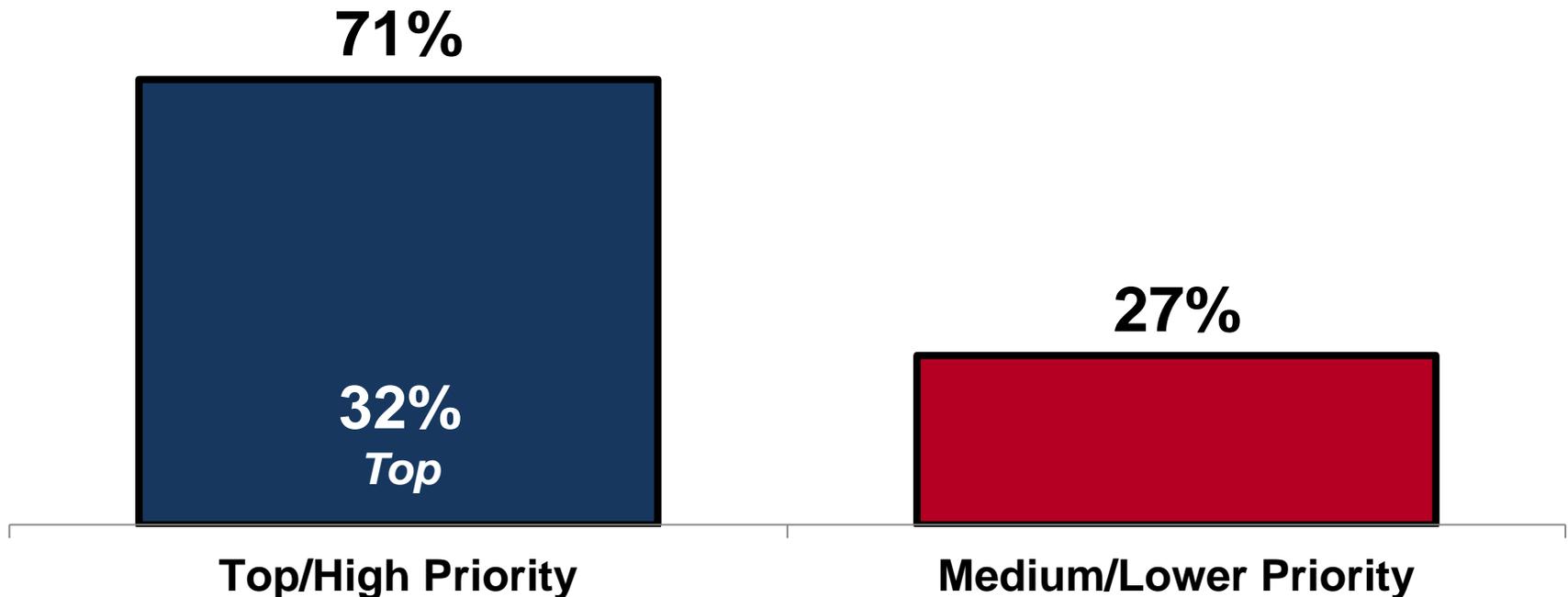
“Expanding middle school and high school level career and technical education programs in high-demand, high-paying industries.”



Similarly, career-connected learning is a high funding priority for seven-in-ten voters, including a third who see these programs as a top priority.

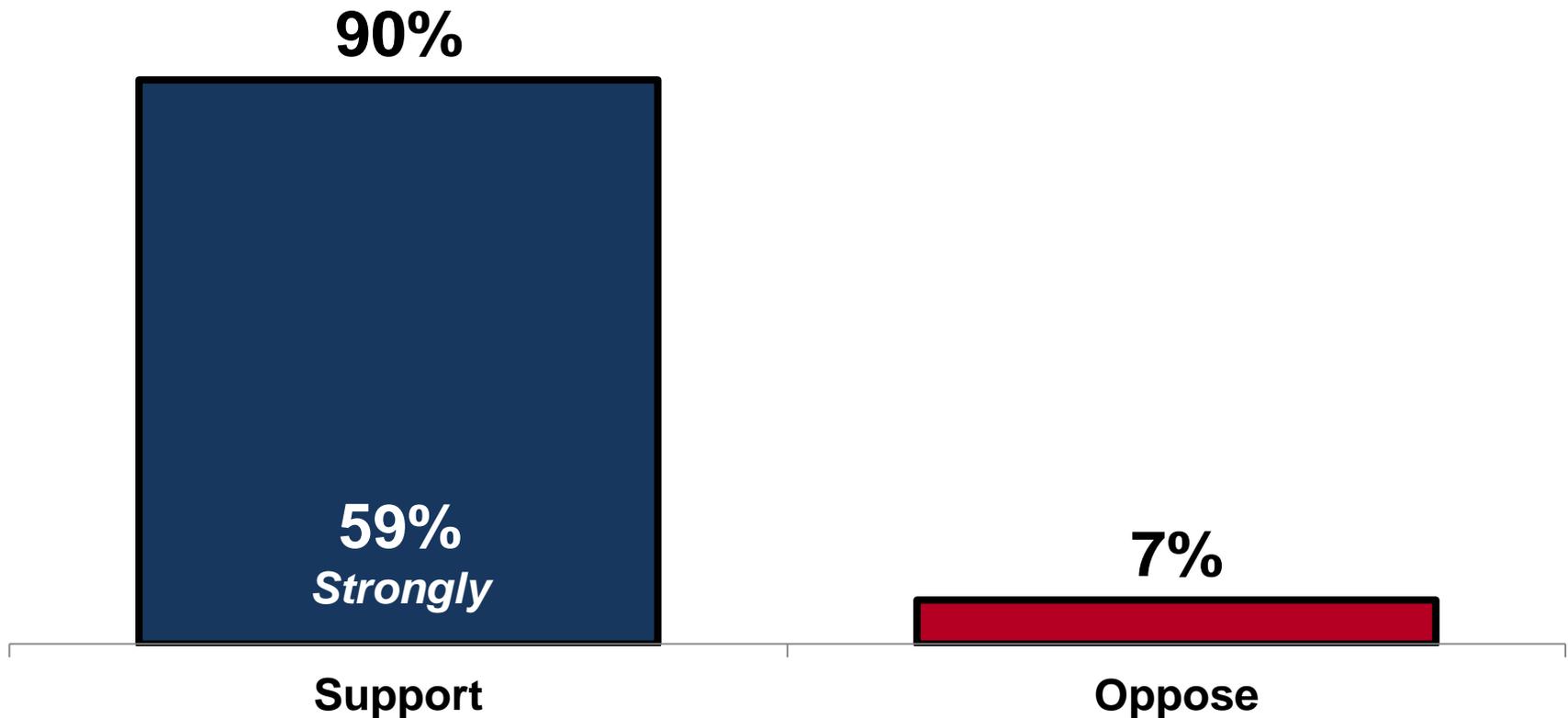
How high of a priority is _____ for additional funding?

“Expanding career-connected learning opportunities, like job shadowing, internships, youth apprenticeships, worksite visits, and real-world project based learning.”



Nine-in-ten voters support a public private partnership for expanding career-connected learning opportunities. This includes 59% who strongly support.

*Would you support or oppose Washington state teaming up with the private sector to **expand career-connected learning opportunities**, like job shadowing, internships, youth apprenticeships, worksite visits, and real-world project based learning? Half of the costs would be covered with public dollars and half would be covered by businesses, foundations, and other sources.*



COMPUTER SCIENCE

Voters express strong support for computer science priorities.

Moving on, computer science is one of Washington's highest paying and highest demand skill sets across the state. However, Washington's education system does not provide enough students with computer science training and degrees to keep up with the available jobs. Here are a few ideas that have been proposed to address this issue. After I read each one, please tell me if you support or oppose each idea.

■ Support ■ Oppose

Help more K-12 teachers teach computer science by giving them training and a computer science curriculum



Expand the number of K-12 public schools in Washington that offer computer science classes

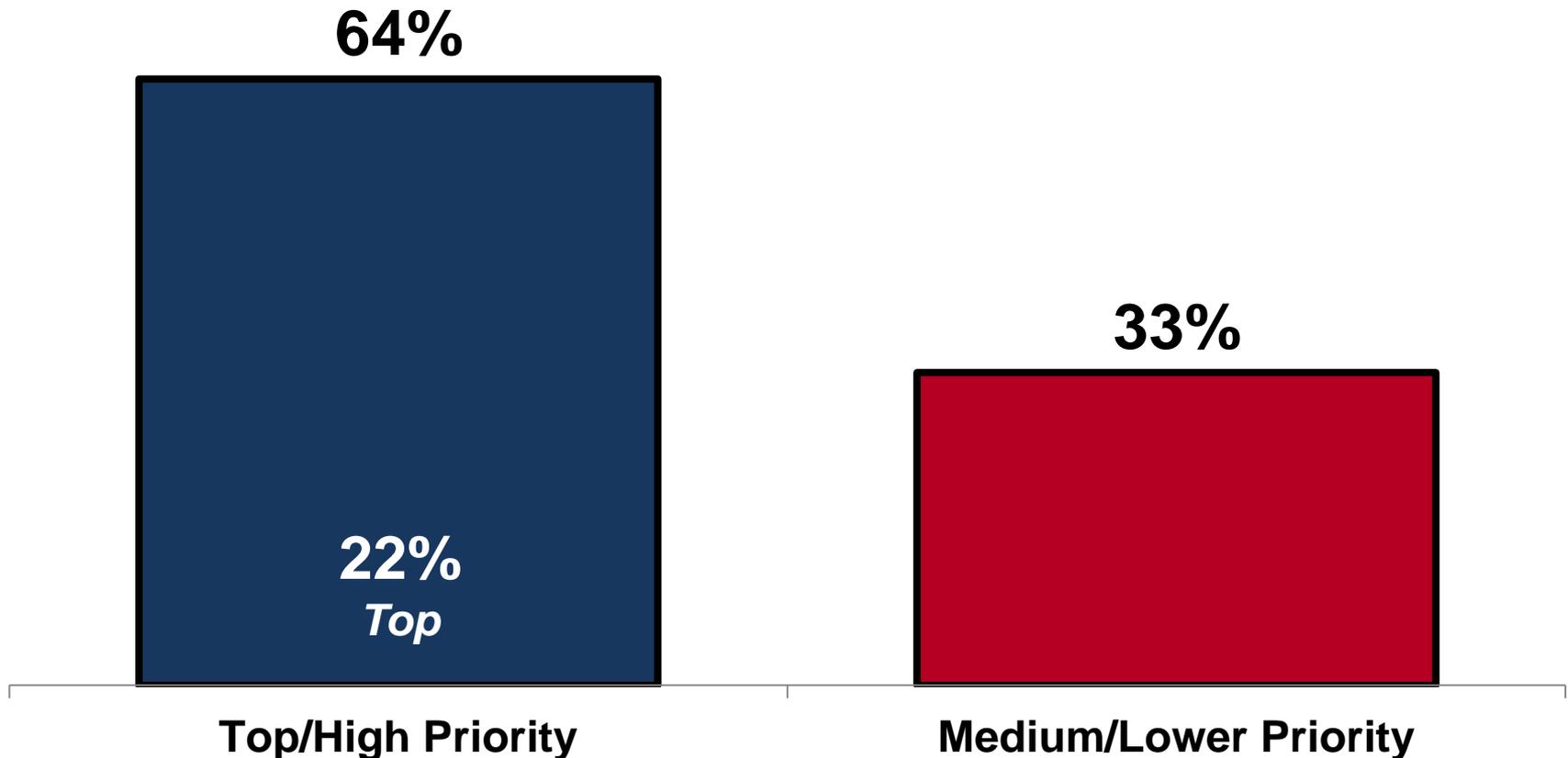


Increase the capacity of Washington State colleges and universities to graduate more Washington students with computer science degrees



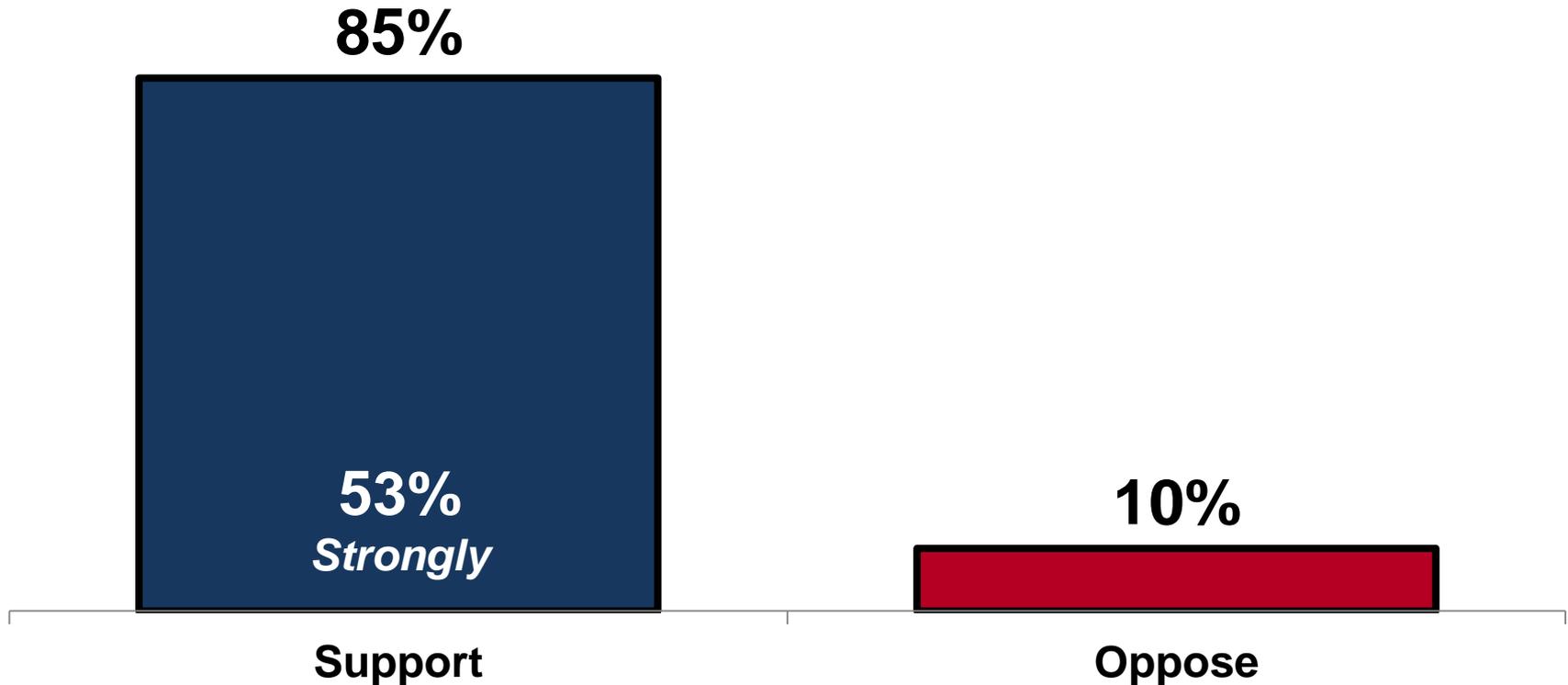
Increasing the number of schools that offer computer science classes is a top or high funding priority for nearly two-thirds of voters.

How high of a priority is _____ for additional funding?
“Increasing the number of schools that offer computer science classes.”



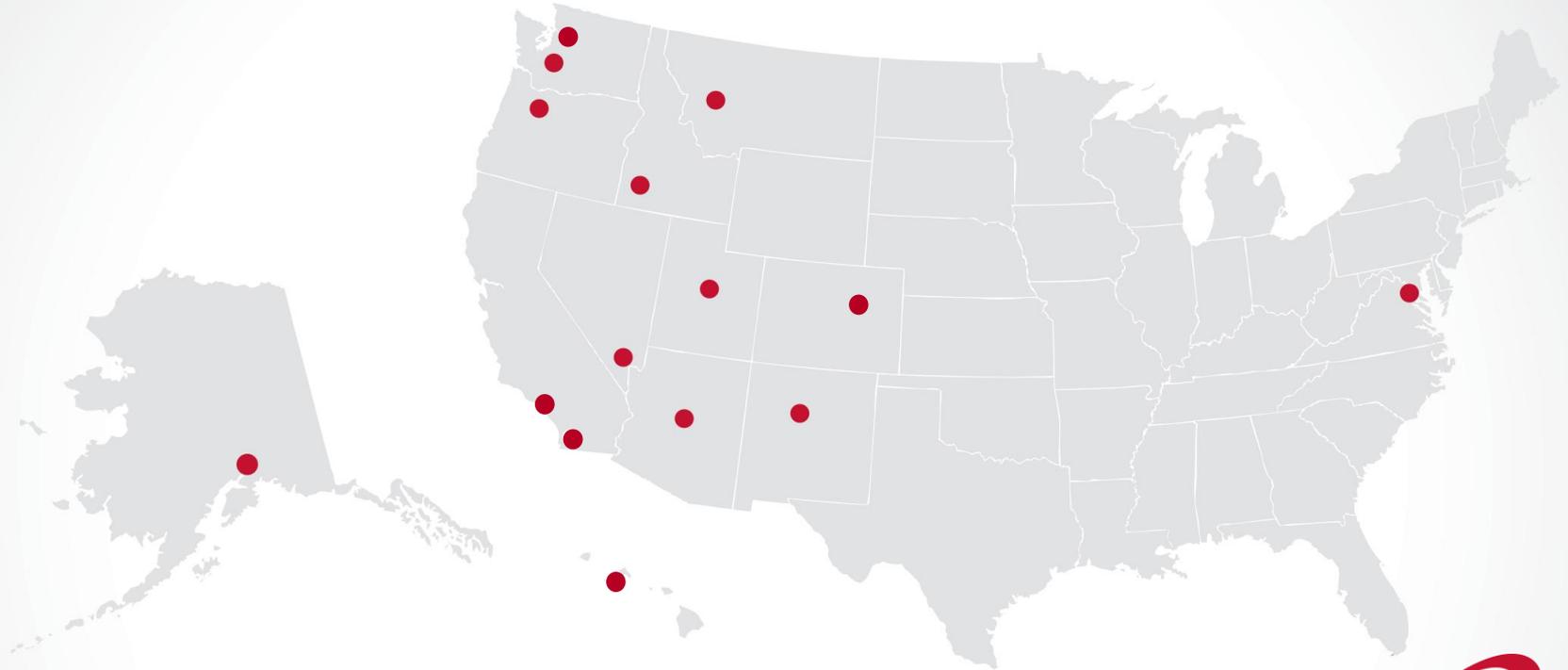
Eighty-five percent would support a partnership that increases the number of schools offering computer science classes. Fifty-three percent say they would *strongly* support.

*Would you support or oppose Washington state teaming up with the private sector to **increase the number of schools that offer computer science classes**? Half of the cost of expanding computer science classes would be covered with public dollars and half would be covered by businesses, foundations, and other sources.*



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