

Vermont Overview: Toxic Stress / Adverse Experiences & Buffering Factors

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Population health & evidence-based public health

What is the population health approach and evidence-based public health?

Population Health is an approach that

- focuses on **interrelated conditions and factors that influence the health of populations over the life course**,
- identifies **systematic variations in their patterns of occurrence**, and
- **applies the resulting knowledge to develop and implement policies and actions** to improve the health and well-being of those populations.

Evidence-based public health is the mechanism by which population health information is used for the

- ...development, implementation, and evaluation of effective programs and policies in public health through application of principles of scientific reasoning, including systematic uses of data and information systems, and appropriate use of behavioral science theory and program planning models.

- **Generalizable knowledge**

Sources: D Kindig and G Stoddart, What is population health? *Am J Public Health*, 2003; 93(3):380-383;

Brownson, Ross C., Elizabeth A. Baker, Terry L. Leet, and Kathleen N. Gillespie, Editors. *Evidence-Based Public Health*. New York: Oxford University Press, 2003

Most Common Toxic Stressors / ACEs in Vermont

ADULTS

- Verbal abuse by a parent in childhood*
- Divorce / separation
- Financial hardship
- Alcohol use / problematic drinking
- Illicit use of drugs (street or prescription)
- Mental illness / depression / suicidality

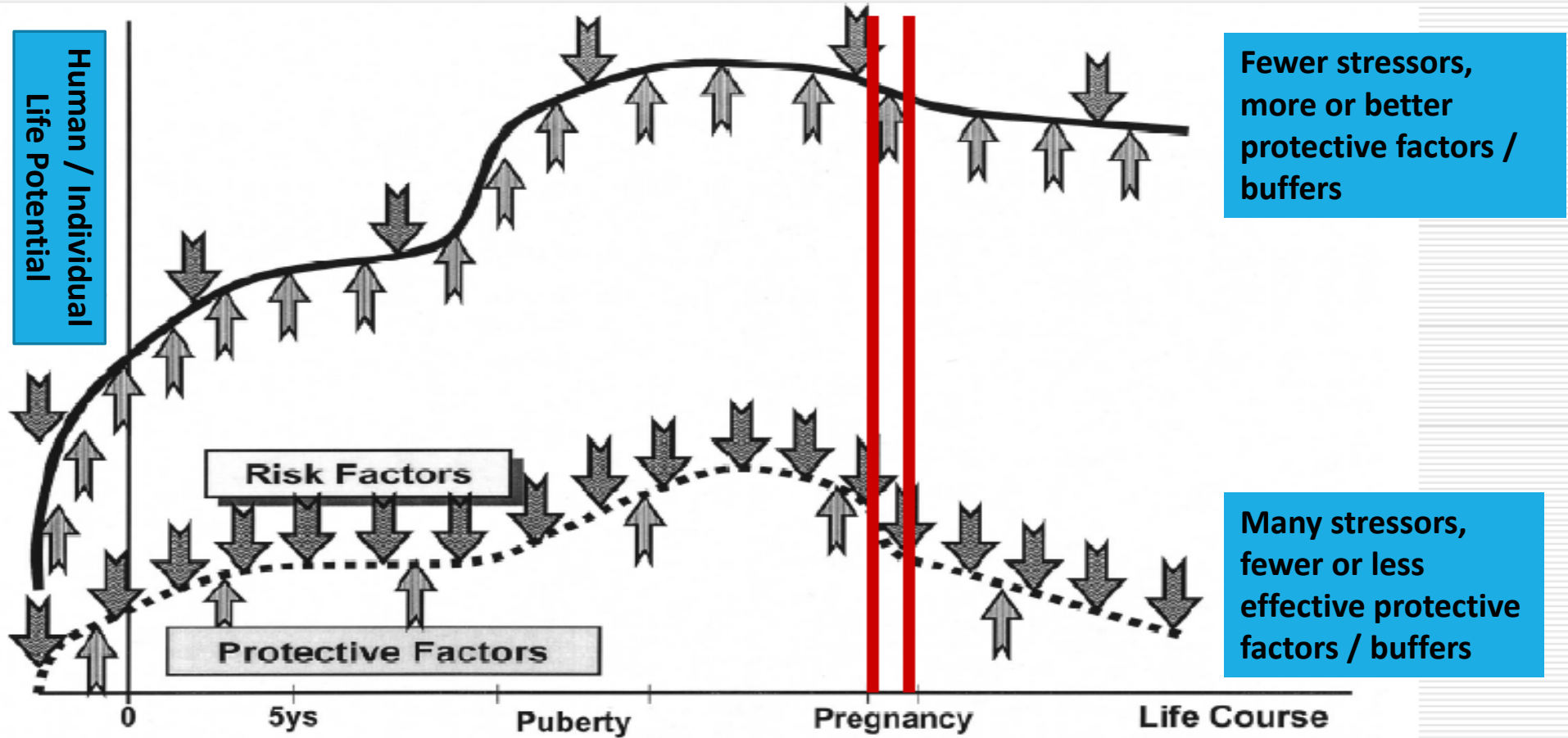
CHILDREN

- [not measured on the survey for children]
- Divorce / separation
- Financial hardship
- Substance use problems [alcohol + drugs]
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- Mental illness / depression / suicidality

What is the 'life course' and the trajectory of individuals exposed to toxic stress or adversity?

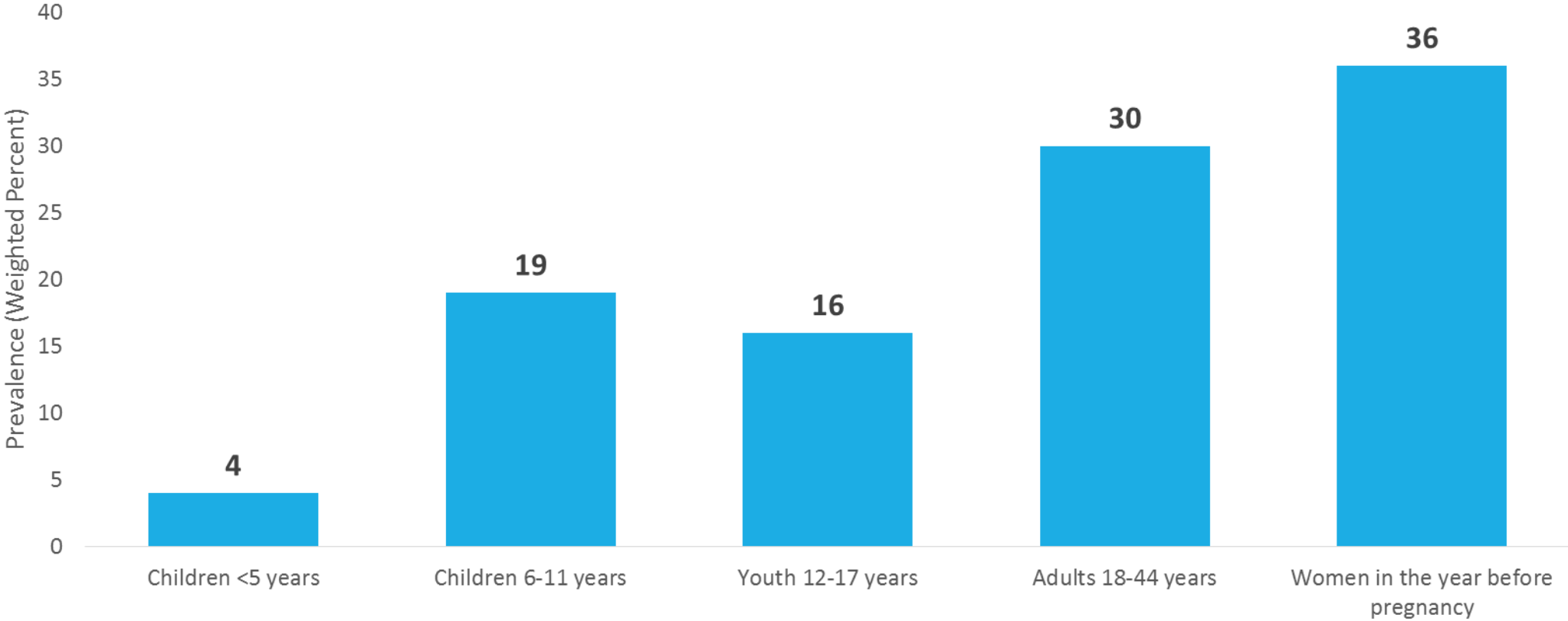
THE CUMULATIVE ADVERSITY OR ADVERSE CIRCUMSTANCES THAT MANIFEST AS BEHAVIORAL PROBLEMS, HIGH RISK TAKING BEHAVIOR, CHRONIC CONDITIONS

Life Course Perspective



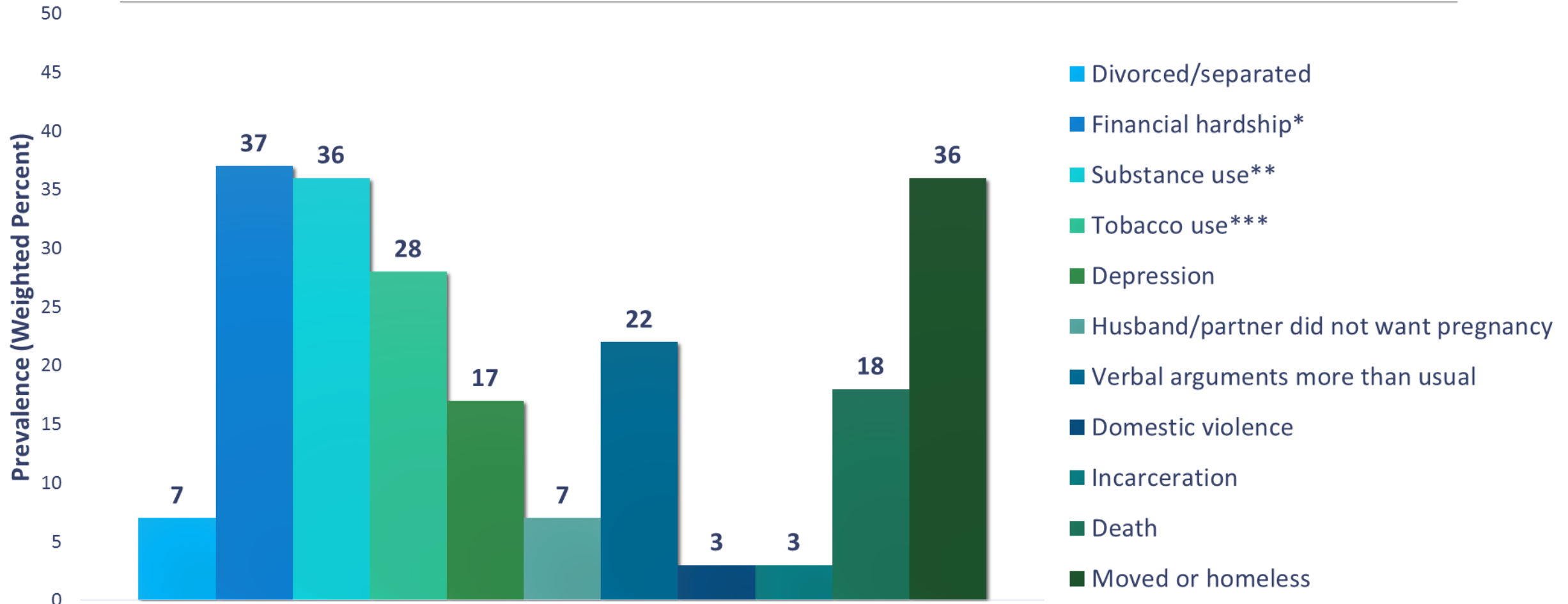
Lu MC, Halfon N. Racial and ethnic disparities in birth outcomes: a life-course perspective. *Matern Child Health J.* 2003;7:13-30.

Burden of 3 or More Adverse Childhood Experiences among Vermonters across the Life Span

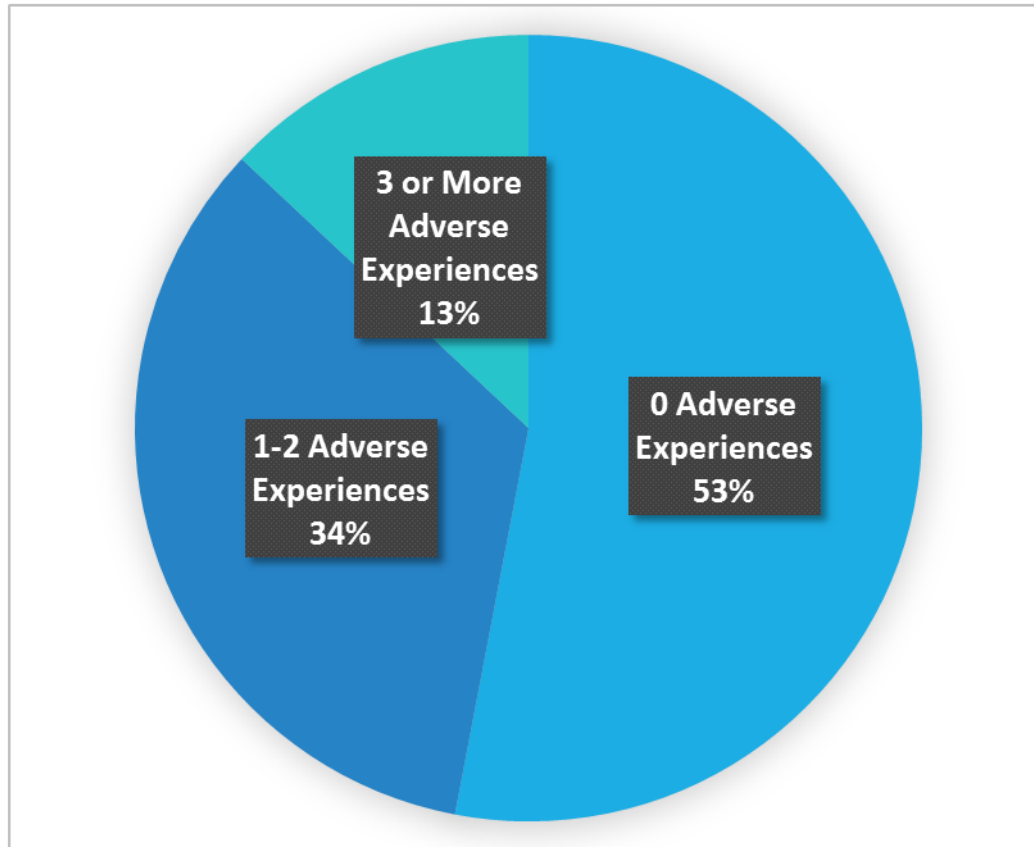


Data Sources: 2016 NSCH; 2012-2014 PRAMS; 2011 BRFSS

Burden of Adverse Experiences Before Pregnancy among Vermont Women who had a live birth



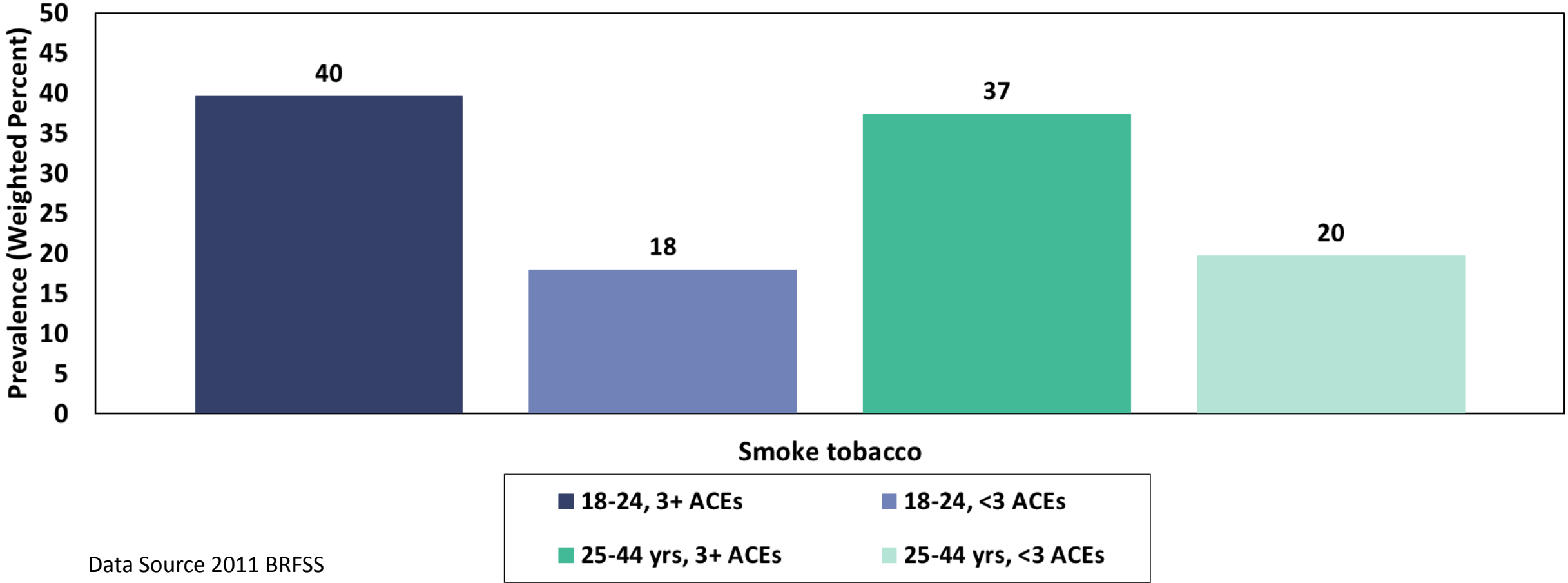
Burden of Adverse Family Experiences among Vermont Children, <1-17 years of age



- Differences in the overall burden exist by age group
- Children under 6 years have had ‘fewer opportunities for exposure’ to adversity
- Thus, when we compare children 5 and younger to children who are school age, we find that
 - having no adverse experiences decreases and
 - having 3 or more adverse experiences increases

Source: 2016 National Survey of Children’s Health; Percentages are weighted

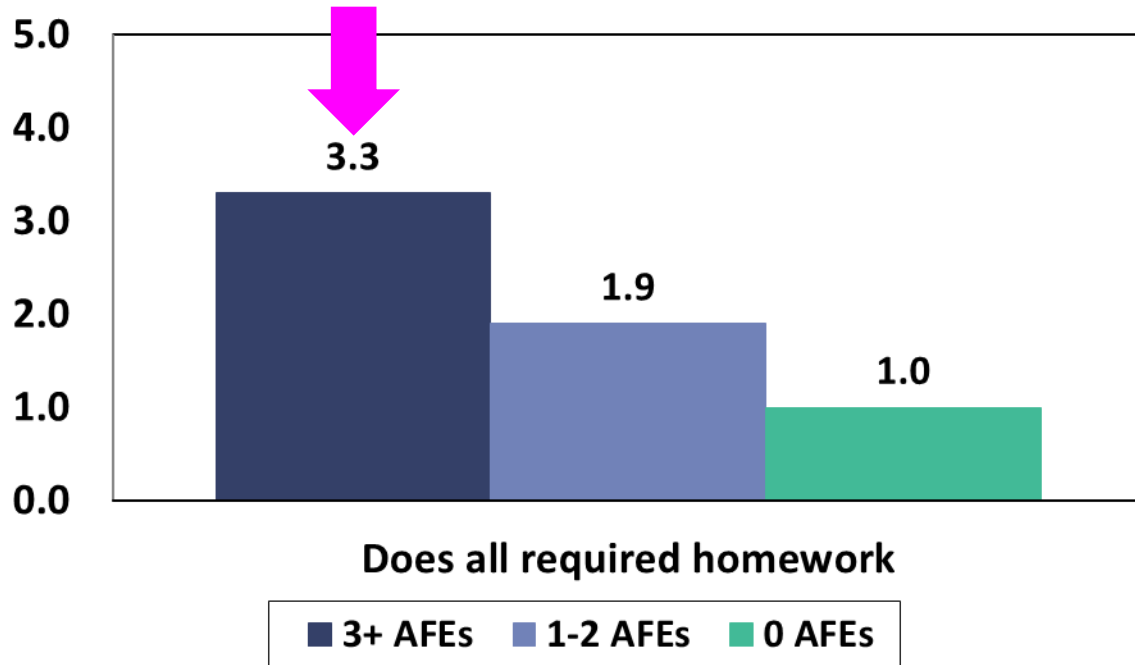
Do adults 18-44 years of age with 3+ ACEs report higher prevalence of tobacco use than adults with <3 ACEs?



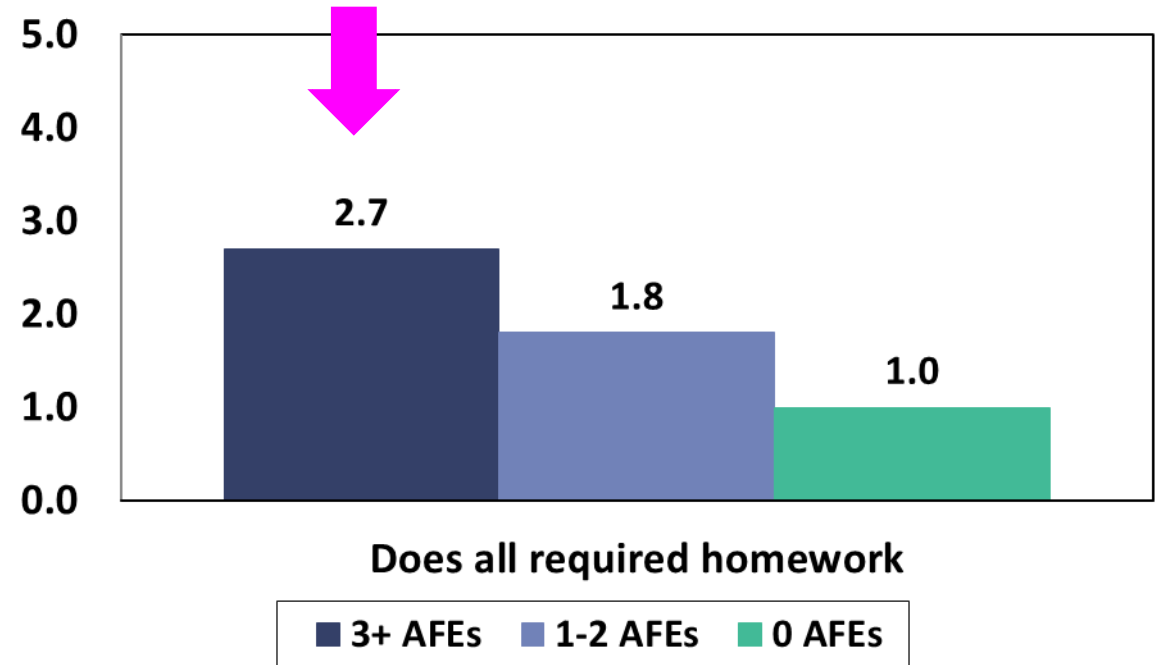
Data Source 2011 BRFSS

Are children 6-17 years with 3+ AFEs less likely to do all required homework than those with <3 AFEs?

NOT TAKING INTO ACCOUNT RESILIENCE



TAKING INTO ACCOUNT RESILIENCE



Data Source 2011-12 NSCH

* denotes statistical significance

What are some things that you noticed about adverse experiences? Where is the 'low hanging fruit' in BFC opportunities?

TOXIC STRESSORS OR ADVERSE CHILDHOOD EXPERIENCES

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WHERE IS THE 'LOW HANGING FRUIT'?

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If we know what toxic stress is and how it manifests, what now?

THE GOOD NEWS

Good news ...

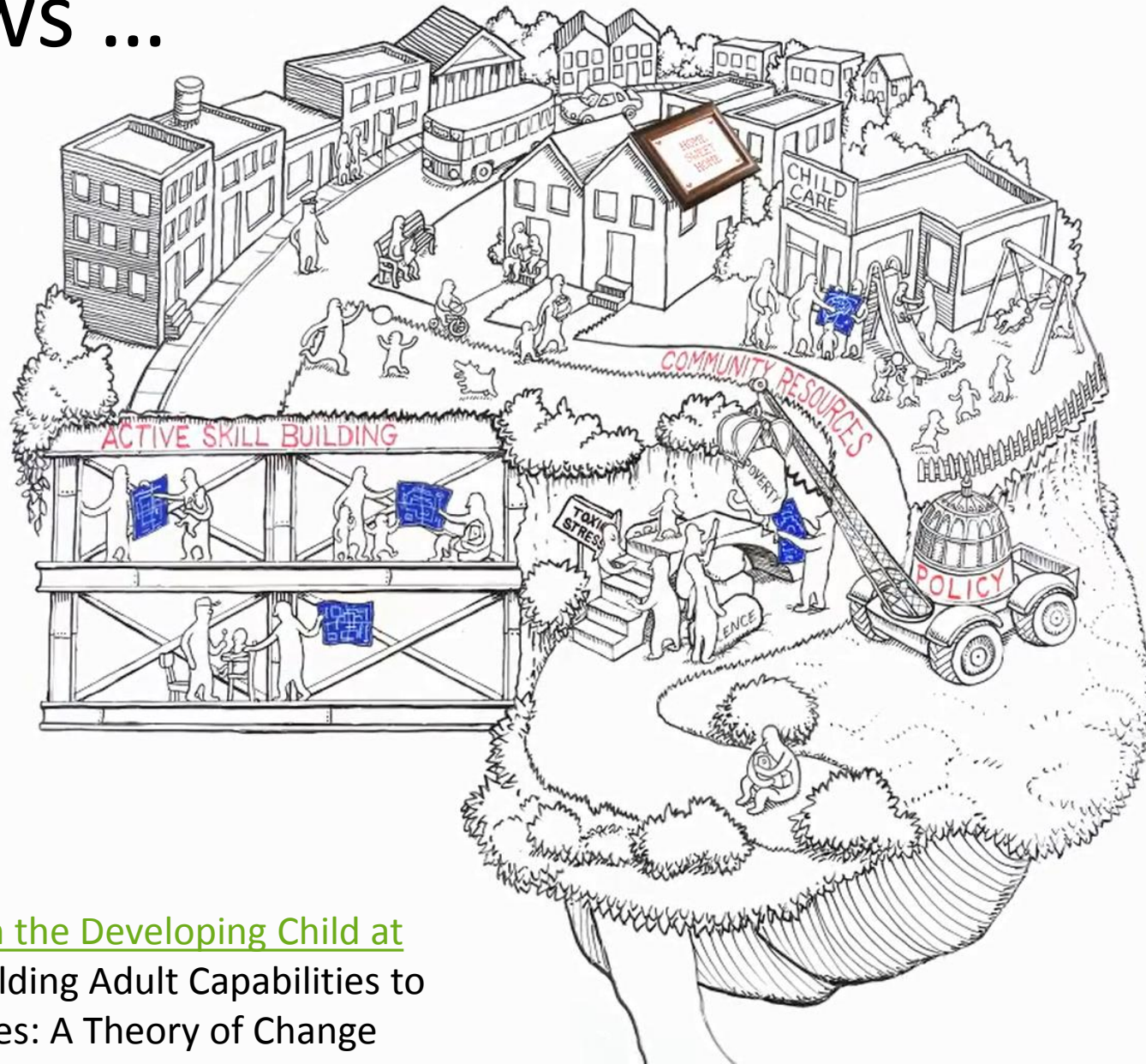
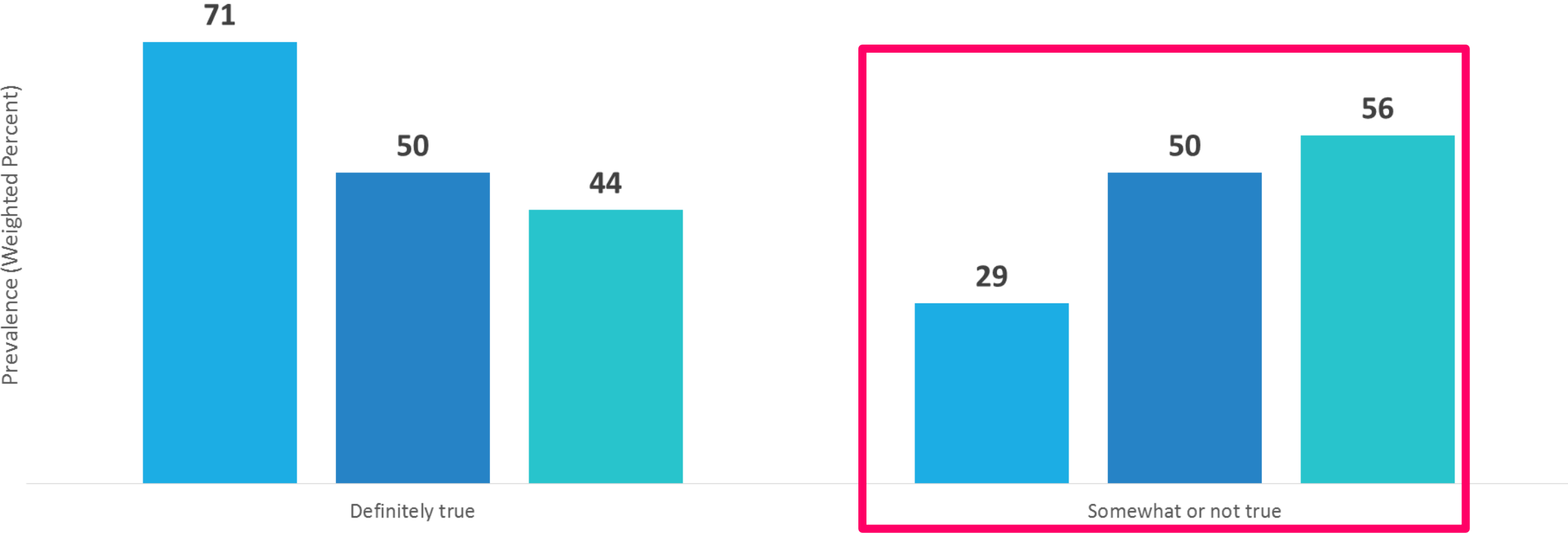


Image from: [Center on the Developing Child at Harvard University](#), Building Adult Capabilities to Improve Child Outcomes: A Theory of Change

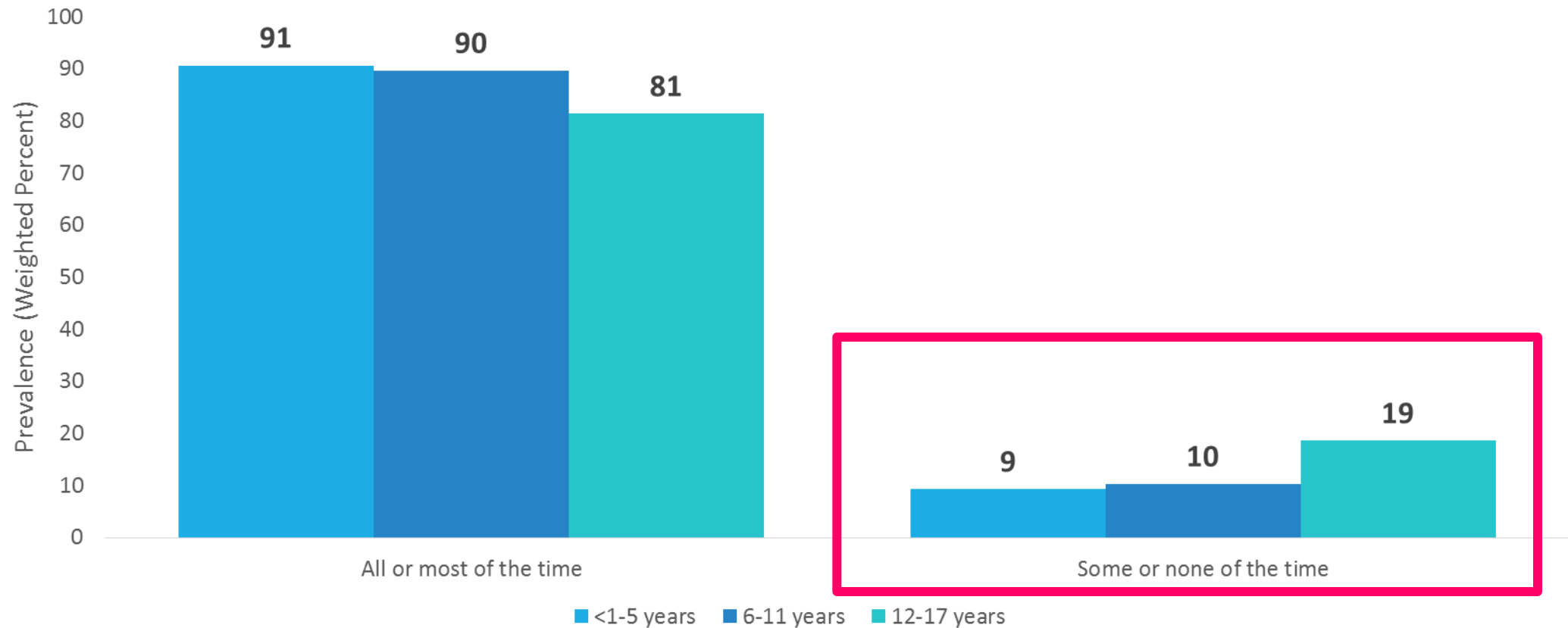
Resilience skills help children deal with adversity



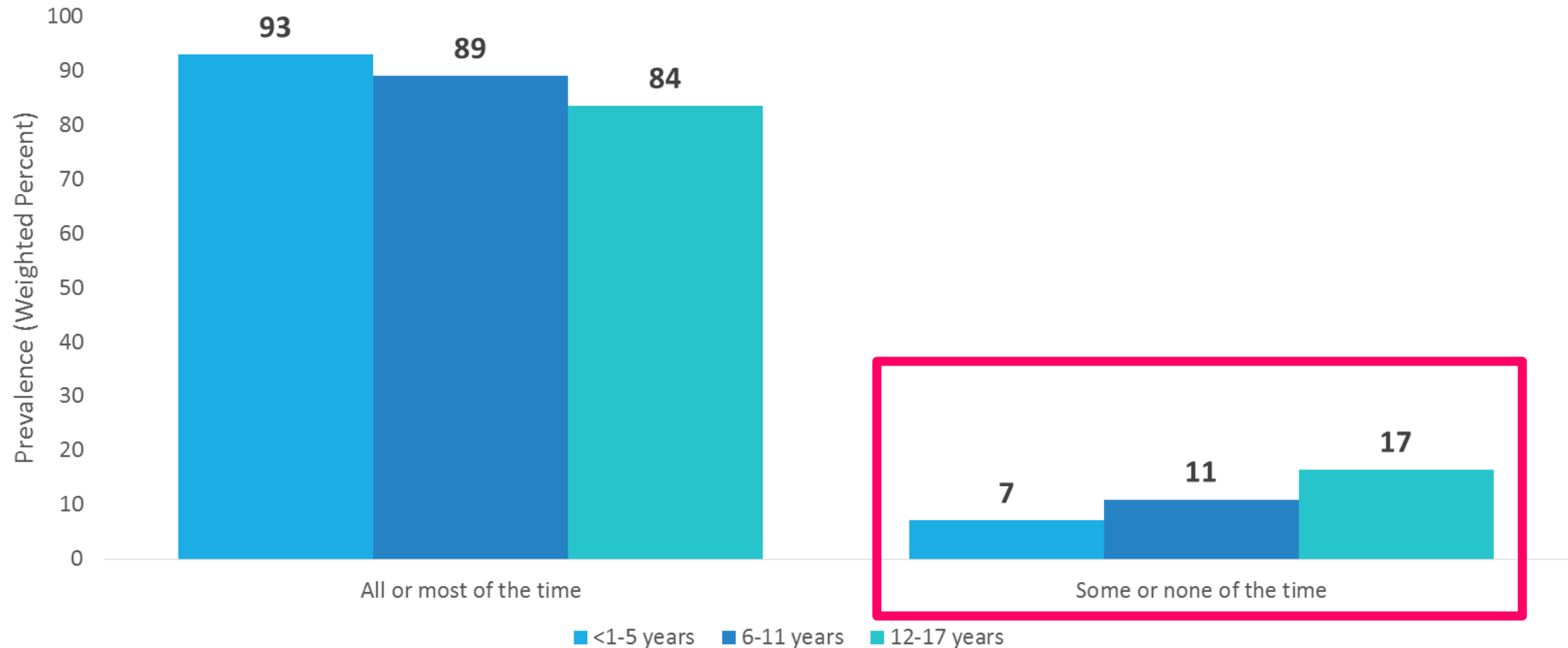
Source: 2016 National Survey of Children’s Health

■ <1-5 years ■ 6-11 years ■ 12-17 years

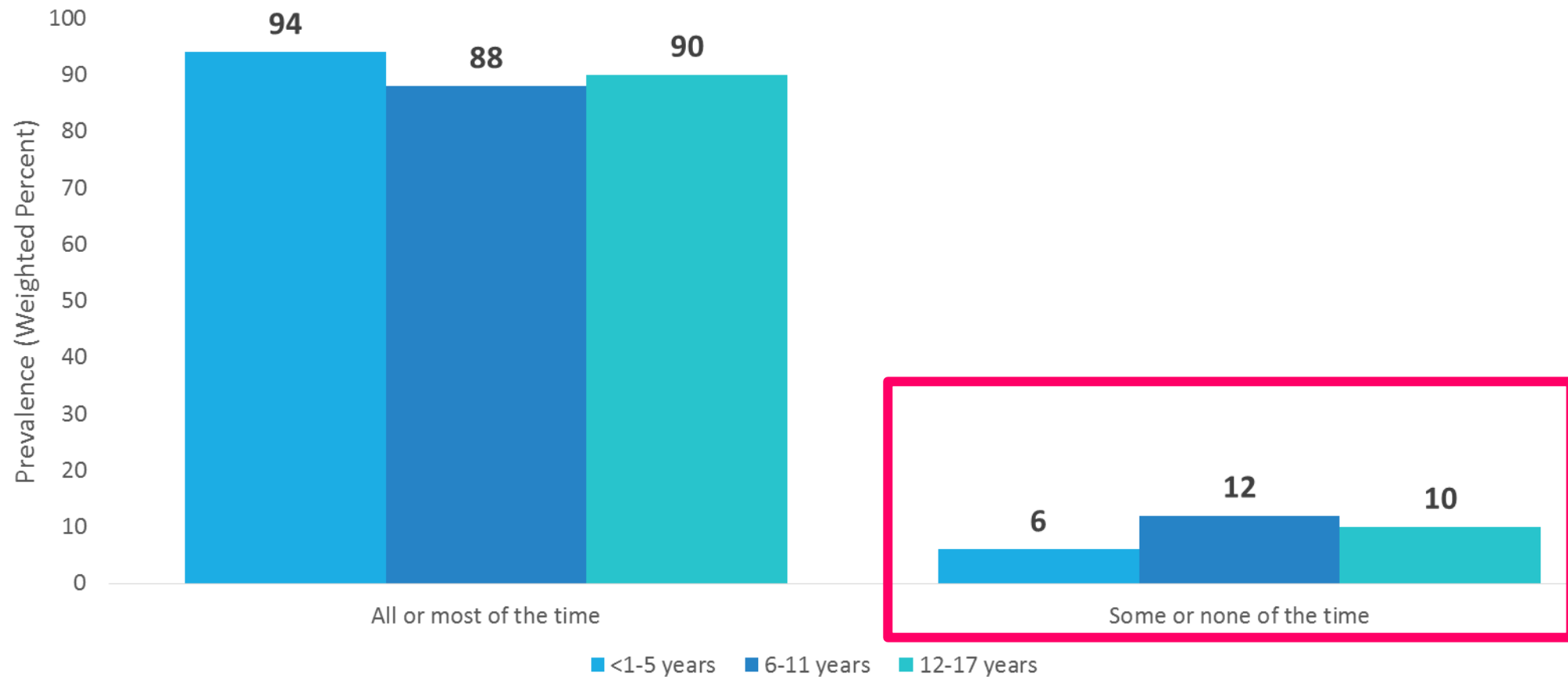
When your family faces problems, how often are you likely to talk together about what to do?



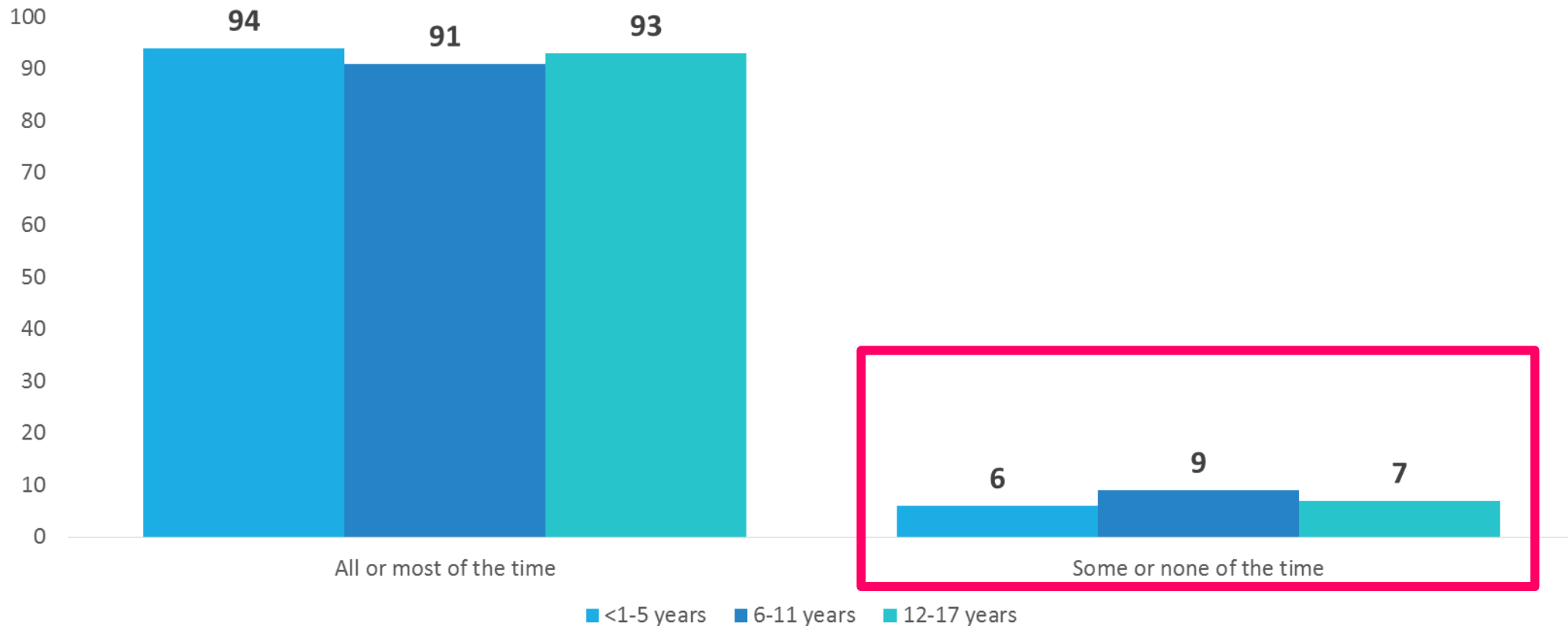
When your family faces problems, how often are you likely to work together to solve problems?



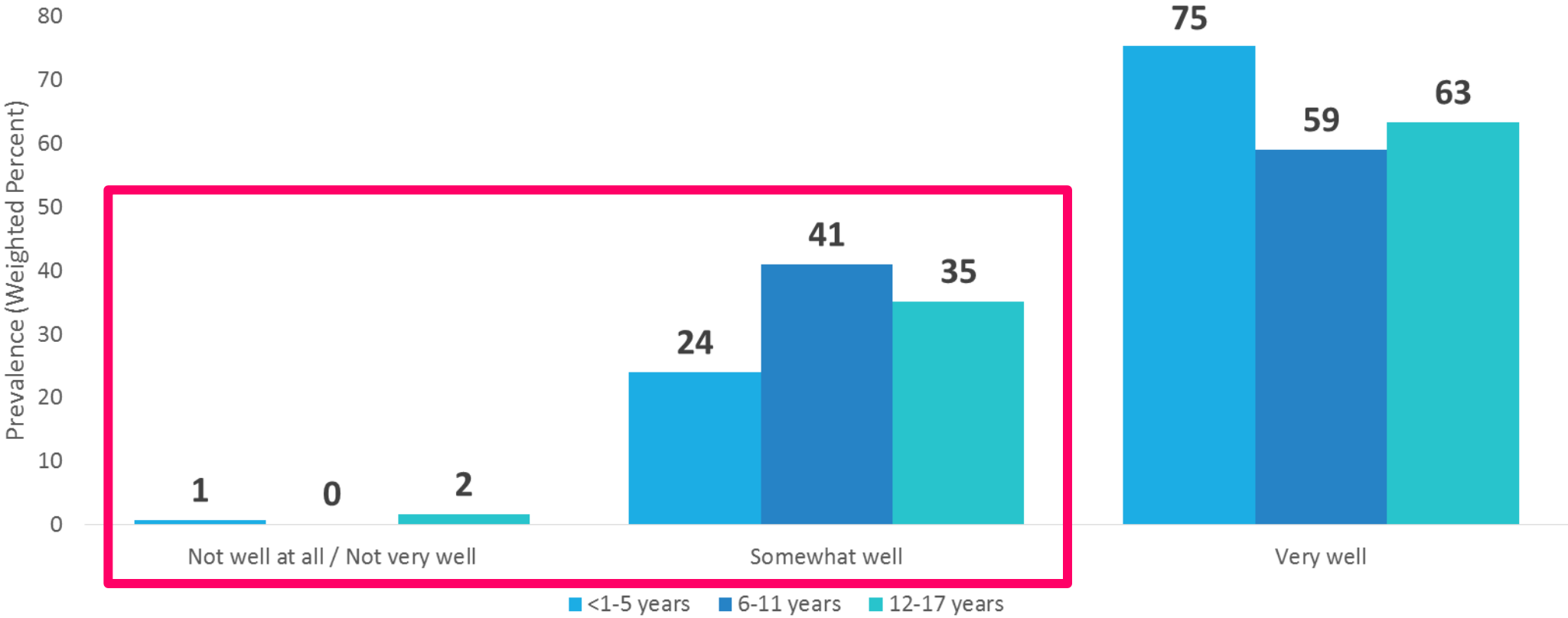
When your family faces problems, how often are you likely to know your family has strengths to draw on?



When your family faces problems, how often are you likely to stay hopeful even in difficult times?

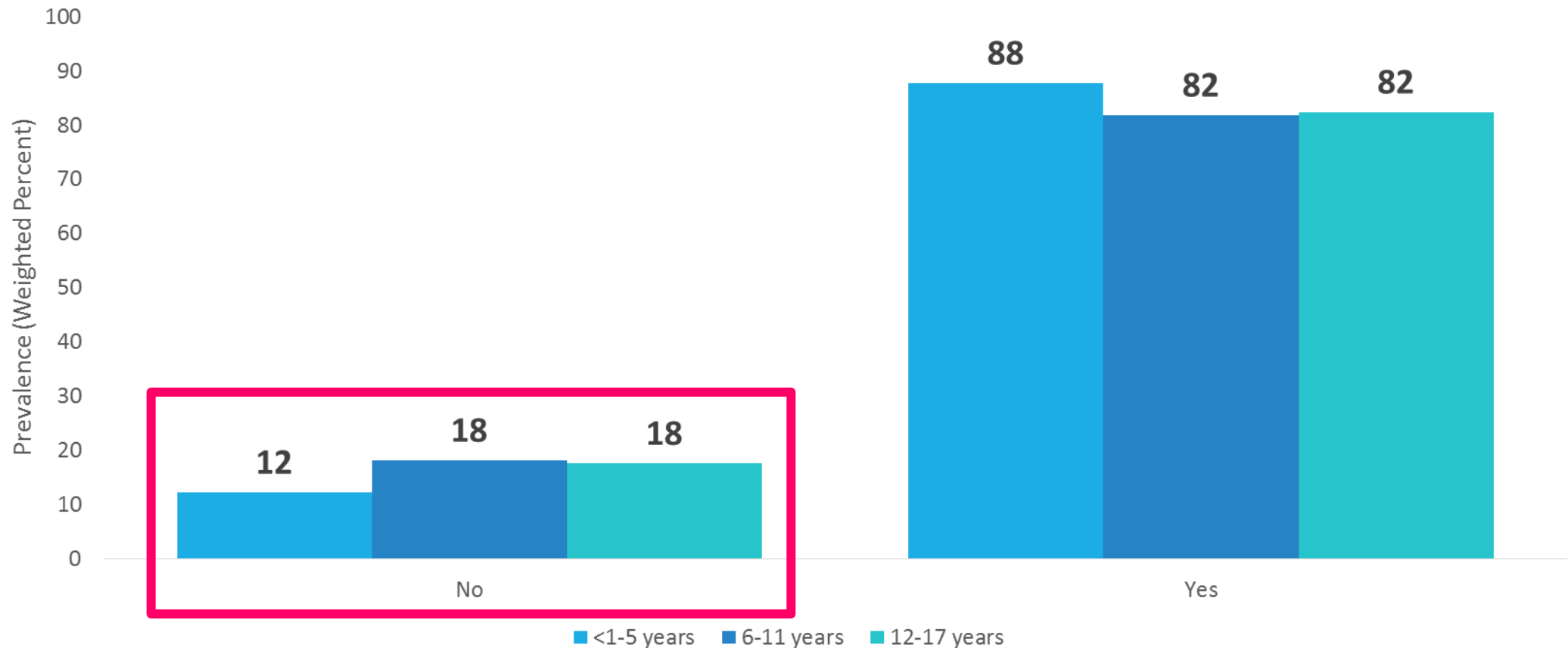


How well do parents believe they are handling the demands of raising their children?



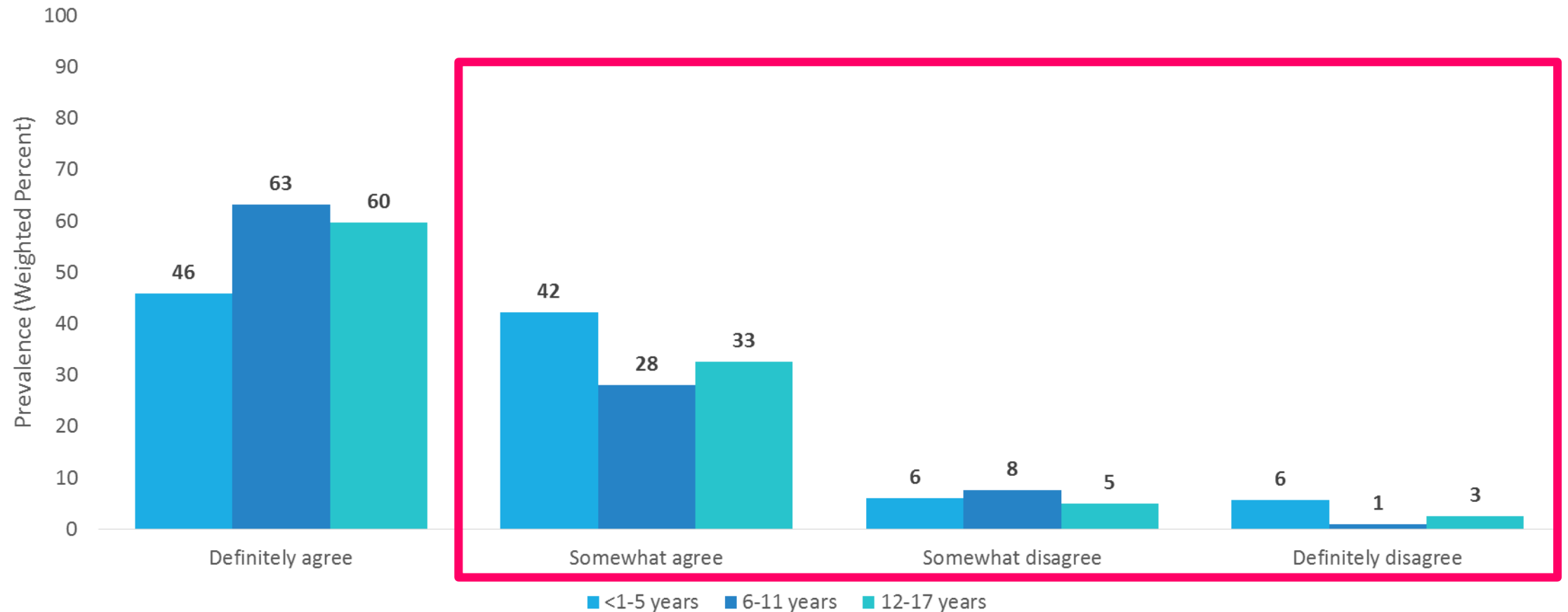
Source: 2016 National Survey of Children's Health

Do parents have someone to turn to for emotional support?



Source: 2016 National Survey of Children's Health

Do parents know where to go for help in their family's community?



What are some things that you noticed about buffering / family strengths? What do we have to work with?

BUFFERING BEHAVIORS / ASSETS & FAMILY STRENGTHS

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WHAT DO WE HAVE IN OUR COMMUNITY THAT COULD BE USED TO BUILD ASSETS & STRENGTHS?

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Who can you collaborate with around buffering / family strengths? What can you use as capital for collaboration?

POTENTIAL COLLABORATORS

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WHAT'S IN IT FOR 'THEM'?

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What and where are the opportunities in BFC?

OPPORTUNITIES

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WHAT DO YOU NEED TO HELP YOU TAKE ADVANTAGE OF THESE OPPORTUNITIES?

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Resource: CDC Technical Package on Preventing Child Abuse and Neglect

EXCERPTS FROM: WHAT WORKS? WHAT DOES SUCCESS LOOK LIKE?

What works? An example from the Technical Package on Preventing Child Abuse and Neglect

Strategy	Approach
Strengthen economic supports to families	<ul style="list-style-type: none">▪ Strengthening household financial security▪ Family-friendly work policies
Change social norms to support parents and positive parenting	<ul style="list-style-type: none">▪ Public engagement and education campaigns▪ Legislative approaches to reduce corporal punishment
Provide quality care and education early in life	<ul style="list-style-type: none">▪ Preschool enrichment with family engagement▪ Improved quality of child care through licensing and accreditation
Enhance parenting skills to promote healthy child development	<ul style="list-style-type: none">▪ Early childhood home visitation▪ Parenting skill and family relationship approaches
Intervene to lessen harms and prevent future risk	<ul style="list-style-type: none">▪ Enhanced primary care▪ Behavioral parent training programs▪ Treatment to lessen harms of abuse and neglect exposure▪ Treatment to prevent problem behavior and later involvement in violence

Source: Fortson, B. L., Klevens, J., Merrick, M. T., Gilbert, L. K., & Alexander, S. P. (2016). *Preventing child abuse and neglect: A technical package for policy, norm, and programmatic activities*. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

What does success look like? An example from the Technical Package on Preventing Child Abuse and Neglect

Strategy	Potential Outcomes
Strengthen economic supports to families	<ul style="list-style-type: none">▪ Improvements in children’s health, development and health insurance coverage▪ Reductions in physical abuse of children and child neglect▪ Reductions in maternal depression and parental stress▪ Reductions in adolescent risky health behaviors▪ Reductions in chronic disease among adults and the leading causes of death
Change social norms to support parents and positive parenting	<ul style="list-style-type: none">▪ Shift in perceived responsibility for children – from personal to shared▪ Increase in public support for policies supportive of children and families▪ Increase in seeking help for parenting
Provide quality care and education early in life	<ul style="list-style-type: none">▪ Reduced encounters with child welfare services▪ Lower rates of out of home placement, juvenile arrests / incarceration, grade retention and special education services, and disability

Source: Fortson, B. L., Klevens, J., Merrick, M. T., Gilbert, L. K., & Alexander, S. P. (2016). *Preventing child abuse and neglect: A technical package for policy, norm, and programmatic activities*. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Discussion & Questions

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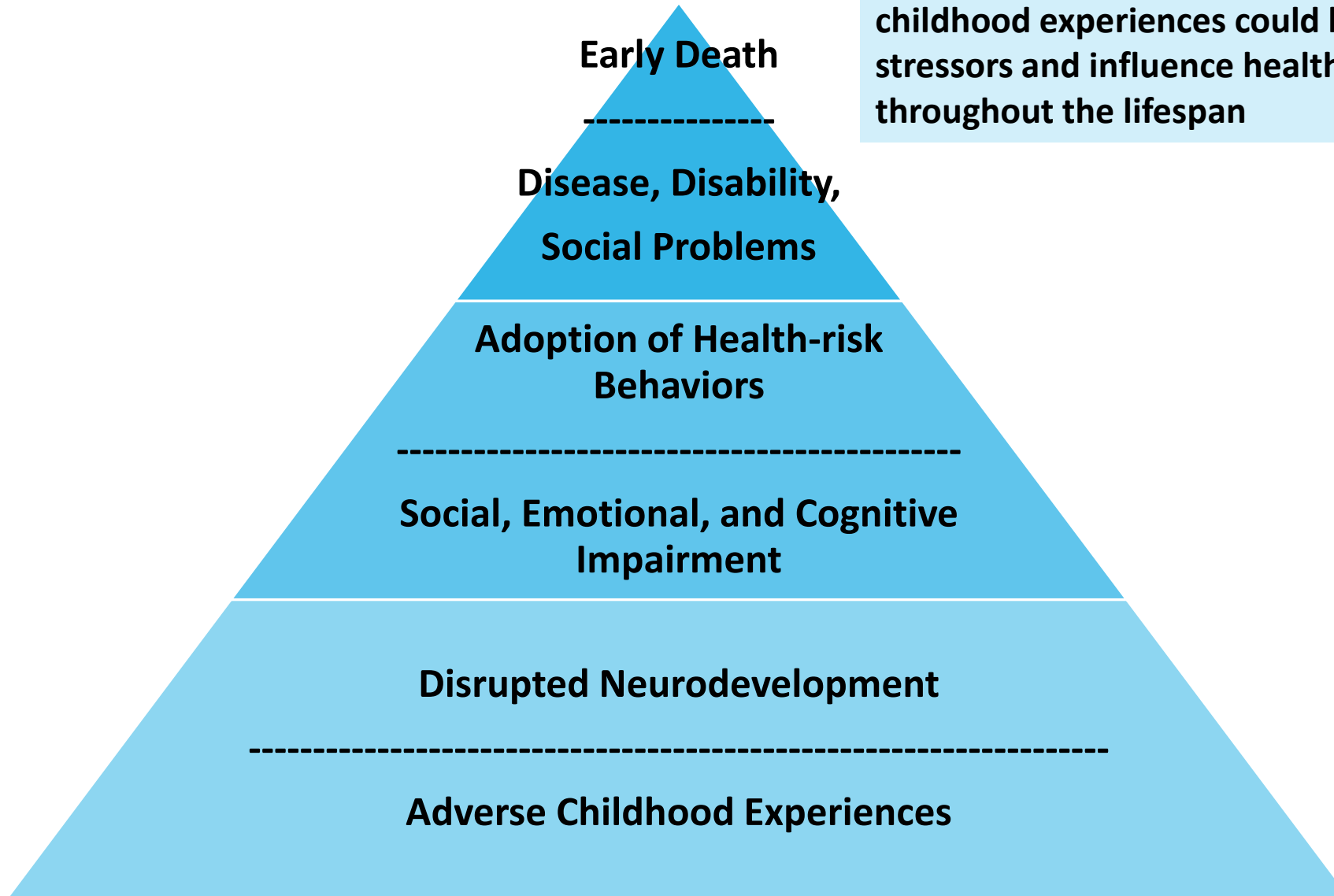
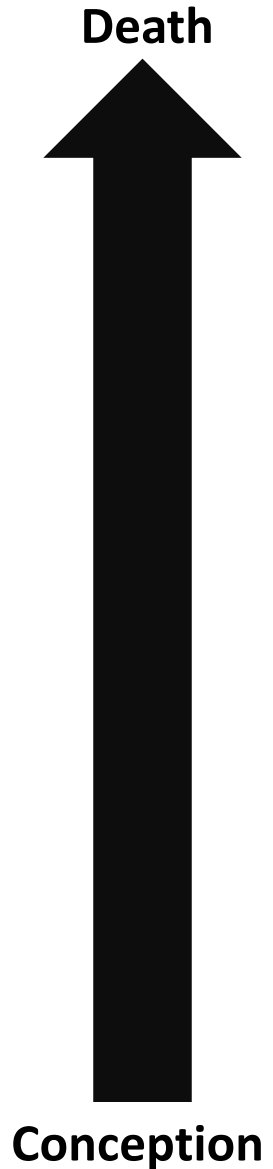
Additional Background Slides

Definitions: Toxic Stress and Adverse Childhood Experiences (ACEs)

Toxic stress is a term used to describe the kinds of **experiences, particularly in childhood, that can affect brain architecture and brain chemistry**, such as severe abuse.

Adverse childhood experiences (ACEs) are **potentially traumatic events that can have negative, lasting effects on health and well-being**, typically occur in a person's life before the age of 18 and have lasting impact as an adult. ACEs can be toxic stressors, particularly if the adversity is not buffered or counterbalanced with supportive relationships and the types of experiences and emotions that comprise resilience.

Sources: DNA Learning Center. <https://www.dnalc.org/view/1226-Toxic-Stress.html>, accessed 9/5/2017. Felitti, V.J., Anda, R.F., Nordenberg, D., Williamson, D.F., Spitz, A.M., Edwards, V., & Koss, M. P. (1998) Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. American journal of Preventive Medicine 14(4), 245-258.



Mechanism by which unbuffered adverse childhood experiences could become toxic stressors and influence health and well-being throughout the lifespan

Source: adapted from CDC

What are some ...

TOXIC STRESSORS OR ADVERSE CHILDHOOD EXPERIENCES?

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BEHAVIORS OR THINGS THAT BUFFER OR COUNTERACT TOXIC STRESS OR ACES?

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Food for thought: Are ACEs / toxic stress only the types of experiences in the ACE study? Are buffers / coping behaviors that counteract ACEs or toxic stress negative or positive or both?

Which adverse experiences are measured?

Adult & Child Questions

Live with anyone (parent / guardian) who ...

- Was **depressed, mentally ill, or suicidal**?
- Was a **problem drinker or alcoholic**?
- Used **illegal street drugs / abused prescription medications**?
- Served time / was sentenced to **serve time in a prison, jail or other correctional facility**?
- Got **separated or divorced**?
- Were parents (/ guardians) **separated or divorced**?
- See / hear **parents or adults in your home ever slap, hit, kick, punch or beat each other up**?

Adult Questions

- Did a parent or adult in your home ever
 - Hit, beat, kick, or physically hurt you in anyway (does not include spanking)?
 - Swear at you, insult you, or put you down?
- Did anyone at least 5 years older than you or an adult
 - Touch you sexually?
 - Try to make you touch them sexually?
 - Force you to have sex?

Child Questions

- Ever the victim or violence / witness neighborhood violence?
- Ever treated / judged unfairly because of race or ethnic group?
- Live in a household where it was hard to cover basics like food or housing?
- Live with a parent/ guardian who died?

What do you notice about the types of adverse experiences that we measure?

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How does what we measure or the way we measure influence what we know?

Vermont Data Sources for Adverse Experiences

ADVERSE CHILDHOOD EXPERIENCES (ACE)

2011 Vermont Behavioral Risk Factor Surveillance System (BRFSS)

Samples 1 in 100 Vermont adults

Respondents recall their own childhood

ADVERSE FAMILY EXPERIENCES (AFE)

2016 National Survey of Children's Health (NSCH)

Samples 1 in 106 Vermont children

Parents / guardians respond for child

ADVERSE EXPERIENCES BEFORE PREGNANCY (AEBP)

2012-2015 Pregnancy Risk Assessment Monitoring System (PRAMS)

Samples 1 in 5 Vermont births

Respondents recall their own experiences before, during and after pregnancy and the first 2-3 months of the newborn's life

All 3 of these surveillance systems

- Are designed and data collected in a manner that allow **valid state-to-state, regional, and national comparisons**
- **Yield weighted data prevalence estimates** for comparable non-institutionalized populations **in each state and nationally [GENERALIZABLE KNOWLEDGE]**

Do BRFSS, NSCH and PRAMS measure resilience or other assets that buffer toxic stress?

FLOURISHING AND THRIVING

Children 6 mo – 5 yrs --

- (1) child is affectionate and tender
- (2) child bounces back quickly when things don't go his/her way
- (3) child shows interest and curiosity in learning new things
- (4) child smiles and laughs a lot

Children 6-17 yrs --

- (1) child shows interest and curiosity in learning new things
- (2) child stays calm and in control when faced with a challenge
- (3) child finishes tasks and follows through with plans

ADDITIONAL POSITIVE INDICATORS

overall health status

relationship with family and peers (parent reads/sings/tells stories to child, plays with children own age, parent-child relationship and engagement, family strengths, family eats meals together)

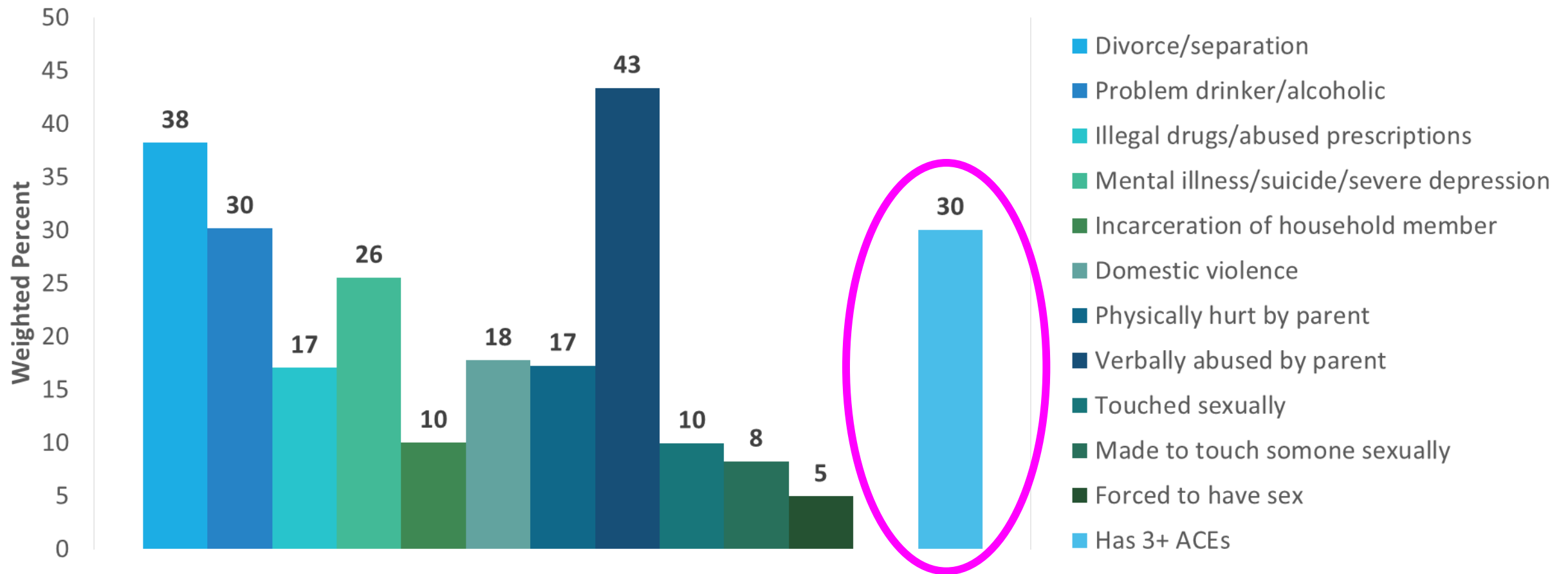
school engagement (cares about doing well in school and completes all required homework)

self-care and healthy decisions (physical activity, adequate sleep)

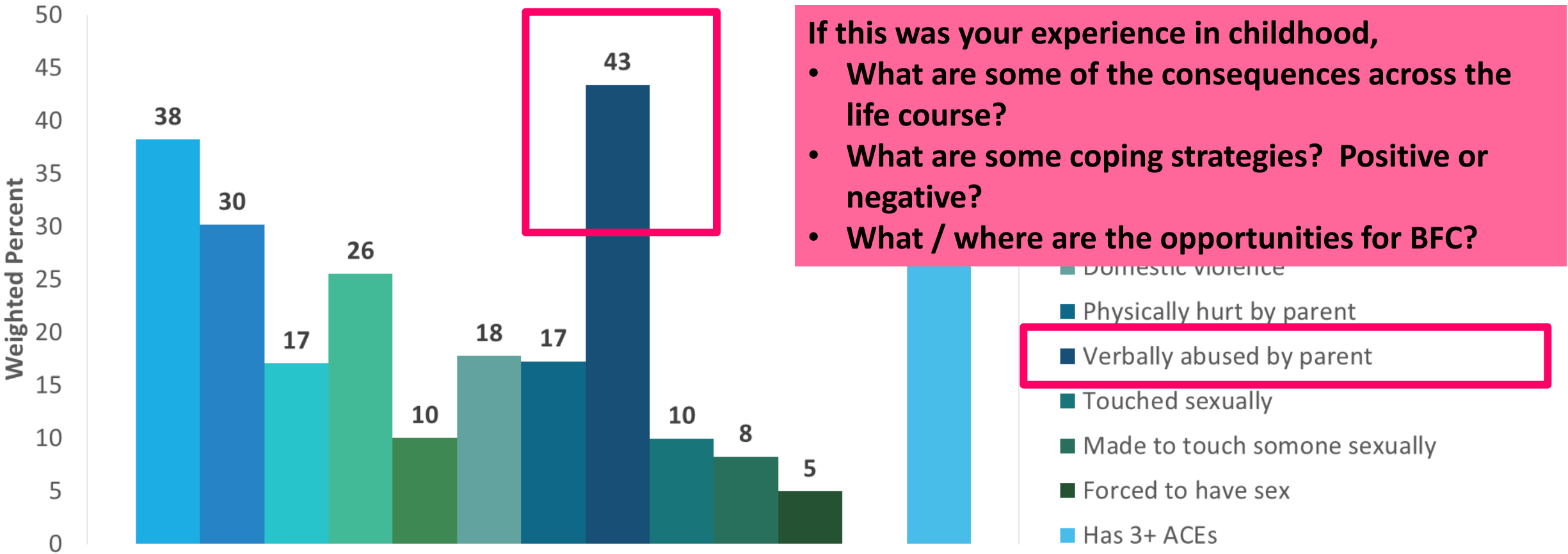
participation in activities (extracurricular activities, volunteering, work for pay outside home)

Adverse Experiences across the Life Span

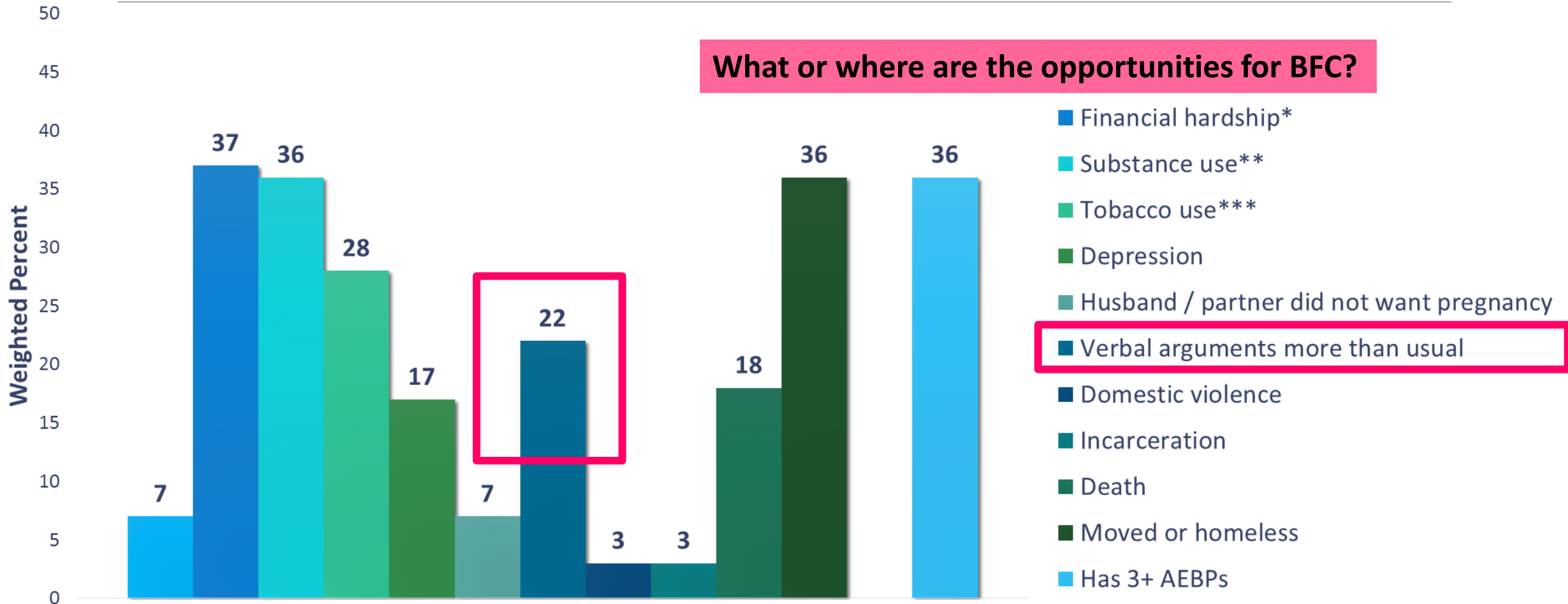
Burden of Adverse Childhood Experiences among Vermont Adults, 18-44 years, 2011 BRFSS



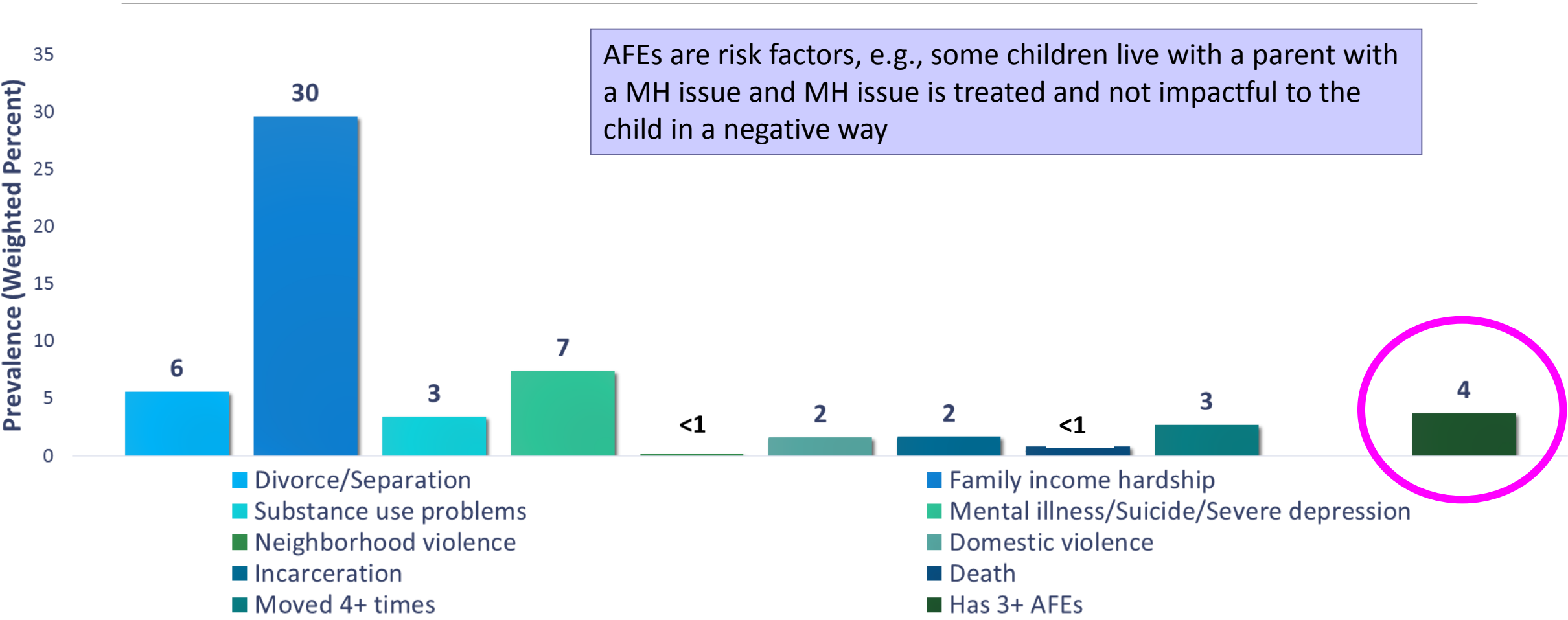
Burden of Adverse Childhood Experiences among Vermont Adults, 18-44 years, 2011 BRFSS



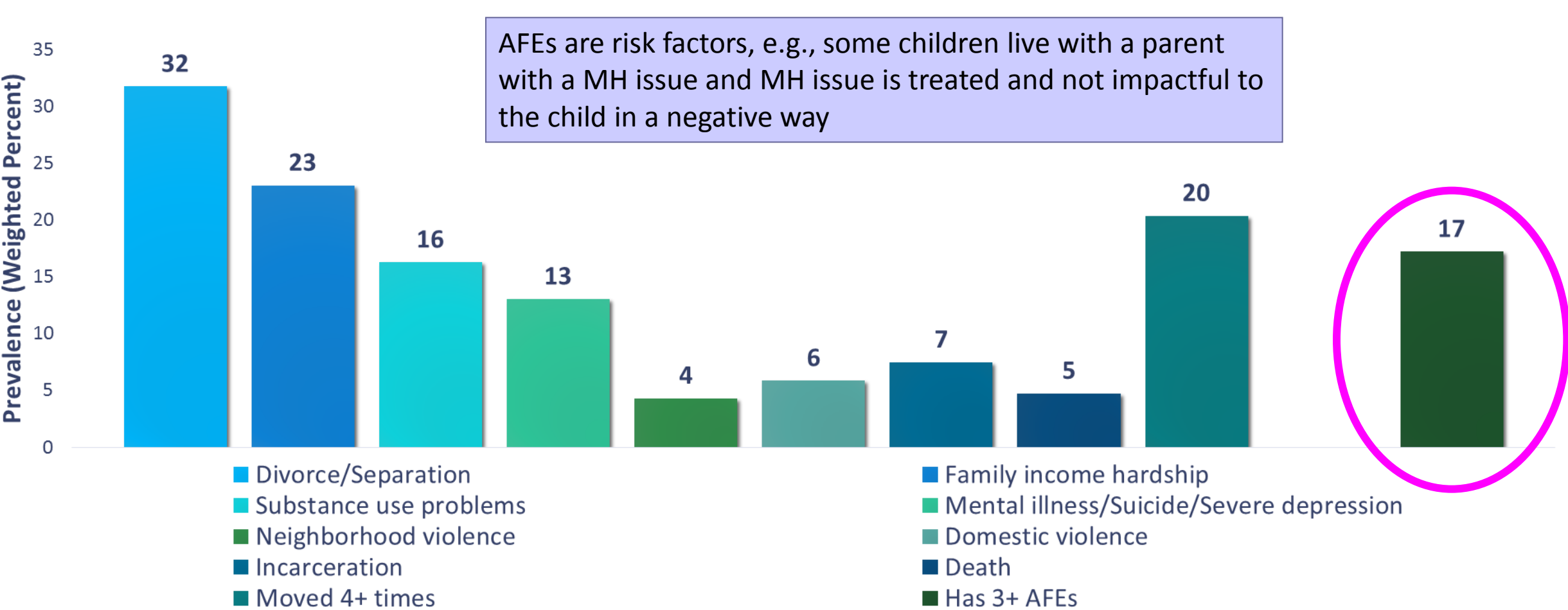
Burden of Adverse Experiences Before Pregnancy among Vermont Women who have had a live birth, 2012-14 PRAMS



Burden of Adverse Family Experiences and Residential Mobility among Vermont Children <1-5 years, 2016 National Survey of Children's Health



Burden of Adverse Family Experiences and Residential Mobility among Vermont Children & Youth 6-17 years, 2016 National Survey of Children's Health



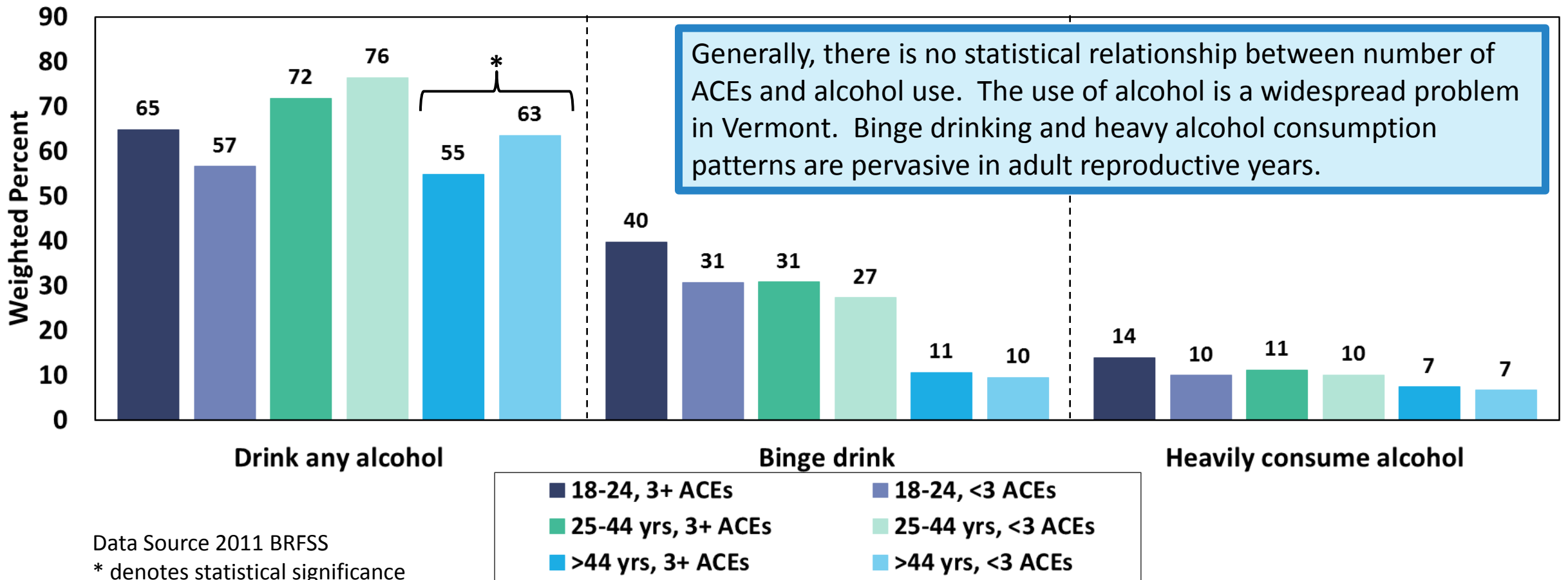
Take away points...adverse experiences are...

- very common and often largely unrecognized
- interrelated, not solitary
- strong predictors of social malfunction, mental illness, health risks, disease and premature death
- the basis for much of adult medicine and of many common public health and social problems
- a leading determinant of the health and social and economic outcomes of our state and nation

Although the original ACE study is more than 20 years old, we are just now making these linkages and embarking on a public health approach to raise community awareness and response

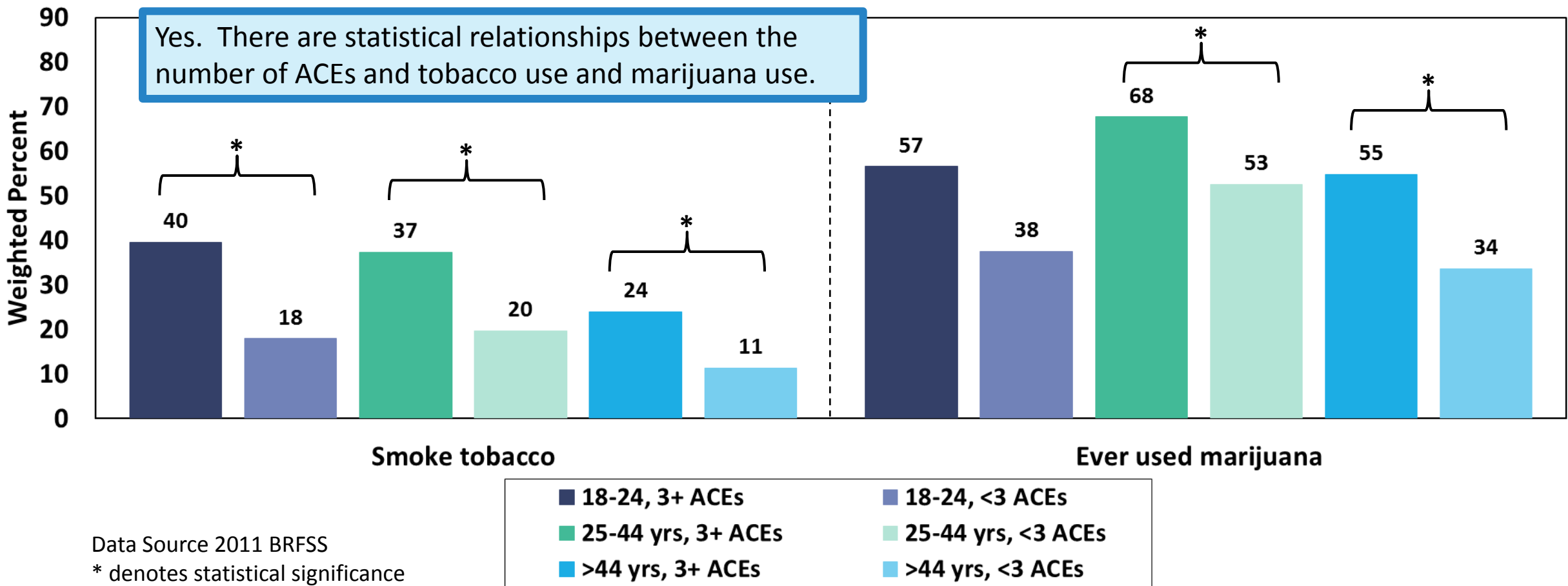
Looking at the impacts of adversity on risky behaviors

Do adults with 3+ ACEs report higher prevalence of alcohol use than those with <3 ACEs?

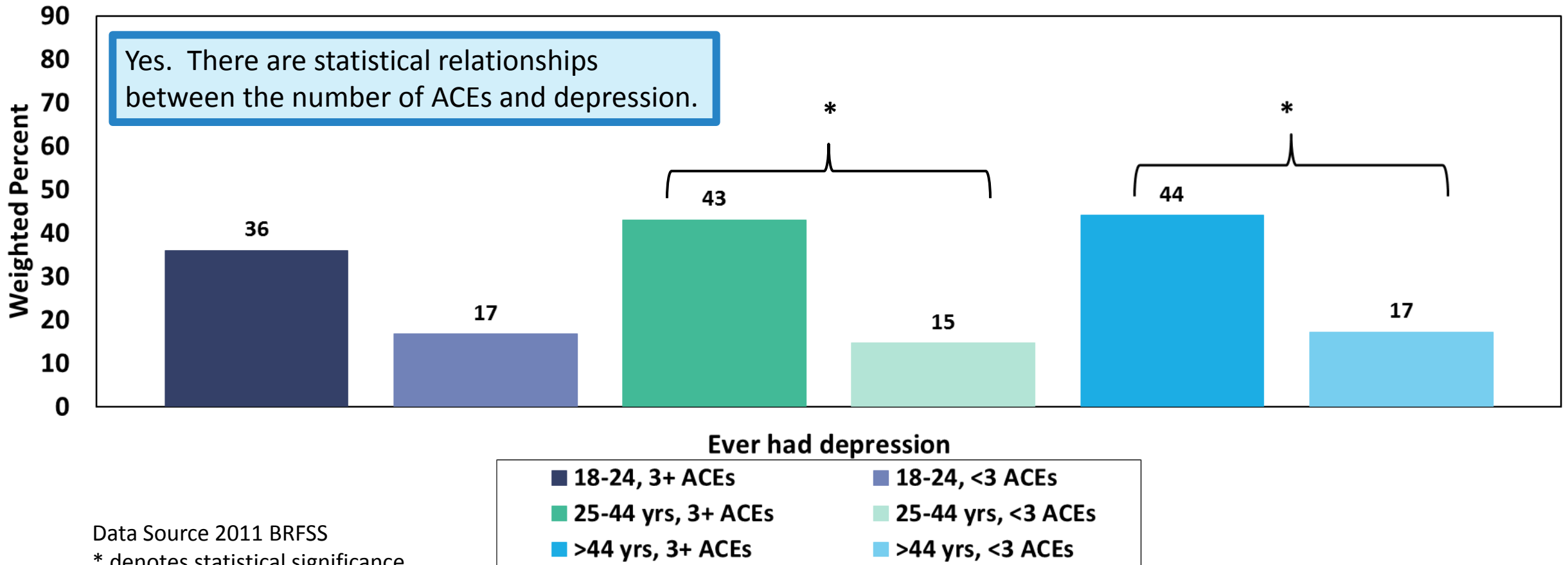


Do adults with 3+ ACEs report higher prevalences of tobacco use or marijuana use than those with <3 ACEs?

Yes. There are statistical relationships between the number of ACEs and tobacco use and marijuana use.

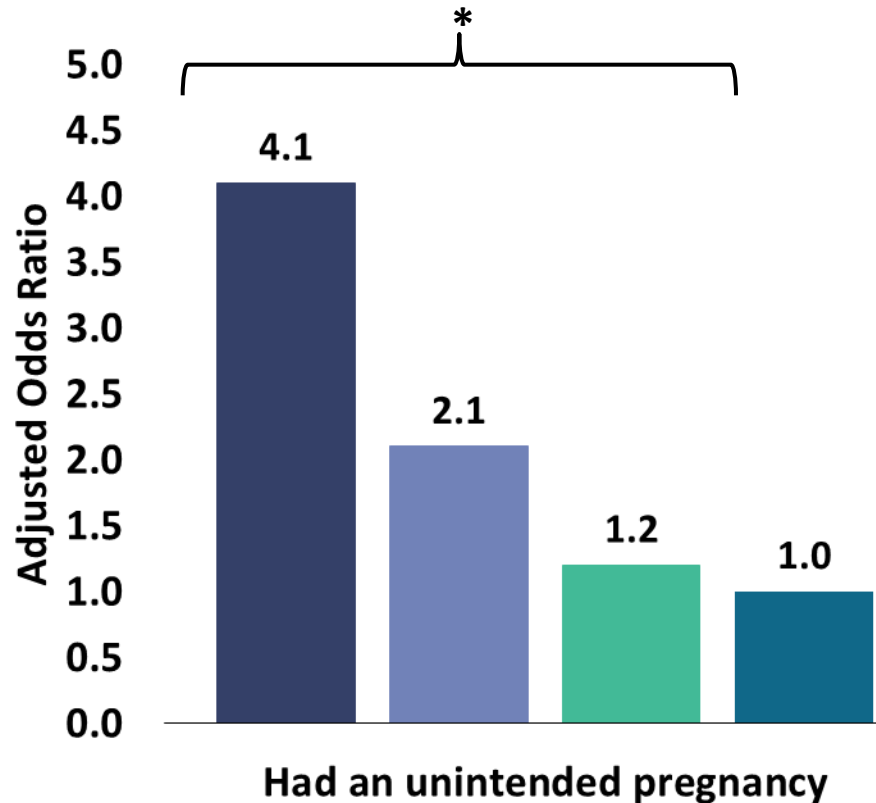


Do adults with 3+ ACEs report higher prevalence of depression than those with <3 ACEs?



Data Source 2011 BRFSS
 * denotes statistical significance

Are women with adverse experiences before pregnancy at greater risk of having an unintended pregnancy compared to those with no adverse experiences?



About 40% of pregnancies in Vermont are unintended, mistimed, or not wanted.

As few as 1 or 2 adverse experiences can have an impact on a couple's planning for pregnancy. Helping women and men to be ready for pregnancy, childbirth, and a new baby could help change the family environment in which babies are being born.

Data Source 2012-14 PRAMS

* denotes statistical significance

