

# The 2021, 2022, & 2023 Opportunity Index Technical Supplement

## Introduction

The Opportunity Index is a composite measure that draws upon important economic, educational, health and civic indicators of opportunity. The Index was launched in 2011 and has since been updated regularly. It provides insight into the multidimensional nature of opportunity in the United States. In addition, its detailed geographic breakdown measures opportunity for individual states and counties and is designed to aid policymakers and other local stakeholders as they work to increase opportunity in our nation.

The indicators that comprise the Opportunity Index are published at various times of the year compared to one another and are subject to publication lags of varying lengths, meaning that the time between when the data for an indicator is gathered and when the indicator is published may be different from one indicator to the next. Because of this, it is important to standardize the year of the data we report to use either the survey year (the year in which the data was collected) or the publication year (the year in which the indicator was published). For the Opportunity Index, we have chosen to standardize the listed year as the *publication year*. This means that if an indicator is listed as having a value of x.xx% in 2022, this means that this was the value for the indicator published in 2022. If the data for this indicator is published on a two-year lag, for example, this would mean that the 2022 indicator reflects data gathered in 2020 and would reflect conditions from that year.

This can create some confusion when comparing indicators that have different publication lags. An indicator with a publication lag of two years and an indicator with a publication lag of just one year would both be published in 2022, but one would reflect data gathered in 2020 while the other would reflect data gathered in 2021. Thus, one must take care when comparing indicators that may have different publication years. Note that the majority of the indicators we report are consistently published on a two-year lag. However, there are some notable exceptions, such as the unemployment rate, which the Bureau of Labor Statistics publishes monthly for the same month it is collected, therefore having a zero-year publication lag.

## Methodology

### Indicators

The Opportunity Index is a valuable data resource that summarizes statistics on opportunity across four dimensions: Economy, Education, Health, and Community. Each dimension includes three to seven indicators, which are the specific measurements used to quantify opportunity (see Table 1).

One important use of the Opportunity Index is tracking progress over time across indicators, dimensions, and overall opportunity. However, updates made to the Index in 2017 mean it is inadvisable to make direct comparisons with years prior to 2016. Data for the 2016 Opportunity Index were recalculated to incorporate the updated Index structure and are therefore appropriate for comparison with more recent data.

**Table 1.** The Opportunity Index Dimensions, Indicators, and Descriptions

| Dimension | Indicator   | Description   |
|-----------|---|---|
| Economy   | <i>Jobs</i>   | Unemployment rate (percentage of the population ages 16 and older who are not working but are available for and seeking work)                                       |
|           | <i>Wages</i>  | Median household income (in 2010 dollars)   |
|           | <i>Poverty</i>  | Percentage of the population below the federal poverty level (the amount of pretax cash income considered adequate for an individual or family to meet basic needs) |
|           | <i>Income Inequality</i>                              | 80/20 ratio (i.e., the ratio of household income at the 80th percentile to that at the 20th percentile)   |
|           | <i>Access to Banking Services</i>                     | Number of banking institutions (commercial banks, savings institutions, and credit unions) per 10,000 residents   |
|           | <i>Affordable Housing</i>                             | Percentage of households spending less than 30 percent of their income on housing-related costs   |
|           | <i>Broadband Internet</i>                             | Percentage of households with subscriptions to broadband internet service   |
| Education | <i>Preschool Enrollment</i>                           | Percentage of 3- and 4-year-olds attending preschool  |
|           | <i>High School Graduation</i>                         | On-time high school graduation rate (percentage of freshmen who graduate in four years)   |
|           | <i>Postsecondary Education</i>                        | Percentage of adults ages 25 and older with an associate degree or higher   |
| Health    | <i>Low Birth Weight</i>                               | Percentage of infants born weighing less than 5.5 pounds  |
|           | <i>Health Insurance Coverage</i>                      | Percentage of the population (under age 65) without health insurance coverage   |
|           | <i>Deaths Related to Alcohol/Drug Use and Suicide</i> | Deaths attributed to alcohol or drug poisoning, or to suicide (age-adjusted rate per 100,000 population)  |
| Community | <i>Volunteering</i>                                   | Percentage of adults (ages 18 and older) who reported they volunteered during the previous year [national and state-level only]                                     |
|           | <i>Voter Registration</i>                             | Percentage of adults ages 18 and older who are registered to vote [national and state-level only]   |
|           | <i>Youth Disconnection</i>                            | Percentage of youth (ages 16–24) not in school and not working  |
|           | <i>Violent Crime</i>                                  | Incidents of violent crime reported to law enforcement agencies (per 100,000 population)  |

**Table 1.** The Opportunity Index Dimensions, Indicators, and Descriptions

| Dimension | Indicator                     | Description  |
|-----------|-------------------------------|--|
|           | Access to Primary Health Care | Number of primary care physicians (per 100,000 population)   |
|           | Access to Healthy Food        | Number of grocery stores and produce vendors (per 10,000 population)   |
|           | <i>Incarceration</i>          | Number of people incarcerated in jail or prison (per 100,000 population ages 18 and older) [national and state-level only] |

Note: Indicator names in *italics* denotes indicators that are reverse scored when standardizing data, such that higher values represent better outcomes.

## Calculating the Index

The Opportunity Index draws upon statistics from a variety of sources, including the U.S. Census Bureau, the Bureau of Labor Statistics, and the U.S. Department of Justice. Calculating opportunity scores for states and grades for counties entails three steps: 1) Rescaling indicators, 2) Calculating dimension scores, and 3) Calculating opportunity scores and grades.

### Rescaling indicators

The diverse indicators that comprise the Opportunity Index include counts, rates, and dollar values. To include them in a composite measure such as the Opportunity Index, we transform each of these statistics to enable comparisons on a common scale. The Opportunity Index uses a simple rescaling procedure based on the minimum and maximum values obtained for each indicator.<sup>1</sup>

Each state or county’s performance on an indicator is compared with the highest and lowest scores obtained on that indicator, excluding outliers (extreme values).<sup>2</sup> The following formula is used to calculate a value from 0 to 100 for each indicator:

$$\text{Observed value rescaled} = \left( \frac{\text{Observed value} - \text{Lowest Value}}{\text{Highest value} - \text{Lowest Value}} \right) \times 100$$

The indicators in the Opportunity Index vary in their directionality. For example, median household income is an indicator for which higher values are more desirable, but the unemployment rate is better when lower. For negative indicators,<sup>3</sup> the rescaling procedure also standardizes their directionality:

$$\text{Observed value rescaled} = 1 - \left[ \left( \frac{\text{Observed value} - \text{Lowest Value}}{\text{Highest value} - \text{Lowest Value}} \right) \times 100 \right]$$

This way, for all indicators, higher values are more desirable.

<sup>1</sup> The natural logs of the data for median household income and violent crime are used in this process to normalize their highly skewed data distributions.

<sup>2</sup> The maximum and minimum values for each indicator are based on an examination of variance and skewness. For indicators with long tails on either or both sides of the normal distribution curve, maximum and minimum values are set to fall within the long tails, with values outside of this range treated as equivalent to the minimum or maximum in the rescaling process.

<sup>3</sup> The following are negative indicators: unemployment, poverty level, income inequality, low birth weight, lack of health insurance, deaths from drugs/alcohol or suicide, youth disconnection, violent crime, and incarceration.

## Calculating dimension scores

At the state level, the Opportunity Index is made up of 20 indicators across the four dimensions (Economy, Education, Health, and Community). In each dimension, the rescaled values for indicators are averaged to create dimension-level opportunity scores, also ranging from 1 to 100. Because data for some indicators are not available at the county level,<sup>4</sup> the county Opportunity Index is made up of 17 indicators. As with states, indicators in each dimension are averaged to create dimension-level opportunity scores ranging from 0 to 100.

## Calculating opportunity scores and grades

Each state also has an overall opportunity score that summarizes performance across the four Index dimensions. To calculate these scores, we averaged each state's four Dimension scores with equal weighting. Final opportunity scores are represented as values from 0 to 100; we use these values to rank the 50 states and the District of Columbia on the Opportunity Index. To create county-level opportunity scores, we averaged the four dimension scores with equal weighting. Counties are also assigned opportunity grades that correspond to their scores, ranging from A+ to F (see Table 3).

In 2011, opportunity grade cut-off points were based on the distribution of raw, final numerical outcomes of the 2011 Opportunity Index for counties and county equivalents; groupings were done according to standard deviations above or below the average. The same cut-off points were used to assign opportunity grades for the 2012 to 2016 indices, allowing comparison across years.

However, in 2017, because of the significant update to the dimensions and indicators comprising the Opportunity Index, we recalculated the relationship between final numerical values and opportunity grade assignments. New cut-off points for assigning grades were based on the distribution of numerical scores of the updated Opportunity Index in 2016 for counties and county equivalents. Grades in the 2017 Index and subsequent releases were assigned according to these new cut-off points. Thus, it is valid to compare county grades between the updated 2016 Index and subsequent Index releases. Opportunity grades from 2011 to 2015 were based on the 2011 cut-off points, so county grades from these years (or from the original 2016 Index) should not be compared with those from the updated 2016 Index or later Indexes. The assignment of county-level opportunity grades, based on the standardized scores is summarized in the table below.

**Table 2.** County Opportunity Grade Assignments Based on Standardized Scores

| Opportunity Grade | Minimum Standardized Score (rounded) | Maximum Standardized Score (rounded) |
|-------------------|--------------------------------------|--------------------------------------|
| A+                | 80.0                                 | 100.0                                |
| A                 | 67.5                                 | 79.9                                 |
| A-                | 64.0                                 | 67.4                                 |
| B+                | 60.5                                 | 63.9                                 |
| B                 | 57.1                                 | 60.4                                 |
| B-                | 53.6                                 | 57.0                                 |
| C+                | 50.1                                 | 53.5                                 |
| C                 | 46.6                                 | 50.0                                 |
| C-                | 43.1                                 | 46.5                                 |
| D+                | 39.6                                 | 43.0                                 |
| D                 | 36.2                                 | 39.5                                 |
| D-                | 32.7                                 | 36.1                                 |
| F                 | 0.0                                  | 32.6                                 |

<sup>4</sup> These indicators are volunteering, voter registration, and incarceration rate, all within the Community dimension.

## Data notes

Given the large number of geographic areas and the many indicators that comprise the Opportunity Index, it is not surprising that there are instances of missing data. If a county is missing data for more than two indicators, or for two or more indicators within the same dimension, then an opportunity grade is not calculated for that county.<sup>5</sup> If a county is missing data for one or two indicators, with no more than one missing indicator per dimension, then the rescaled state average is substituted for the missing data point. Of a total of 3,143 counties and county equivalents, opportunity grades were calculated for 2,068 counties for the 2023 Opportunity Index due to missing or unreliable data. Missing data was highest for the low birthweight and broadband internet indicators.

Most indicators in the Opportunity Index are based on survey data; thus, they are statistical estimates and may be subject to sampling and non-sampling error. Differences in dimension scores, opportunity scores, and opportunity grades between different geographic areas and across different years are not necessarily statistically significant, and comparisons should be made with caution.

## Opportunity Index Data Sources

The indicators that comprise the Opportunity Index are derived from several sources. Table 3 lists the abbreviations used for the data sources. The tables that follow show the source and the source year for all three years of data reported for each indicator.

**Table 3.** Data Source Abbreviations

| Abbreviations                      | Meaning   |
|------------------------------------|---|
| <b>ACS</b>                         | American Community Survey   |
| <b>ASEC</b>                        | Annual Social and Economic Supplement   |
| <b>CPS</b>                         | Current Population Survey   |
| <b>RWJF County Health Rankings</b> | Robert Wood Johnson Foundation County Health Rankings   |
| <b>CDC WONDER</b>                  | Center for Disease Control and Prevention (CDC) Wide-ranging ONline Data for Epidemiologic Research |

---

<sup>5</sup> For a county missing data for two or more indicators in the same dimension, a Dimension Score for that dimension is not calculated.

| <b>Jobs</b>                          |   |                                   |                                   |
|--------------------------------------|---|-----------------------------------|-----------------------------------|
| <b>Definition</b>                    | The total number of people without jobs who actively looked for work within the four weeks preceding the April survey and were available to take a job as a percentage of the total number in the labor force (those working or unemployed but seeking work).   |                                   |                                   |
| <b>Year</b>                          | <b>2021</b>   | <b>2022</b>                       | <b>2023</b>                       |
| <b>National Source</b>               | Bureau of Labor Statistics [2021]   | Bureau of Labor Statistics [2022] | Bureau of Labor Statistics [2023] |
| <b>State Source</b>                  | Bureau of Labor Statistics [2021]   | Bureau of Labor Statistics [2022] | Bureau of Labor Statistics [2023] |
| <b>County Source</b>                 | Bureau of Labor Statistics [2021]   | Bureau of Labor Statistics [2022] | Bureau of Labor Statistics [2023] |
| <b>Disaggregated National Source</b> | Bureau of Labor Statistics [2021]   | Bureau of Labor Statistics [2022] | Bureau of Labor Statistics [2023] |
| <b>Relevance</b>                     | <p>High unemployment rates have been associated with rising dependence on social safety nets, disruptions of local job networks, and a decline in mental and physical health for those facing unemployment.<sup>1</sup> Even small increases in unemployment rates have been correlated with an increase in both physically and mentally unhealthy days.<sup>2</sup> Lower unemployment rates correlate with better health and well-being, better community and family structure, and better economic growth. Data shows that labor market conditions are weaker in low- and moderate-income (LMI) communities and that the difference in employment rates between LMI and non-LMI communities is both persistent and increasing over time. Residents in LMI communities are much less likely to work than residents in higher-income communities due to the prevalence of employment barriers, such as lower educational attainment, lack of access to transportation, and child care.<sup>3</sup> Some evidence also suggests that there may be a mismatch between the jobs that are locally available and whether or not those jobs are available for black residents, or otherwise marginalized racial groups within a given community.<sup>4</sup> Both parental and youth/young adult unemployment have been shown to be detrimental to young adults and their families. Parental job loss has been linked to worsened school performance and a reduction in the probability that youth finish high school after parental job loss.<sup>5</sup> Financial stress from job loss and long-term unemployment can affect youth through increased family stress, reduced educational performance, and worsened health outcomes,<sup>6</sup> particularly for families with lower levels of income or parental education.<sup>7</sup> Youth and young adult unemployment has also been associated with worse mental health,<sup>8</sup> increased substance use,<sup>9</sup> and decreased socioeconomic mobility later in life.<sup>10</sup></p> |                                   |                                   |
| <b>Notes</b>                         | Rates are not seasonally adjusted. Bureau of Labor Statistics unemployment data is collected monthly and the data we report here is for the month of April of the listed source year.   |                                   |                                   |

| <b>Wages</b>           |   |  |                         |
|------------------------|---|--|-------------------------|
| <b>Definition</b>      | Median household income. The income level that falls at the midpoint of the total distribution of households, ranked from highest to lowest. Household income includes work earnings from jobs or self-employment, as well as income from interest, dividends, rent, Social Security, pension payments, unemployment compensation, cash welfare benefits, and other forms of money regularly received by any member of the household. |  |                         |
| <b>Year</b>            | <b>2021</b>   | <b>2022</b>  | <b>2023</b>             |
| <b>National Source</b> | ACS, Table S1903 [2019]   | ACS, Table S1903 [2016-2020 (Five-year Estimates)] | ACS, Table S1903 [2021] |

| <b>Wages</b>                         |   |  |  |
|--------------------------------------|---|--|--|
| <b>State Source</b>                  | ACS, Table S1903 [2019]   | ACS, Table S1903 [2016-2020 (Five-year Estimates)] | ACS, Table S1903 [2021]                            |
| <b>County Source</b>                 | ACS, Table S1903 [2015-2019 (Five-year Estimates)]  | ACS, Table S1903 [2016-2020 (Five-year Estimates)] | ACS, Table S1903 [2017-2021 (Five-year Estimates)] |
| <b>Disaggregated National Source</b> | NA  | NA   | NS   |
| <b>Relevance</b>                     | <p>Individuals with low incomes generally display worse health outcomes, more risk-taking behaviors, and decreased access to quality health care. Poverty and low-income status dramatically affect mortality rates and life expectancy.<sup>11</sup> The CDC has reported that rates of mortality, morbidity, and poor health behaviors all decrease in a continuous and graded manner with increasing levels of income.<sup>12</sup> Black, Hispanic, and Native communities, as well as rural communities, are disproportionately impacted by low wages, furthering socioeconomic and health inequities in these communities. Neighborhoods within the same state with higher median household income can be indicative of a higher quality of life, better infrastructure, increased access to health care, better access to banking and loans due to higher credit scoring, and better educational opportunities.<sup>13</sup> Income provides psychosocial and material resources that protect against exposure to health risks in early and adult life.<sup>14</sup> <sup>15</sup> A wide body of literature demonstrates the negative effects of economic deprivation and material scarcity on youth development and life outcomes.<sup>16</sup> Higher youth dropout rates and lower school performance have been linked to parents' low-wage jobs, as well as increased obesity, early sexual activity, and childbearing.<sup>17</sup> Increases in household incomes have been consistently and positively associated with better health and development among children and youth, particularly for the most economically disadvantaged youth.</p> |  |  |
| <b>Notes</b>                         | <p>Income is unevenly distributed among households, and extremely high incomes can raise the average (mean) making it substantially higher than the median. Therefore, the median is generally seen as providing a more accurate representation of income for a "typical" household. To adjust for inflation and facilitate year-to-year comparisons, income figures in the Opportunity Index are presented in 2010 dollars. In the 2023 Opportunity Index, median household income data at the national and state levels refer to 2021; for counties, data refer to the average of 2017–2021.</p>  |  |  |

| <b>Poverty</b>                       |   |  |  |
|--------------------------------------|---|--|--|
| <b>Definition</b>                    | Percentage of people of all ages living with family incomes below the federal poverty line. |  |  |
| <b>Year</b>                          | <b>2021</b>   | <b>2022</b>  | <b>2023</b>  |
| <b>National Source</b>               | ACS, Table S1701 [2019]   | ACS, Table S1701 [2016-2020 (Five-year Estimates)] | ACS, Table S1701 [2021]                            |
| <b>State Source</b>                  | ACS, Table S1701 [2019]   | ACS, Table S1701 [2016-2020 (Five-year Estimates)] | ACS, Table S1701 [2021]                            |
| <b>County Source</b>                 | ACS, Table S1701 [2015-2019 (Five-year Estimates)]  | ACS, Table S1701 [2016-2020 (Five-year Estimates)] | ACS, Table S1701 [2017-2021 (Five-year Estimates)] |
| <b>Disaggregated National Source</b> | ACS, Table S1701 [2019]   | ACS, Table S1701 [2016-2020 (Five-year Estimates)] | ACS, Table S1701 [2021]                            |

| Poverty          |   |
|------------------|---|
| <b>Relevance</b> | <p>Poverty is recognized as a core social determinant of health and a primary driver of health inequities.<sup>18</sup> Youth and families living in poverty often cannot have their basic needs met with regard to food, stable housing, and medical care. Residents of impoverished communities face increased risk for mental illness, chronic disease, higher mortality, and lower life expectancy.<sup>19</sup> Poverty can also limit access to educational and employment opportunities in ways that become self-perpetuating within communities. Poverty is costly to society by (1) decreasing economic output that, in turn, funds social programming and infrastructure through tax revenue, and (2) increasing the societal cost burden of illness and disease.<sup>20</sup> Poverty disproportionately impacts people with disabilities, people living in rural communities, and people from certain racial and ethnic groups. People often do not experience poverty alone, but rather alongside their communities. Poverty often occurs in concentrated areas and endures for extended periods of time due to factors such as institutional racism and discrimination. Concentrated poverty is associated with a greater risk of firearm deaths (specifically homicide and accidental deaths),<sup>21</sup> as well as a greater risk of suicide among children and young adults.<sup>22</sup> Youth who experience childhood poverty are more likely to experience developmental delays, toxic stress, chronic illness, and mental health issues.<sup>23, 24</sup> They are also more likely to experience poverty into adulthood, contributing to intergenerational cycles of poverty. Federal social assistance programs such as Medicaid, Supplemental Nutrition Assistance Program (SNAP),<sup>25</sup> and Special Supplemental Nutrition Program for Women, Infants, and Children (WIC),<sup>26</sup> have been associated with reductions in poverty and overall health benefits for youth and their families by interrupting the cycles of poverty that trap low-income families. The educational, health, and employment differences between youth born into high-income and low-income families can often be attributed to differences in opportunities.<sup>27</sup></p> |
| <b>Notes</b>     | <p>The federal poverty line is the amount of pretax cash income considered adequate for an individual or family to meet basic needs. It is updated annually for inflation based on Consumer Price Index changes and is adjusted for family size and composition. In 2023, a four-person family with two children would be considered to live in poverty at an income of less than \$30,000.<sup>28</sup> Poverty rate data in the 2023 Opportunity Index for national and state levels refer to 2023; county data refer to the average of 2017–2021.</p>  |

| Income Inequality      |   |   |   |
|------------------------|---|---|---|
| <b>Definition</b>      | <p>80/20 ratio (ratio of household income at the 80th percentile of income to that of the 20th percentile). The 80/20 ratio is a measure of income inequality describing the disparity in income between the household at the 80th percentile of income and the household at the 20th percentile. The 80/20 ratio for the United States is 4.9, meaning that the wealthiest fifth of households (those at the 20th percentile) have incomes nearly five times higher than those of households in the poorest fifth (the 80th percentile).</p> |   |   |
| <b>Year</b>            | <b>2021</b>   | <b>2022</b>   | <b>2023</b>   |
| <b>National Source</b> | ACS, Table B19080 [2019]  | ACS, Table B19080 [2016-2020 (Five-year Estimates)] | ACS, Table B19080 [2021]                            |
| <b>State Source</b>    | ACS, Table B19080 [2019]  | ACS, Table B19080 [2016-2020 (Five-year Estimates)] | ACS, Table B19080 [2021]                            |
| <b>County Source</b>   | ACS, Table B19080 [2015-2019 (Five-year Estimates)]   | ACS, Table B19080 [2016-2020 (Five-year Estimates)] | ACS, Table B19080 [2017-2021 (Five-year Estimates)] |

| <b>Income Inequality</b> |   |
|--------------------------|---|
| <b>Relevance</b>         | Economies with greater disparities in household incomes are associated with poorer health and well-being <sup>29</sup> , weaker economic growth, and increased community violence. <sup>30</sup> Low-income communities are more likely to be lacking in environmental supports for youth and families, increasing income inequality between communities. <sup>31</sup> Individuals in low-income communities are also disproportionately exposed to environmental health risks via sub-par living conditions and environmental racism practices that position polluting facilities in low-income communities, ultimately increasing the likelihood of long-term illness and worse mortality rates. Youth living in more economically equal societies are more likely to express prosocial behaviors and experience better mental and health outcomes. <sup>32</sup> Income inequality has been associated with greater socioeconomic disparities in learning outcomes, resulting in decreased educational achievement. <sup>33</sup> Youth living in areas with high income inequality are more likely to be subject to worse educational opportunities and more likely to interact with the juvenile justice system. Youth who interact with the juvenile justice system are more likely to be arrested as adults and less likely to be employed later in life. |
| <b>Notes</b>             | 80/20 ratio data in the 2023 Opportunity Index for states and the nation refer to 2021 income; data for counties use the average of 2017–2021 income.   |

| <b>Access to Banking Services</b>    |   |  |  |
|--------------------------------------|---|--|--|
| <b>Definition</b>                    | The number of commercial banks, savings institutions, and credit unions per 10,000 residents.   |  |  |
| <b>Year</b>                          | <b>2021</b>   | <b>2022</b>                                    | <b>2023</b>                                    |
| <b>National Source</b>               | Census Bureau, County Business Patterns [2019]  | Census Bureau, County Business Patterns [2020] | Census Bureau, County Business Patterns [2021] |
| <b>State Source</b>                  | Census Bureau, County Business Patterns [2019]  | Census Bureau, County Business Patterns [2020] | Census Bureau, County Business Patterns [2021] |
| <b>County Source</b>                 | Census Bureau, County Business Patterns [2019]  | Census Bureau, County Business Patterns [2020] | Census Bureau, County Business Patterns [2021] |
| <b>Disaggregated National Source</b> | NA  | NA   | NA   |
| <b>Relevance</b>                     | Having access to a full suite of financial services is critical for ensuring stability, resiliency, and long-term financial security. Being unbanked (not having a checking or savings account), or under-banked (having an account but using services such as check cashing or payday loan) results in the use of alternative financial services that charge high fees and can contribute the cycle of poverty. <sup>34</sup> Almost all social assistance and unemployment benefits require a bank account, making access to banks paramount in low-income communities. Having access to banking services is increasingly a prerequisite for participation in the mainstream economy. Individuals living in areas with few banks are more likely to face financial exclusion, as they may be unable to conduct basic financial transactions, cash checks directly into a bank account, or set up direct deposit to access their income without paying exorbitant fees. <sup>35</sup> Access to financial services is mediated by both the physical distribution of banks, as well as access to financial education that teaches people how to use financial services for financial security and wealth building. Financial education and socialization are often a prerequisite for participation in financial systems, and research has shown that family-mediated financial socialization is positively associated with healthy financial behavior among youth. <sup>36</sup> Financial security is an intergenerational problem. Youth from non- |  |  |

| Access to Banking Services |   |
|----------------------------|---|
|                            | wealthy families and young people of color face significant barriers to achieving financial security, including limited opportunity and supports from the government and private sector, as well as parents and communities with less financial literacy and fewer financial resources to support them. <sup>37</sup> Lack of access to adequate banking services further limits wealth-building opportunities available to families, such as high-yield savings accounts or 529 education plans to support youth in their post-secondary educational pursuits later in life. <sup>38</sup> |
| <b>Notes</b>               | This indicator includes banking institutions with the following North American Industry Classification System (NAICS) codes: 522110, 522120, and 522130. In the 2023 Opportunity Index, data for this indicator refer to 2021.  |

| Affordable Housing                   |   |   |   |
|--------------------------------------|---|---|---|
| <b>Definition</b>                    | The percentage of households spending less than 30 percent of their income on rent and utilities (for households who rent), or on mortgage payments and other housing-related costs, such as real estate taxes or condo fees (for those who own homes).   |   |   |
| <b>Year</b>                          | <b>2021</b>   | <b>2022</b>                                       | <b>2023</b>                                       |
| <b>National Source</b>               | ACS, Table DP04 [2019]  | ACS, Table DP04 [2016-2020 (Five-year Estimates)] | ACS, Table DP04 [2021]                            |
| <b>State Source</b>                  | ACS, Table DP04 [2019]  | ACS, Table DP04 [2016-2020 (Five-year Estimates)] | ACS, Table DP04 [2021]                            |
| <b>County Source</b>                 | ACS, Table DP04 [2015-2019 (Five-year Estimates)]   | ACS, Table DP04 [2016-2020 (Five-year Estimates)] | ACS, Table DP04 [2017-2021 (Five-year Estimates)] |
| <b>Disaggregated National Source</b> | NA  | NA  | NA  |
| <b>Relevance</b>                     | Cost-burdened families (families spending over 30 percent of their household income on housing) have difficulties covering necessities such as food, clothing, utilities, and healthcare. Black and Hispanic families are almost twice as likely as White families to be cost-burdened, putting them at increased risk for housing instability and food insecurity. Stable housing has been shown to improve health outcomes and reduce healthcare costs. <sup>39</sup> In the United States, residents may be pushed to spend more to live in certain neighborhoods that provide better educational or job opportunities, or increased community safety. Lack of affordable vacancies in a historically tight rental market often forces people with the lowest incomes to rent substandard housing that exposes them to health and safety risks, such as vermin, mold, water leaks, and inadequate heating or cooling systems. <sup>40</sup> Families with low incomes also disproportionately face housing instability and frequent moves due to the high cost burden of housing. Housing affordability directly and indirectly affects child development and schooling outcomes that have implications into adulthood. <sup>41</sup> Youth who move frequently are at greater risk for chronic conditions and poor physical health and are less likely to have consistent health insurance coverage to prevent or treat adverse health conditions. <sup>42</sup> Youth with residential instability are also at increased risk of teen pregnancy, drug abuse, and depression due to the compounding effects of psychological stress and trauma associated with housing instability. <sup>43</sup> |   |   |
| <b>Notes</b>                         | A widely accepted metric for classifying housing as “affordable” or not is whether housing-related costs are less than or equal to 30 percent of household income. Housing units for which costs and/or household income could not be determined are excluded from the calculation. For the 2023  |   |   |

| Affordable Housing |  |
|--------------------|--|
|                    | Opportunity Index, data at the national and state level refer to 2021; data for counties refer to 2017–2021. |

| Broadband Internet Subscription |   |  |                         |
|---------------------------------|---|--|-------------------------|
| <b>Definition</b>               | The percentage of households with subscriptions to broadband internet service (including both cable and DSL).   |  |                         |
| <b>Year</b>                     | <b>2021</b>   | <b>2022</b>  | <b>2023</b>             |
| <b>National Source</b>          | ACS, Table S2801 [2019]   | ACS, Table S2801 [2016-2020 (Five-year Estimates)] | ACS, Table S2801 [2021] |
| <b>State Source</b>             | ACS, Table S2801 [2019]   | ACS, Table S2801 [2016-2020 (Five-year Estimates)] | ACS, Table S2801 [2021] |
| <b>County Source</b>            | ACS, Table S2801 [2019]   | ACS, Table S2801 [2016-2020 (Five-year Estimates)] | ACS, Table S2801 [2021] |
| <b>Relevance</b>                | <p>Access to broadband internet has increasingly become a requirement for social and economic inclusion in the world we live in today. It delivers services that touch every social determinant of health.<sup>44</sup> Broadband access increases economic stability and access to education and social supports, as well as healthcare. Rural communities face a disproportionate lack of access to broadband due to the lack of internet infrastructure and local internet service providers, hampering economic growth and opportunity in these regions.<sup>45</sup> Without adequate high-speed internet service providers, consumers are forced to go without internet or pay exorbitant costs for subpar internet options such as satellite internet that do not meet the federal standard for high-speed internet (25 mbps download/3 mbps upload). Households in rural areas are less likely to use high-speed internet services and costs can make internet access unaffordable for individuals with lower household incomes.<sup>46</sup> School-age children in households without home internet access are more likely to be in families with lower incomes.<sup>47</sup> Families with low incomes may forego internet service subscriptions when the available options are costly beyond their means, or during times when basic survival needs like food, shelter, and utilities need to take priority over internet access.<sup>48</sup> Without access to high-speed internet, consumers can lose access to job and education opportunities and are more likely to experience social isolation, ultimately perpetuating cycles of socioeconomic exclusion that disproportionately impact low-income communities and communities of color.<sup>49</sup> Lack of reliable broadband access may impact youth's school performance and educational opportunities if they are unable to complete schoolwork at home.<sup>50</sup> Recent research has found that rural adolescents experiencing a lack of home access to broadband increased their disconnection and lowered their self-esteem, likely due to the loss of digital socializing that mediates social exclusion.<sup>51</sup> Broadband access also allows youth to maintain a connection to social and economic networks outside of their immediate community, increasing social adhesion and economic opportunity that can improve long-term outcomes.</p> |  |                         |
| <b>Notes</b>                    | Broadband internet data in the 2023 Opportunity Index at all geographic levels are from 2021.   |  |                         |

| <b>Preschool Enrollment</b>          |   |   |   |
|--------------------------------------|---|---|---|
| <b>Definition</b>                    | The percentage of children, ages three and four, enrolled in public or private nursery school, preschool or kindergarten.   |   |   |
| <b>Year</b>                          | <b>2021</b>   | <b>2022</b>   | <b>2023</b>   |
| <b>National Source</b>               | ACS, Table S1401 [2019]   | ACS, Table S1401 [2016-2020 (Five-year Estimates)]                        | ACS, Table S1401 [2021]   |
| <b>State Source</b>                  | ACS, Table S1401 [2019]   | ACS, Table S1401 [2016-2020 (Five-year Estimates)]                        | ACS, Table S1401 [2021]   |
| <b>County Source</b>                 | ACS, Table S1401 [2015-2019 (Five-year Estimates)]  | ACS, Table S1401 [2016-2020 (Five-year Estimates)]                        | ACS, Table S1401 [2017-2021 (Five-year Estimates)]                        |
| <b>Disaggregated National Source</b> | CPS, Historical Time Series Tables on School Enrollment, Table A-2 [2019]   | CPS, Historical Time Series Tables on School Enrollment, Table A-2 [2020] | CPS, Historical Time Series Tables on School Enrollment, Table A-2 [2021] |
| <b>Relevance</b>                     | The benefits of education begin in early childhood when participation in a good-quality childcare or preschool program gives children a head start on the social, emotional, and learning skills they will need in school and beyond. In addition, increased preschool enrollment has positive effects across the socioeconomic spectrum, such as increased active engagement in playing and reading between mother and child and reduced spending on child care for families that are able to enroll in public preschool. <sup>52</sup> High-poverty, urban, and rural communities all face unmet needs when it comes to preschool due to a combination of lack of providers, lack of quality education opportunities, and lack of financial supports for low-income families and providers serving low-income communities. <sup>53</sup> Increases in preschool enrollment result in increased lifetime earnings, reduced crime, and reliance on public assistance. Research has found that children who attended preschool had “increased high school graduation rates, better jobs, and fewer arrests than those who did not attend preschool.” <sup>54</sup> Stronger socio-emotional and self-regulation skills lend themselves to stable jobs and more positive interpersonal relationships, leading to stronger families and increased upward mobility. |   |   |
| <b>Notes</b>                         | In the 2023 Opportunity Index, data on preschool enrollment for states and the nation refer to 2023, while data for counties refer to the average of 2017–2021.   |   |   |

| <b>High School Graduation</b>        |   |   |   |
|--------------------------------------|---|---|---|
| <b>Definition</b>                    | The percentage of high school freshmen who graduate after four years of high school.  |   |   |
| <b>Year</b>                          | <b>2021</b>   | <b>2022</b>   | <b>2023</b>   |
| <b>National Source</b>               | EDFacts [2019-2020 School Year]   | EDFacts [2020-2021 School Year]                     | EDFacts [2021-2022 School Year]                     |
| <b>State Source</b>                  | EDFacts [2019-2020 School Year]   | EDFacts [2020-2021 School Year]                     | EDFacts [2021-2022 School Year]                     |
| <b>County Source</b>                 | RWJF County Health Rankings [2019-2020 School Year]   | RWJF County Health Rankings [2020-2021 School Year] | RWJF County Health Rankings [2021-2022 School Year] |
| <b>Disaggregated National Source</b> | EdFacts [2018-2019 School Year]   | EdFacts [2019-2020 School Year]                     | N/A   |
| <b>Relevance</b>                     | High school graduation rates can be considered an outcome - the culminating result – rather than a symptom of the contexts within which students live and study. Students facing conflicts at home, financial insecurity, or unexpected pregnancies may all have external pressures contributing to their increased |   |   |

|              |   |
|--------------|---|
|              | likelihood of dropping out of high school prior to acquiring their degree. <sup>55</sup> Communities with higher dropout rates may face other community-level socioeconomic struggles that perpetuate high dropout rates, such as underfunded public school systems. Low-income families are more likely to live in communities with underfunded school systems, creating a positive feedback loop that decreases graduation rates, depresses wages, and negatively impacts school funding. <sup>56</sup> In regions with higher graduation rates, crime rates are lower, and civic participation is higher. Individuals in communities with higher high school graduation rates also earn higher wages, irrespective of their own level of educational attainment. <sup>57</sup> Youth who exit school prior to attaining their high school diploma face limited employment prospects, low wages, and poverty. People who drop out of high school are more likely to report overall poor health and more frequently report suffering from at least one chronic health condition. With each additional year of schooling completed, youth experience a decreased risk of premature death, increased employment prospects, and increased lifelong earning potential. <sup>58</sup> |
| <b>Notes</b> | The Average Cohort Graduation Rate (ACGR) is calculated as “the number of students who graduate in four years with a regular high school diploma, divided by the number of students who form the adjusted cohort of the graduating class. From the beginning of 9th grade (or the earliest high school grade), students who are entering that grade for the first time make up a cohort that is ‘adjusted’ by adding any students who subsequently transfer into the cohort and subtracting any students who subsequently transfer out, emigrate to another country or die.” <sup>59</sup> National, state, and county-level data for this indicator refer to the 2021-2022 school year for the 2023 Opportunity Index. Prior to 2015, the Opportunity Index used a different measure, the Average Freshmen Graduation Rate, that is not comparable to the ACGR. The Department of Education stopped updating the Average Freshman Graduation Rate in 2012, adopting the ACGR as their preference, which is the indicator used in the Index since 2015.   |

| <b>Postsecondary Education</b>       |   |   |   |
|--------------------------------------|---|---|---|
| <b>Definition</b>                    | The percentage of adults ages 25 and older who have completed an associate degree or higher.  |   |   |
| <b>Year</b>                          | <b>2021</b>   | <b>2022</b>   | <b>2023</b>   |
| <b>National Source</b>               | ACS, Table DP02 [2019]  | ACS, Table DP02 [2016-2020 (Five-year Estimates)]             | ACS, Table DP02 [2021]  |
| <b>State Source</b>                  | ACS, Table DP02 [2019]  | ACS, Table DP02 [2016-2020 (Five-year Estimates)]             | ACS, Table DP02 [2021]  |
| <b>County Source</b>                 | ACS, Table DP02 [2015-2019 (Five-year Estimates)]   | ACS, Table DP02 [2016-2020 (Five-year Estimates)]             | ACS, Table DP02 [2017-2021 (Five-year Estimates)]             |
| <b>Disaggregated National Source</b> | CPS, ASEC, Educational Attainment in the U.S., Table 3 [2019]   | CPS, ASEC, Educational Attainment in the U.S., Table 3 [2020] | CPS, ASEC, Educational Attainment in the U.S., Table 3 [2021] |
| <b>Relevance</b>                     | High educational attainment has been linked to better overall health and more positive health behavior. <sup>60</sup> Individuals with more years of schooling experience lower rates of morbidity and mortality. <sup>61</sup> Adults with post-secondary degrees report better overall health in their mid-40s than their high school graduate counterparts. <sup>62</sup> Access to higher education is highly structural. Individuals from low-income communities are more likely to attend lower performance schools experiencing underfunding, leading to |   |   |

|              |  |
|--------------|--|
|              | worse student support and lower individual performance, decreasing post-secondary options. Individuals from low-income communities face personal barriers as well, such as needing to work to support their families, or inadequate financial support to attend a post-secondary educational program. Immigrants are also barred from higher education programs due to the lack of financial support available to them at both the University and federal levels. <sup>63</sup> Youth that go on to attend post-secondary educational programs benefit from increased employment prospects and increased lifelong earning potential, as well as a decreased risk of premature death. |
| <b>Notes</b> | For the 2023 Index, data for states and the nation refer to 2021. County-level data refer to 2017–2021.  |

| <b>Low Birthweight</b>               |   |  |  |
|--------------------------------------|---|--|--|
| <b>Definition</b>                    | The percentage of live births where the infant weighed less than 2,500 grams (approximately 5 lbs., 8 oz.).   |  |  |
| <b>Year</b>                          | <b>2021</b>   | <b>2022</b>                                  | <b>2023</b>                                  |
| <b>National Source</b>               | CDC WONDER [2019]   | CDC WONDER [2020]                            | CDC WONDER [2021]                            |
| <b>State Source</b>                  | CDC WONDER [2019]   | CDC WONDER [2020]                            | CDC WONDER [2021]                            |
| <b>County Source</b>                 | CDC WONDER [2015-2019 (Five-year Estimates)]  | CDC WONDER [2016-2020 (Five-year Estimates)] | CDC WONDER [2017-2021 (Five-year Estimates)] |
| <b>Disaggregated National Source</b> | CDC WONDER [2019]   | CDC WONDER [2020]                            | CDC WONDER [2021]                            |
| <b>Relevance</b>                     | Individuals born with low birthweight have been shown to demonstrate poorer global health, behavior, and physical functioning compared to their healthy birthweight counterparts. <sup>64,65</sup> Pregnant individuals experiencing poverty or living in socioeconomically deprived areas are more likely to give birth to low birthweight infants or give birth preterm due to lower availability of adequate and affordable care in their communities, poorer nutritional intake associated with food insecurity, and generally poorer overall health that leads to worse neonatal outcomes. <sup>66,67</sup> When infants are born with low birthweight, their families experience psychological distress that has been shown to have a negative impact on home environments, affecting the cognitive and socioemotional development of both the low birthweight children and their siblings. <sup>68</sup> Very low birthweight individuals experience poorer educational achievement and fewer continue to post-high-school study than their normal birthweight counterparts, likely due to disrupted neurodevelopmental growth experienced in infancy. <sup>69</sup> Youth who exhibit poorer educational achievement are more likely to drop out of high school and more likely to experience poverty as adults, as well as overall worse health outcomes and higher mortality rates. |  |  |
| <b>Notes</b>                         | The 2023 Index data for states and the nation refer to 2021. Data for counties refer to the average of 2017–2021.   |  |  |

| <b>Health Insurance Coverage</b>     |   |  |  |
|--------------------------------------|---|--|--|
| <b>Definition</b>                    | The percentage of the population under age 65 not covered by health insurance.  |  |  |
| <b>Year</b>                          | <b>2021</b>   | <b>2022</b>  | <b>2023</b>  |
| <b>National Source</b>               | ACS, Table S2701 [2019]   | ACS, Table S2701 [2016-2020 (Five-year Estimates)] | ACS, Table S2701 [2021]                            |
| <b>State Source</b>                  | ACS, Table S2701 [2019]   | ACS, Table S2701 [2016-2020 (Five-year Estimates)] | ACS, Table S2701 [2021]                            |
| <b>County Source</b>                 | ACS, Table S2701 [2015-2019 (Five-year Estimates)]  | ACS, Table S2701 [2016-2020 (Five-year Estimates)] | ACS, Table S2701 [2017-2021 (Five-year Estimates)] |
| <b>Disaggregated National Source</b> | ACS, Table S2701 [2019]   | ACS, Table S2701 [2016-2020 (Five-year Estimates)] | ACS, Table S2701 [2021]                            |
| <b>Relevance</b>                     | <p>There is a strong association between health insurance coverage and access to primary and preventive care, reducing the risk of preventable health problems, severe disease at the time of diagnosis, and premature mortality.<sup>70</sup> Increased access to healthcare leads to overall better health outcomes. Pregnant individuals with adequate access to prenatal healthcare also birth healthier infants, leading to intergenerational health benefits.<sup>71</sup> Access to health insurance is strongly tied to socioeconomic status and family income. Low-income families are more likely to experience gaps in healthcare coverage, leading to decreased access to healthcare and worsened health outcomes. Low-income families may be subject to conditions that increase their risk for health conditions that require treatment, while also experiencing decreased access to care. Among young adults, having any insurance coverage during childhood has been associated with increased engagement in preventive care in later years.<sup>72</sup> Loss of health insurance often results in decreased utilization of preventive care such as mammograms and breast exams, and increased emergency room usage.<sup>73</sup> Both current insurance coverage and a history of routine health visits are associated with greater use of preventive care, which can reduce the risk of serious illness or premature mortality later in life. Previously uninsured children have been shown to experience significant benefits from enrollment in public insurance programs, increasing both access and appropriate use of health care<sup>74</sup> that can bolster health outcomes throughout the life course.</p> |  |  |
| <b>Notes</b>                         | Data for states and the nation refer to 2021 in the 2023 Opportunity Index; data for counties refer to the average of 2017–2021.  |  |  |

| <b>Deaths Related to Alcohol and Drug Use, or Suicide</b> |   |  |                   |
|---|---|--|-------------------|
| <b>Definition</b>   | The age-adjusted number of deaths, per 100,000 population, due to poisoning from drugs (including recreational and prescription drugs) or alcohol, or suicide.  |  |                   |
| <b>Year</b>   | <b>2021</b>   | <b>2022</b>                                  | <b>2023</b>       |
| <b>National Source</b>                                    | CDC WONDER [2019]   | CDC WONDER [2020]                            | CDC WONDER [2021] |
| <b>State Source</b>                                       | CDC WONDER [2019]   | CDC WONDER [2020]                            | CDC WONDER [2021] |
| <b>County Source</b>                                      | CDC WONDER [2015-2019 (Five-year Estimates)]  | CDC WONDER [2016-2020 (Five-year Estimates)] | CDC WONDER [2021] |
| <b>Disaggregated National Source</b>                      | CDC WONDER [2019]   | CDC WONDER [2020]                            | CDC WONDER [2021] |
| <b>Relevance</b>  | A rise in deaths due to drug or alcohol poisoning or suicide, (often referred to as deaths of despair) can indicate community- or society-level conditions that |  |                   |

|              |  |
|--------------|--|
|              | negatively impact opportunity and lifelong outcomes. Deaths of despair are "deeply rooted" in depressed socioeconomic conditions that "shape health behavior and other proximate causes of health inequality." <sup>75</sup> The rise of deaths of despair has been linked to unemployment, underemployment, reduced pay and benefits, social disintegration, and the consequent rise in psychosocial insecurity and stress, all caused by widespread deindustrialization that disproportionately impacted blue-collar communities beginning in the 1970s. <sup>76</sup> Deaths of despair have been linked to a structural lack of communal assistance at every stage of life. <sup>77</sup> Deaths of despair disproportionately impact disenfranchised communities, such as individuals of certain ethnic groups and those living in rural communities. <sup>78</sup> In young adults, feelings of despair have been associated with more suicidal thoughts and behaviors, illicit drug use, and opioid use, <sup>79</sup> putting them at greater risk of premature mortality and chronic health conditions or serious illness that may result from substance use or self-harm attempts. Furthermore, brain alterations have been identified in young people who exhibit suicidal thoughts and behaviors, which typically emerge during adolescence. <sup>80</sup> Suicide is the second leading cause of death for young people ages 10 to 24, <sup>81</sup> making it critically important to understand the factors that influence the risk for deaths of despair at the community level for both youth and their families. |
| <b>Notes</b> | This indicator refers to several reported underlying causes of death compiled by CDC WONDER. The following ICD-10 codes are included: X40-X45, X60-X84 and Y10-Y15. Age-adjusting accounts for localities' variation in their age composition. In the 2023 Opportunity Index, data for national, state, and county levels refer to 2021. For the 2022 Opportunity Index, data for the national and state levels refer to 2020, while county-level data refer to the five-year average for the period 2016-2020.  |

| <b>Volunteering</b>                  |   |  |  |
|--------------------------------------|---|--|--|
| <b>Definition</b>                    | The percentage of adults ages 18 and older who reported performing volunteer work through or for an organization at any time in the previous year.  |  |  |
| <b>Year</b>                          | <b>2021</b>   | <b>2022</b>                              | <b>2023</b>                              |
| <b>National Source</b>               | CPS, Volunteering Supplement [2017/2019]  | CPS, Volunteering Supplement [2019/2021] | CPS, Volunteering Supplement [2019/2021] |
| <b>State Source</b>                  | CPS, Volunteering Supplement [2017/2019]  | CPS, Volunteering Supplement [2019/2021] | CPS, Volunteering Supplement [2019/2021] |
| <b>County Source</b>                 | NA  | NA                                       | NA                                       |
| <b>Disaggregated National Source</b> | CPS, Volunteering Supplement [2017/2019]  | CPS, Volunteering Supplement [2019/2021] | CPS, Volunteering Supplement [2019/2021] |
| <b>Relevance</b>                     | Volunteering is considered a prosocial behavior that benefits both the volunteers themselves and the communities they serve. <sup>82,83</sup> Volunteering has been linked to increased life satisfaction, self-esteem, and self-rated health, as well as increased educational and occupational achievement. <sup>84</sup> Volunteering is critical for strengthening the social fabric of the communities in which we live, providing positive health benefits to people of all ages from youth to the elderly, the latter of which have been shown to experience protective effects on mental and physical health that can combat the health declines that occur with aging. <sup>85</sup> Participation in volunteering is mediated by the contexts in which people live. While volunteering for socially vulnerable groups has been shown to be more positively associated with happiness as income level increased, volunteering was negatively associated with happiness for low-income volunteers. <sup>86</sup> When individuals are unable to adequately meet their |  |  |

|              |   |
|--------------|---|
|              | own basic needs of survival (food, shelter) and safety (employment, personal security), they are unable to commit additional time and energy to others. <sup>87</sup> Youth studies indicate that volunteering reduces the likelihood of high-risk behaviors such as drug abuse and school truancy. <sup>88</sup> Volunteering has been shown to help youth develop habits that carry over into adulthood, <sup>89</sup> setting them up for success later in life. Some research indicates that participation in activities in high school is associated with higher levels of school engagement, <sup>90</sup> reduced levels of depressive symptoms, <sup>91</sup> more favorable health behaviors, <sup>92</sup> and both higher income and education levels later in life. <sup>93</sup>   |
| <b>Notes</b> | Two years of survey responses were pooled to increase the sample available for analysis. This makes for more stable estimates. More recent data from the Current Population Survey and Volunteering supplement was not available at the time of index generation, so data in the 2023 Opportunity Index refers to the average of 2019 and 2021, the same years used in the 2022 Opportunity Index. Starting with the 2018 Opportunity Index this indicator draws from two survey questions: “In the past 12 months, did you spend any time volunteering for any organization or association?” and “Some people don’t think of activities they do infrequently or for children’s schools or youth organizations as volunteer activities. In the past 12 months, have you done any of these types of activities?” In the 2016 and 2017 Indexes, the questions this indicator drew from had different wording: “Since September 1 of last year, have you done any volunteer activities through or for an organization?” and “Sometimes people don’t think of activities they do infrequently or activities they do for children’s schools or youth organizations as volunteer activities. Since September 1 of last year, have you done any of these types of volunteer activities?” Prior to 2016, this indicator relied on the single question, “Since September 1 of last year, have you done any volunteer activities through or for an organization?” |

| <b>Voter Registration</b>            |   |   |   |
|--------------------------------------|---|---|---|
| <b>Definition</b>                    | The percentage of the adult population registered to vote.  |   |   |
| <b>Year</b>                          | <b>2021</b>   | <b>2022</b>   | <b>2023</b>   |
| <b>National Source</b>               | Census Voting and Registration Table 4a [2018/2020]   | Census Voting and Registration Table 4a [2018/2020] | Census Voting and Registration Table 4a [2020/2022] |
| <b>State Source</b>                  | Census Voting and Registration Table 4a [2018/2020]   | Census Voting and Registration Table 4a [2018/2020] | Census Voting and Registration Table 4a [2020/2022] |
| <b>County Source</b>                 | NA  | NA  | NA  |
| <b>Disaggregated National Source</b> | Census Voting and Registration Table 4b [2018/2020]   | Census Voting and Registration Table 4b [2018/2020] | Census Voting and Registration Table 4b [2020/2022] |
| <b>Relevance</b>                     | Voting plays a key role in the allocation of social and structural resources that are associated with population health and health equity. <sup>94</sup> Early evidence suggests that there is a correlation between engagement in the democratic process and improved health outcomes. <sup>95</sup> Especially in circumstances where certain communities disproportionately face barriers to voter participation, they face worse political representation that leads to less inclusive public policy. <sup>96</sup> Counties that have restrictive voting laws, such as voter identification laws and limited polling hours, have been linked to higher mortality rates and increased income and health disparities across racial and ethnic lines. <sup>97</sup> Restrictive voting laws have historically disenfranchised racial/ethnic minorities, influencing health and socioeconomic inequities experienced by these communities. <sup>98</sup> It can also be structurally more difficult for low-income individuals to participate in voting due to their disproportionately low access |   |   |

|              |  |
|--------------|--|
|              | to child care and transportation, their higher likelihood of working multiple jobs with irregular hours, and their higher likelihood of illness and disability impacting their ability to travel to the polls. <sup>99</sup> Studies have shown that preregistration voter initiatives (registering teenagers ages 16-17 at local DMVs or healthcare clinics) and same-day registration policies both increase voter turnout among young voters. <sup>100, 101</sup> Increases in young voters have been linked to increased election of younger representatives. <sup>102</sup> All forms of civic engagement are associated with higher levels of income and education later in life, and voting specifically is shown to be positively associated with improved mental health and health behaviors. <sup>103</sup> By engaging youth in the democratic process early, they are able to influence the makeup of their elected representatives to better serve their interests and unique needs, improving future outcomes for both youth and their respective communities. |
| <b>Notes</b> | Historically, voter registration is higher in presidential election years than in midterm election years. This indicator is updated biannually so that each update provides a rolling average that includes the most recent presidential election year and midterm election year. Because of this, data in the 2023 Opportunity Index are the average of registration rates for 2020 and 2022. Because counties and congressional districts frequently follow different borders, this indicator is calculated at the national and state levels only.   |

| <b>Youth Disconnection</b>           |  |   |   |
|--------------------------------------|--|---|---|
| <b>Definition</b>                    | The percentage of the population ages 16 to 24 who are not enrolled in school and not working or not currently seeking employment.   |   |   |
| <b>Year</b>                          | <b>2021</b>  | <b>2022</b>   | <b>2023</b>   |
| <b>National Source</b>               | ACS Microdata [2019]   | ACS Microdata [2016-2020 (Five-year Estimates)]                         | ACS Microdata [2021]  |
| <b>State Source</b>                  | ACS Microdata [2019]   | ACS Microdata [2016-2020 (Five-year Estimates)]                         | ACS Microdata [2021]  |
| <b>County Source</b>                 | ACS Special Census Tabulation Request [2015-2019 (Five-year Estimates)]  | ACS Special Census Tabulation Request [2016-2020 (Five-year Estimates)] | ACS Special Census Tabulation Request [2017-2021 (Five-year Estimates)] |
| <b>Disaggregated National Source</b> | ACS Microdata [2019]   | ACS Microdata [2016-2020 (Five-year Estimates)]                         | ACS Microdata [2021]  |
| <b>Relevance</b>                     | Youth disconnection from school and work is a symptom of the difficulties disproportionately faced by youth living under adverse conditions. While many people who grow up in difficult situations succeed, they face an uphill battle in doing so. Opportunity youth (young people ages 16 to 24 who are neither working nor enrolled in school) <sup>104</sup> have less access to support systems <sup>105</sup> such as those that are available in learning institutions <sup>106</sup> that may help them get back on track, making it harder for them to overcome disparate conditions they may not be able to navigate on their own. High rates of disconnection can be a result of growing up in a low opportunity area where family income is low, and crime and poverty are high. Parental education levels, unemployment rates, and welfare receipt have also been linked to youth disconnection, all of which disproportionately impact low-income communities that tend to lack social and economic support structures. Areas with low disconnection are often those where education, wealth, and opportunities are higher. Opportunity youth are more likely to experience academic difficulties, teen pregnancies, mental health problems, and poverty. <sup>107</sup> One-third of female opportunity youth are mothers, and most |   |   |

|              |  |
|--------------|--|
|              | (two-thirds) had an unplanned birth. <sup>108</sup> Youth who are disconnected for long periods of time are more likely to receive welfare payments or food stamps, and more likely to have difficulty keeping and getting a job. <sup>109</sup> Youth who are connected to employment and school have the potential to develop closer relationships and interpersonal support networks that generally serve as a protective factor against the development of "diseases of despair" (such as depression or substance use disorders) in early adulthood. <sup>110</sup> Overall, disconnected youth are in need of extra support to get reconnected to needed resources to improve their future outcomes. <sup>111,112</sup> |
| <b>Notes</b> | Data in the 2023 Opportunity Index for states and the nation refer to 2023, while data for counties refer to the average of 2017-2021. National and state data has been sourced from ACS Microdata, while county-level data is sourced from a special tabulation of ACS data by the US Census Bureau.  |

| <b>Violent Crime</b>                 |   |   |   |
|--------------------------------------|---|---|---|
| <b>Definition</b>                    | Total number of violent crimes reported to local law enforcement agencies, per 100,000 people. Violent crimes include homicide, rape, robbery, and assault.   |   |   |
| <b>Year</b>                          | <b>2021</b>   | <b>2022</b>   | <b>2023</b>   |
| <b>National Source</b>               | U.S. Department of Justice, Federal Bureau of Investigation Uniform Crime Reporting, Crime in the U.S. [2019]   | U.S. Department of Justice, Federal Bureau of Investigation Uniform Crime Reporting, Crime in the U.S. [2020]                         | U.S. Department of Justice, Federal Bureau of Investigation Uniform Crime Reporting, Crime in the U.S. [2021]                         |
| <b>State Source</b>                  | U.S. Department of Justice, Federal Bureau of Investigation Uniform Crime Reporting, Crime in the U.S., Analysis by Policy Map [2019]   | U.S. Department of Justice, Federal Bureau of Investigation Uniform Crime Reporting, Crime in the U.S., Analysis by Policy Map [2020] | U.S. Department of Justice, Federal Bureau of Investigation Uniform Crime Reporting, Crime in the U.S., Analysis by Policy Map [2020] |
| <b>County Source</b>                 | U.S. Department of Justice, Federal Bureau of Investigation Uniform Crime Reporting, Crime in the U.S., Analysis by Policy Map [2019]   | U.S. Department of Justice, Federal Bureau of Investigation Uniform Crime Reporting, Crime in the U.S., Analysis by Policy Map [2020] | U.S. Department of Justice, Federal Bureau of Investigation Uniform Crime Reporting, Crime in the U.S., Analysis by Policy Map [2020] |
| <b>Disaggregated National Source</b> | NA  | NA  | NA  |
| <b>Relevance</b>                     | Cycles of violence within a community can become self-perpetuating when economic scarcity and the need for security can encourage residents to become engaged in criminal networks or generally violent behavior in order to survive within the context of an already hostile environment. <sup>113</sup> Areas experiencing high poverty rates often experience more violent crime as well. <sup>114</sup> Socio-cultural environmental stressors such as social fragmentation, racial discrimination, and financial distress have all been linked to increases in violent behavior. Furthermore, impoverished communities are more likely to be the subjects of environmental racism, disproportionately increasing their exposure to byproducts of industrial processes such as heavy metals (like lead) and manmade chemicals (like polychlorinated biphenyls) that are known to increase violent and aggressive behavior by disrupting proper brain function. <sup>115</sup> Youth who are exposed to violence, whether it is within their households or in the surrounding community, experience higher levels of |   |   |

|              |   |
|--------------|---|
|              | stress and increased internalizing symptoms, <sup>116</sup> putting them at significant risk for poor physical and psychological health outcomes. <sup>117,118,119</sup> Children exposed to violence early in life exhibit blunted cortisol responses in their teen years. <sup>120</sup> Consistently high levels of stress and adverse experiences during childhood (known as ACEs) cause dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis (also known as the HPA stress axis), which is considered a risk factor for "many psychological and physical problems across the lifespan," <sup>121</sup> including sleep difficulties and decreased cardiovascular health. <sup>122</sup> Exposure to and experience of violence has also been found significantly impact young people's academic achievement and educational outcomes. Increased social support has been shown to act as a protective factor against the negative impact of violence exposure among urban Black youth, <sup>123</sup> leaving possible room for intervention to increase resiliency and improve long-term outcomes, even after exposure to violence. Parental support, especially maternal support, has also been shown to have a mitigating effect on the detrimental mental health impacts of violence exposure for all adolescents, regardless of race. <sup>124</sup> |
| <b>Notes</b> | Data in the 2023 Opportunity Index at the national level refer to 2021 and are sourced from the Department of Justice FBI Uniform Crime Reporting database. Data in the 2023 Opportunity Index for states and counties refer to 2020 and are sourced from the Department of Justice FBI Uniform Crime Reporting database, compiled and cleaned by Policy Map.   |

| <b>Access to Primary Healthcare</b>  |   |  |  |
|--------------------------------------|---|--|--|
| <b>Definition</b>                    | Number of primary care physicians per 100,000 population.   |  |  |
| <b>Year</b>                          | <b>2021</b>   | <b>2022</b>  | <b>2023</b>  |
| <b>National Source</b>               | Bureau of Health Workforce, Area Health Resources Files [2019]  | Bureau of Health Workforce, Area Health Resources Files [2020] | Bureau of Health Workforce, Area Health Resources Files [2021] |
| <b>State Source</b>                  | Bureau of Health Workforce, Area Health Resources Files [2019]  | Bureau of Health Workforce, Area Health Resources Files [2020] | Bureau of Health Workforce, Area Health Resources Files [2021] |
| <b>County Source</b>                 | Bureau of Health Workforce, Area Health Resources Files [2019]  | Bureau of Health Workforce, Area Health Resources Files [2020] | Bureau of Health Workforce, Area Health Resources Files [2021] |
| <b>Disaggregated National Source</b> | NA  | NA   | NA   |
| <b>Relevance</b>                     | Primary care physicians often act as the first line of defense when it comes to tracking health outcomes, identifying illness early, managing chronic disease, and connecting children and families to much-needed services. PCP supply is associated with an overall improvement in health outcomes. In general, an increase in PCP supply reduces the average mortality rate within a given community, regardless of the cause of death. <sup>125</sup> Primary care is an instrumental part of a robust medical care system; <sup>126</sup> primary care services allow for built-in triaging that provides care to patients earlier than if they were to only seek out specialist care in situations of acute need. Access to primary care has been shown to reduce hospital visits and use of the emergency room. <sup>127</sup> Residents of impoverished communities tend to have more health problems than those in wealthy communities due to environmental exposure, greater workplace injury risk, elevated stress levels, and inadequate access to healthy foods, among other factors. Low-income people are less likely to have health insurance coverage, preventing care access even when it is available, <sup>128</sup> and a decreased supply of primary care physicians may disproportionately impact communities that have a greater need for these physicians. <sup>129, 130</sup> Teenagers face disproportionate access to primary care. |  |  |

|              |   |
|--------------|---|
|              | While younger children are more likely to regularly see a primary care physician, teenagers are much "more likely to have no usual source of care." <sup>131</sup> When teenagers do not have a relationship with a primary care provider, they are less likely to get the care they need to maintain or improve their long-term health outcomes. <sup>132</sup> Research suggests that primary care settings are an important platform for improving the detection and treatment of mental illness in youth. <sup>133</sup> The preventive care that is often performed in a primary care setting can support youth to have a successful and healthy transition into adulthood, whether that means preventing earlier occurrence of chronic illness, or ensuring effective management of pre-existing illness. |
| <b>Notes</b> | Data in the 2023 Opportunity Index refer to 2021. State and national statistics for this indicator are derived from the county-level Area Health Resources Files. The number of primary care physicians includes non-federal physicians who are not currently in a residency program and who are younger than age 75.   |

| <b>Access to Healthy Food</b>        |   |  |  |
|--------------------------------------|---|--|--|
| <b>Definition</b>                    | The number of supermarkets, grocery stores and produce stands per 10,000 residents.   |  |  |
| <b>Year</b>                          | <b>2021</b>   | <b>2022</b>                                    | <b>2023</b>                                    |
| <b>National Source</b>               | Census Bureau, County Business Patterns [2019]  | Census Bureau, County Business Patterns [2020] | Census Bureau, County Business Patterns [2021] |
| <b>State Source</b>                  | Census Bureau, County Business Patterns [2019]  | Census Bureau, County Business Patterns [2020] | Census Bureau, County Business Patterns [2021] |
| <b>County Source</b>                 | Census Bureau, County Business Patterns [2019]  | Census Bureau, County Business Patterns [2020] | Census Bureau, County Business Patterns [2021] |
| <b>Disaggregated National Source</b> | NA  | NA   | NA   |
| <b>Relevance</b>                     | Access to healthy food options is a key element of healthy equity. <sup>134</sup> Increased access to grocery stores and fresh produce allows populations to eat healthier food and stay away from low-nutrient food that could have negative impacts on long-term health and well-being. Health disparities are reinforced by inadequate access to healthy food, which in turn negatively impacts academic performance, employment, and income. Food deserts, or areas with very little access to supermarkets or fresh produce, are often found in low-income communities or communities of color. <sup>135,136</sup> Additionally, even where supermarkets do exist, healthier foods are less frequently stocked in certain neighborhoods <sup>137</sup> due to marketing practices that disproportionately impact lower-income communities of color. Youth are often a target of fast-food advertising, <sup>138</sup> and more likely to shop at convenience stores or corner stores that have limited healthy food options. <sup>139</sup> Unhealthy food items are both more easily accessible and cheaper for youth on limited incomes to acquire on their own. Youth who don't have access to healthy foods are at greater risk of obesity and cardiovascular disease. <sup>140</sup> While health education is a vital component to addressing nutrition issues among youth, food access in the built environment is equally important for ensuring youth and their families are empowered to take agency over their own health, instead of being limited to expensive or unhealthy food options. |  |  |
| <b>Notes</b>                         | NAICS codes 445110 and 445230 are used to gather the number of supermarkets, grocery stores, and produce stands. Data in the 2023 Opportunity Index refer to 2021.  |  |  |

| <b>Incarceration</b>                 |   |  |  |
|--------------------------------------|---|--|--|
| <b>Definition</b>                    | The number of people incarcerated in jails or prisons per 100,000 residents ages 18 and older.  |  |  |
| <b>Year</b>                          | <b>2021</b>   | <b>2022</b>  | <b>2023</b>  |
| <b>National Source</b>               | Bureau of Justice Statistics, Correctional Populations in the United States [2019]  | Bureau of Justice Statistics, Correctional Populations in the United States [2020] | Bureau of Justice Statistics, Correctional Populations in the United States [2021] |
| <b>State Source</b>                  | Bureau of Justice Statistics, Correctional Populations in the United States [2019]  | Bureau of Justice Statistics, Correctional Populations in the United States [2019] | Bureau of Justice Statistics, Correctional Populations in the United States [2019] |
| <b>County Source</b>                 | NA  | NA   | NA   |
| <b>Disaggregated National Source</b> | Bureau of Justice Statistics, Correctional Populations in the United States [2019]  | Bureau of Justice Statistics, Correctional Populations in the United States [2020] | Bureau of Justice Statistics, Correctional Populations in the United States [2021] |
| <b>Relevance</b>                     | <p>Incarceration can have both short-term and long-term effects that negatively impact opportunity. Incarcerated individuals endure significant psychological trauma in response to the complete loss of personal autonomy, severed connection to familial and relational support networks, and chronically heightened stress response resulting from the violence and hostility present in prison environments.<sup>141</sup> It can also be incredibly difficult for previously incarcerated individuals to re-integrate into society, for example, through limited housing and job opportunities.<sup>142,143</sup> Even short durations of incarceration put individuals at increased risk of homelessness upon release,<sup>144</sup> further locking them into cycles of poverty, drug abuse, and violence. This socioeconomic ostracization causes individuals who were previously incarcerated to see high rates of recidivism. Areas of highly concentrated poverty tend to experience more violent crime and increased rates of both policing and incarceration. Individuals in low-income communities of color, disproportionately Black communities, are more likely to interact with the criminal justice system and more likely to experience racial profiling and discrimination and stricter sentencing, putting them at higher risk of incarceration for longer periods of time than other racial groups.<sup>145</sup> Areas with high incarceration rates experience disruptions in family structure and employment networks, resulting in increased social costs for the community. Youth who have an incarcerated parent suffer greatly from the fracturing of their family structure, and are at increased risk for mental health issues or drug abuse.<sup>146,147</sup> Parental incarceration is associated with an increased risk of depression, particularly for youth attending under-resourced schools that may lack adequate student supports.<sup>148</sup> Affected youth are less likely to graduate high school or attend college, and more likely to later experience incarceration themselves.<sup>149</sup> Youth living in families with at least one parent in prison also suffer financially, with one parent often becoming the single household income, putting further strain on parent-child relationships.</p> |  |  |
| <b>Notes</b>                         | The 2023 Opportunity Index corresponds to 2021 data at the national level and 2019 at the state level. Data are not available at the county level.  |  |  |

# Acknowledgments

The 2023 Opportunity Index was jointly created by the Forum for Youth Investment and Child Trends. At Child Trends, Hannah Rackers, Vanessa Sacks, Rebekah Stafford, Gabriella Guerra, and Edwin Crockett prepared this report; Hannah Rackers conducted analyses; Zakia Redd served as senior advisor; Samuel Beckwith provided senior review; and Rebekah Stafford, Edwin Crockett, and Gabriella Guerra collected data and provided invaluable research assistance.

We thank the following Forum for Youth Investment staff members for their contributions: Salem Valentino, Senior Director, Research and Evaluation, and Kim Robinson, Executive Vice President, Youth Program Quality.

For more information, please visit <http://www.Opportunityindex.org> and <http://www.childtrends.org>.

- 
- <sup>1</sup> Nichols, A., Mitchell, J., & Lindner, S. (2013). *Consequences of long-term unemployment*. Urban Institute. <https://www.urban.org/research/publication/consequences-long-term-unemployment>
  - <sup>2</sup> Majeed, H., Baumann, S., & Majeed, H. (2023). Understanding the association between county-level unemployment and health stratified by education and income in the southwestern United States. *Scientific Reports*, 13(1), 21988. <https://doi.org/10.1038/s41598-023-49088-z>
  - <sup>3</sup> Edminston, K. D. (2020, January 1). *Why aren't more people working in low- and moderate-income areas?* Federal Reserve Bank of Kansas City. <https://www.kansascityfed.org/research/economic-review/4q19-edmiston-why-more-people-low-moderate-income-areas/>
  - <sup>4</sup> Hellerstein, J. K., Neumark, D., & McInerney, M. (2008). Spatial mismatch or racial mismatch? *Journal of Urban Economics*, 64(2), 464-479. <https://doi.org/10.1016/j.jue.2008.04.003>
  - <sup>5</sup> Nichols, A., Mitchell, J., & Lindner, S. (2013). *Consequences of long-term unemployment*. Urban Institute. <https://www.urban.org/research/publication/consequences-long-term-unemployment>
  - <sup>6</sup> Maitoza, R. (2019). Family challenges created by unemployment. *Journal of Family Social Work*, 22(2), 187–205. <https://doi.org/10.1080/10522158.2018.1558430>
  - <sup>7</sup> Schaller, J., & Zerpa, M. (2019). Short-run effects of parental job loss on child health. *American Journal of Health Economics*, 5(1), 8-41. [https://doi.org/10.1162/ajhe\\_a\\_00106](https://doi.org/10.1162/ajhe_a_00106)
  - <sup>8</sup> Bartelink, V. H. M., Zay Ya, K., Guldbrandsson, K., & Bremberg, S. (2020). Unemployment among young people and mental health: A systematic review. *Scandinavian Journal of Public Health*, 48(5), 544-558. <https://doi.org/10.1177/1403494819852847>
  - <sup>9</sup> Lee, J. O., Hill, K. G., Hartigan, L. A., Boden, J. M., Guttmanova, K., Kosterman, R., Bailey, J. A. & Catalano, R. F. (2015). Unemployment and substance use problems among young adults: Does childhood low socioeconomic status exacerbate the effect? *Social Science & Medicine*, 143, 36-44. <https://doi.org/10.1016/j.socscimed.2015.08.016>
  - <sup>10</sup> Borges-Mendez, R., Denhardt, L., & Collett, M. (2013). Global and local youth unemployment: Dislocation and pathways. *New England Journal of Public Policy*, 25(1), 7.
  - <sup>11</sup> Kezios, K. L., Lu, P., Calonico, S., & Al Hazzouri, A. Z. (2023). History of low hourly wage and all-cause mortality among middle-aged workers. *The Journal of the American Medical Association*, 329(7), 561–573. <https://doi.org/10.1001/jama.2023.0367>
  - <sup>12</sup> Frieden, T. R. (2013). CDC health disparities and inequalities report - United States, 2013. Foreword. *Morbidity and Mortality Weekly Report Supplements*, 62(3), 1-2. <https://www.cdc.gov/mmwr/preview/mmwrhtml/su6203a2.htm>
  - <sup>13</sup> Owens, A., & Candipan, J. (2019). Social and spatial inequalities of educational opportunity: A portrait of schools serving high-and low-income neighbourhoods in US metropolitan areas. *Urban Studies*, 56(15), 3178-3197. <https://doi.org/10.1177/0042098018815049>
  - <sup>14</sup> American Academy of Family Physicians. (2022). *Poverty and health - The family medicine perspective*. <https://www.aafp.org/about/policies/all/poverty-health.html>
  - <sup>15</sup> Kahneman, D., & Deaton, A. (2010). High income improves evaluation of life but not emotional well-being. *Proceedings of The National Academy of Sciences*, 107(38), 16489-16493. <https://doi.org/10.1073/pnas.1011492107>
  - <sup>16</sup> Cooper, K., & Stewart, K. (2021). Does household income affect children's outcomes? A systematic review of the evidence. *Child Indicators Research*, 14(3), 981-1005. <https://doi.org/10.1007/s12187-020-09782-0>
  - <sup>17</sup> Dodson, L., Albelda, R., Coronado, D. S., & Mtshali, M. (2012). *How youth are put at risk by parents' low-wage jobs*. Center for Social Policy Publications, University of Massachusetts Boston. [https://scholarworks.umb.edu/csp\\_pubs/68/](https://scholarworks.umb.edu/csp_pubs/68/)
  - <sup>18</sup> Office of Disease Prevention and Health Promotion. (n.d.). *Poverty*. U.S. Department of Health and Human Services. <https://health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries/poverty>
  - <sup>19</sup> Chetty, R., Stepner, M., Abraham, S., Lin, S., Scuderi, B., Turner, N., Bergeron, A., & Cutler, D. (2016). The association between income and life expectancy in the United States, 2001–2014. *The Journal of the American Medical Association*, 315(16), 1750-1766. <https://doi.org/10.1001/jama.2016.4226>
  - <sup>20</sup> Holzer, H., Schanzenbach, D. W., Duncan, G. J., & Ludwig, J. (2007). *The economic costs of poverty in the United States: Subsequent effects of children growing up poor*. Center for American Progress. <https://www.americanprogress.org/article/the-economic-costs-of-poverty/>

- 21 Barrett, J. T., Lee, L. K., Monuteaux, M. C., Farrell, C. A., Hoffmann, J. A., & Flegler, E. W. (2022). Association of county-level poverty and inequities with firearm-related mortality in US youth. *JAMA Pediatrics*, 176(2), e214822. <https://doi.org/10.1001/jamapediatrics.2021.4822>
- 22 Hoffmann, J. A., Farrell, C. A., Monuteaux, M. C., Flegler, E. W., Lee, L. K. (2020). Association of pediatric suicide with county-level poverty in the United States, 2007-2016. *JAMA Pediatrics*, 174(3), 287–294. <https://doi.org/10.1001/jamapediatrics.2019.5678>
- 23 Reed, K. (2020, June). *Effects of chronic poverty on youth in the United States*. Ballard Brief. <https://ballardbrief.byu.edu/issue-briefs/effects-of-chronic-poverty-on-youth-in-the-united-states>
- 24 Nurius, P., LaValley, K. & Kim, M. H. (2019). Victimization, poverty, and resilience resources: Stress process considerations for adolescent mental health. *School Mental Health*, 12, 124–135. <https://doi.org/10.1007/s12310-019-09335-z>
- 25 Tiehen, L., Jolliffe, D., & Gundersen, C. (2012). *Alleviating poverty in the United States: The critical role of SNAP benefits*. United States Department of Agriculture. [https://doi.org/10.22004/ag\\_econ.262233](https://doi.org/10.22004/ag_econ.262233)
- 26 Carlson, S., & Neuberger, Z. (2021). *WIC works: Addressing the nutrition and health needs of low-income families for more than four decades*. Center on Budget and Policy Priorities. <https://www.cbpp.org/research/food-assistance/wic-works-addressing-the-nutrition-and-health-needs-of-low-income-families>
- 27 Bischoff, K., & Owens, A. (2019). The segregation of opportunity: Social and financial resources in the educational contexts of lower- and higher-income children, 1990–2014. *Demography*, 56(5), 1635–1664. <https://www.jstor.org/stable/45218056>
- 28 HealthCare.gov. (n.d.). Federal poverty level (FPL). <https://www.healthcare.gov/glossary/federal-poverty-level-fpl/>
- 29 Workman, J. (2022). Inequality begets inequality: Income inequality and socioeconomic achievement gradients across the United States. *Social Science Research*, 107, 102744. <https://doi.org/10.1016/j.ssresearch.2022.102744>
- 30 Kahn, R. S., Wise, P. H., Kennedy, B. P., & Kawachi, I. (2000). State income inequality, household income and maternal mental and physical health: Cross-sectional national survey. *British Medical Journal*, 321, 1311–1315. <https://doi.org/10.1136/bmj.321.7272.1311>
- 31 Standard & Poor's Rating Services. (2014). *How increasing income inequality is dampening U.S. economic growth, and possible ways to change the tide*. [https://www.spglobal.com/\\_division\\_assets/images/special-editorial/how-the-advancement-of-black-women-will-build-a-better-economy-for-all/ratingsdirect\\_\\_28714420\\_jun-07-2021.pdf](https://www.spglobal.com/_division_assets/images/special-editorial/how-the-advancement-of-black-women-will-build-a-better-economy-for-all/ratingsdirect__28714420_jun-07-2021.pdf)
- 32 Backes, E. P., Bonnie, R. J., & National Academies of Sciences, Engineering, & Medicine (2019). Inequity and Adolescence. In E. P. Backes, R. J. Bonnie, & National Academies of Sciences, Engineering, & Medicine (Eds.), *The promise of adolescence: Realizing opportunity for all youth* (pp. 95-145). National Academies Press. <https://doi.org/10.17226/25388>
- 33 Workman, J. (2022). Inequality begets inequality: Income inequality and socioeconomic achievement gradients across the United States. *Social Science Research*, 107, 102744. <https://doi.org/10.1016/j.ssresearch.2022.102744>
- 34 Apaam, G., Burhouse, S., Chu, K., Ernst, K., Fritzdixon, K., Goodstein, R., & Weinstein, J. (2018). *FDIC national survey of unbanked and underbanked households*. Federal Deposit Insurance Corporation. <https://www.fdic.gov/analysis/household-survey/2017/2017report.pdf>
- 35 Wallace, M., & Griffin, K. (2023). *The state of inclusion in the US financial system: Benchmarking progress, gaps, and disparities*. Aspen Institute. <https://www.aspeninstitute.org/publications/the-state-of-the-u-s-inclusive-financial-system-benchmarking-progress-gaps-and-disparities/>
- 36 Muat, S., Mahdzan, N. S., & Sukor, M. E. A. (2024). What shapes the financial capabilities of young adults in the US and Asia-Pacific region? A systematic literature review. *Humanities and Social Sciences Communications*, 11(1), 1-15. <https://doi.org/10.1057/s41599-023-02588-9>
- 37 Creamer, J., & Warren, L. (2022). *Unbanked and impoverished? Exploring banking and poverty interactions over time* (Working Paper No. SEHSD-WP2022-16). U.S. Census Bureau. <https://www.census.gov/library/working-papers/2022/demo/SEHSD-wp2022-16.html>
- 38 Eckel, M. (2022). *Data sheet: Young adult and financial well-being*. Asset Funders Network. <https://assetfunders.org/resource/data-sheet-young-adult-financial-well-being/>
- 39 Taylor, L. A. (2018). *Housing and health: An overview of the literature*. Health Affairs Health Policy Brief. <https://doi.org/10.1377/hpb20180313.396577>
- 40 Office of Disease Prevention and Health Promotion. (n.d.). *Housing instability*. U.S. Department of Health and Human Services. <https://health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries/housing-instability>
- 41 Holme, J. J. (2022). Growing up as rents rise: How housing affordability impacts children. *Review of Educational Research*, 92(6), 953-995. <https://doi.org/10.3102/00346543221079416>
- 42 Ibid.
- 43 Taylor, L. A. (2018). *Housing and health: An overview of the literature*. Health Affairs Health Policy Brief. <https://doi.org/10.1377/hpb20180313.396577>
- 44 Turcios, Y. (2023, March 22). *Digital access: A super determinant of health*. Substance Abuse and Mental Health Services Administration. <https://www.samhsa.gov/blog/digital-access-super-determinant-health>
- 45 Prieger, J. E. (2013). The broadband digital divide and the economic benefits of mobile broadband for rural areas. *Telecommunications Policy*, 37(6-7), 483-502. <https://doi.org/10.1016/j.telpol.2012.11.003>
- 46 Tomer, A., Fishbane, L., Siefer, A., & Callahan, B. (2020). *Digital Prosperity: How broadband can deliver health and equity to all communities*. Brookings Institution. <https://www.brookings.edu/articles/digital-prosperity-how-broadband-can-deliver-health-and-equity-to-all-communities/>
- 47 National Telecommunications and Information Administration. (n.d.). *Digital divide among school-age children narrows, but millions still lack internet connections*. United States Department of Commerce. <https://www.ntia.gov/blog/2018/digital-divide-among-school-age-children-narrows-millions-still-lack-internet-connections>
- 48 Rhinesmith, C., Reisdorf, B., & Bishop, M. (2019). The ability to pay for broadband. *Communication Research and Practice*, 5(2), 121–138. <https://doi.org/10.1080/22041451.2019.1601491>

- 49 Reddick, C. G., Enriquez, R., Harris, R. J., & Sharma, B. (2020). Determinants of broadband access and affordability: An analysis of a community survey on the digital divide. *Cities*, 106, 102904. <https://doi.org/10.1016/j.cities.2020.102904>
- 50 National Telecommunications and Information Administration. (2018). *Digital divide among school-age children narrows, but millions still lack internet connections*. United States Department of Commerce. <https://www.ntia.gov/blog/2018/digital-divide-among-school-age-children-narrows-millions-still-lack-internet-connections>
- 51 Hampton, K. N., & Shin, I. (2023). Disconnection more problematic for adolescent self-esteem than heavy social media use: Evidence from access inequalities and restrictive media parenting in rural America. *Social Science Computer Review*, 41(2), 626-647. <https://doi.org/10.1177/0894439322117466>
- 52 Cascio, E. U., & Schanzenbach, D. W. (2013). *The impacts of expanding access to high-quality preschool education*. Brookings Institution. <https://www.brookings.edu/articles/the-impacts-of-expanding-access-to-high-quality-preschool-education/>
- 53 Annie E. Casey Foundation. (2023, October 24). *Low preschool enrollment rates threaten to worsen student achievement*. <https://www.aecf.org/blog/low-preschool-enrollment-rates-threaten-to-worsen-student-achievement>
- 54 Terada, Y. (2019). *Benefits of preschool attendance pass to the next generation*. Edutopia. <https://www.edutopia.org/article/benefits-preschool-attendance-pass-next-generation/>
- 55 Office of Disease Prevention and Health Promotion. (n.d.). *High school graduation*. U.S. Department of Health and Human Services. <https://health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries/high-school-graduation>
- 56 Ibid.
- 57 Messacar, D., & Oreopoulos, P. (2013). Staying in school: A proposal for raising high-school graduation rates. *Issues in Science and Technology*, 29(2), 55-61.
- 58 Ibid.
- 59 National Center for Education Statistics. (n.d.). Trends in high school dropout and completion rates in the United States. Institute of Education Sciences. [https://nces.ed.gov/programs/dropout/ind\\_o4.asp](https://nces.ed.gov/programs/dropout/ind_o4.asp)
- 60 Skalamera, J., & Hummer, R. A. (2016). Educational attainment and the clustering of health-related behavior among US young adults. *Preventive Medicine*, 84, 83-89. <https://doi.org/10.1016/j.ypmed.2015.12.011>
- 61 Walsemann, K. M., Gee, G. C., & Ro, A. (2013). Educational attainment in the context of social inequality: New directions for research on education and health. *American Behavioral Scientist*, 57(8), 1082-1104. <https://doi.org/10.1177/0002764213487346>
- 62 Zajacova, A., Hummer, R. A., & Rogers, R. G. (2012). Education and health among US working-age adults: A detailed portrait across the full educational attainment spectrum. *Biodemography and Social Biology*, 58(1), 40-61. <https://doi.org/10.1080/19485565.2012.666122>
- 63 Walsemann, K. M., Gee, G. C., & Ro, A. (2013). Educational attainment in the context of social inequality: New directions for research on education and health. *American Behavioral Scientist*, 57(8), 1082-1104. <https://doi.org/10.1177/0002764213487346>
- 64 Zwicker, J. G., & Harris, S. R. (2008). Quality of life of formerly preterm and very low birth weight infants from preschool age to adulthood: A systematic review. *Pediatrics*, 121(2), e366-e376. <https://doi.org/10.1542/peds.2007-0169>
- 65 Mathewson, K. J., Chow, C. H., Dobson, K. G., Pope, E. I., Schmidt, L. A., & Van Lieshout, R. J. (2017). Mental health of extremely low birth weight survivors: A systematic review and meta-analysis. *Psychological Bulletin*, 143(4), 347-383. <https://doi.org/10.1037/bul0000091>
- 66 O'Regan, K., & Wiseman, M. (1989). Birth weights and the geography of poverty. *Focus*, 12(1).
- 67 Cubbin, C., Kim, Y., Vohra-Gupta, S., & Margerison, C. (2020). Longitudinal measures of neighborhood poverty and income inequality are associated with adverse birth outcomes in Texas. *Social Science & Medicine*, 245, 112665. <https://doi.org/10.1016/j.socscimed.2019.112665>
- 68 Treyvaud, K. (2014). Parent and family outcomes following very preterm or very low birth weight birth: A review. *Seminars in Fetal and Neonatal Medicine*, 19(2), 131-135. <https://doi.org/10.1016/j.siny.2013.10.008>
- 69 Hack, M. (2006). Young adult outcomes of very-low-birth-weight children. *Seminars in Fetal and Neonatal Medicine*, 11(2), 127-137. <https://doi.org/10.1016/j.siny.2005.11.007>
- 70 Hoffman, C., & Paradise, J. (2008). Health insurance and access to health care in the United States. *Annals of the New York Academy of Sciences*, 1136(1), 149-160. <https://doi.org/10.1196/annals.1425.007>
- 71 Institute of Medicine (US) Committee on the Consequences of Uninsurance. (2002). Health-related outcomes for children, pregnant women, and newborns. In *Health insurance is a family matter*. National Academies Press. <https://www.ncbi.nlm.nih.gov/books/NBK221019/>
- 72 Horne, G., Gautam, A., & Tumin, D. (2022). Short-and long-term health consequences of gaps in health insurance coverage among young adults. *Population Health Management*, 25(3), 399-406. <https://doi.org/10.1089/pop.2021.0211>
- 73 Tello-Trillo, D. S. (2021). Effects of losing public health insurance on preventative care, health, and emergency department use: Evidence from the TennCare disenrollment. *Southern Economic Journal*, 88(1), 322-366. <https://doi.org/10.1002/soej.12504>
- 74 Institute of Medicine (US) Committee on the Consequences of Uninsurance. (2002). Health-related outcomes for children, pregnant women, and newborns. In *Health insurance is a family matter*. National Academies Press. <https://www.ncbi.nlm.nih.gov/books/NBK221019/>
- 75 King, L., Scheiring, G., & Nosrati, E. (2022). Deaths of despair in comparative perspective. *Annual Review of Sociology*, 48, 299-317. <https://doi.org/10.1146/annurev-soc-030320-031757>
- 76 Ibid.
- 77 Sterling, P., & Platt, M. L. (2022). Why deaths of despair are increasing in the US and not other industrial nations—insights from neuroscience and anthropology. *JAMA Psychiatry*, 79(4), 368-374. <https://doi.org/10.1001/jamapsychiatry.2021.4209>
- 78 Knapp, E. A., Bilal, U., Dean, L. T., Lazo, M., & Celentano, D. D. (2019). Economic insecurity and deaths of despair in US counties. *American Journal of Epidemiology*, 188(12), 2131-2139. <https://doi.org/10.1093/aje/kwz103>
- 79 Copeland, W. E., Gaydos, L., Hill, S. N., Godwin, J., Harris, K. M., Costello, J., & Shanahan, L. (2020). Associations of despair with suicidality and substance misuse among young adults. *JAMA Network Open*, 3(6), e208627. <https://doi.org/10.1001/jamanetworkopen.2020.8627>

- <sup>80</sup> Van Velzen, L. S., Dauvermann, M. R., Colic, L., Villa, L. M., Savage, H. S., Toenders, Y. J., & Schmaal, L. (2022). Structural brain alterations associated with suicidal thoughts and behaviors in young people: Results from 21 international studies from the ENIGMA Suicidal Thoughts and Behaviours consortium. *Molecular Psychiatry*, 27(11), 4550-4560. <https://doi.org/10.1038/s41380-022-01734-0>
- <sup>81</sup> Curtin, S.C., Tejada-Vera B., Bastian, B.A. (2024). Deaths: Leading causes for 2021. *National Vital Statistics Reports*, 73(4). <https://dx.doi.org/10.15620/cdc/147882>.
- <sup>82</sup> Piliavin, J. A. (2009). Volunteering across the life span: Doing well by doing good. In S. Stürmer & M. Snyder (Eds.), *The psychology of prosocial behavior: Group processes, intergroup relations, and helping* (pp. 157–172). Wiley-Blackwell. <https://doi.org/10.1002/9781444307948.ch8>
- <sup>83</sup> Benenson, J., & Stagg, A. (2016). An asset-based approach to volunteering: Exploring benefits for low-income volunteers. *Nonprofit and Voluntary Sector Quarterly*, 45(1S), 131S-149S. <https://doi.org/10.1177/0899764015604739>
- <sup>84</sup> Wilson, J. (2000). Volunteering. *Annual Review of Sociology*, 26(1), 215-240. <https://doi.org/10.1146/annurev.soc.26.1.215>
- <sup>85</sup> Morrow-Howell, N., Hinterlong, J., Rozario, P. A., & Tang, F. (2003). Effects of volunteering on the well-being of older adults. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 58(3), S137-S145. <https://doi.org/10.1093/geronb/58.3.S137>
- <sup>86</sup> Lee, M. A. (2019). Volunteering and happiness: Examining the differential effects of volunteering types according to household income. *Journal of Happiness Studies*, 20(3), 795-814. <https://doi.org/10.1007/s10902-018-9968-0>
- <sup>87</sup> Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370–396. <https://doi.org/10.1037/h0054346>
- <sup>88</sup> Wilson, J. (2000). Volunteering. *Annual Review of Sociology*, 26(1), 215-240. <https://doi.org/10.1146/annurev.soc.26.1.215>
- <sup>89</sup> Moore, C. W., & Allen, J. P. (1996). The effects of volunteering on the young volunteer. *Journal of Primary Prevention*, 17(2), 231-258. <https://doi.org/10.1007/BF02248794>
- <sup>90</sup> Bang, H., Won, D., & Park, S. (2020). School engagement, self-esteem, and depression of adolescents: The role of sport participation and volunteering activity and gender differences. *Children and Youth Services Review*, 113, 105012. <https://doi.org/10.1016/j.childyouth.2020.105012>
- <sup>91</sup> Ibid.
- <sup>92</sup> Ballard, P. J., Hoyt, L. T., & Pachucki, M. C. (2019). Impacts of adolescent and young adult civic engagement on health and socioeconomic status in adulthood. *Child development*, 90(4), 1138-1154. <https://doi.org/10.1111/cdev.12998>
- <sup>93</sup> Ibid.
- <sup>94</sup> Stanicki, B., Grade, M., Pacheco, J., Dugan, L., Salerno, A., & Martin, A. (2023). Expanding voter registration to clinical settings to improve health equity. *Health Services Research*, 58(5), 970. <https://doi.org/10.1111/1475-6773.14218>
- <sup>95</sup> Ibid.
- <sup>96</sup> Yagoda, N. (2019). Addressing health disparities through voter engagement. *The Annals of Family Medicine*, 17(5), 459-461. <https://doi.org/10.1370/afm.2441>
- <sup>97</sup> Stanicki, B., Grade, M., Pacheco, J., Dugan, L., Salerno, A., & Martin, A. (2023). Expanding voter registration to clinical settings to improve health equity. *Health Services Research*, 58(5), 970. <https://doi.org/10.1111/1475-6773.14218>
- <sup>98</sup> Ibid.
- <sup>99</sup> Ibid.
- <sup>100</sup> Holbein, J. B., & Hillygus, D. S. (2017). Erratum to “Making young voters: The impact of preregistration on youth turnout.” *American Journal of Political Science*, 61(2), 505–507. <http://www.jstor.org/stable/26384747>
- <sup>101</sup> Grumbach, J. M., & Hill, C. (2022). Rock the registration: Same day registration increases turnout of young voters. *The Journal of Politics*, 84(1), 405-417. <https://doi.org/10.1086/714776>
- <sup>102</sup> Koukal, A. M., Schafer, P., & Eichenberger, R. (2024). Empowering the next generation: The role of direct democracy in youth enfranchisement. *European Journal of Political Economy*, 81(102507). <https://doi.org/10.1016/j.ejpeleo.2024.102507>
- <sup>103</sup> Ballard, P. J., Hoyt, L. T., & Pachucki, M. C. (2019). Impacts of adolescent and young adult civic engagement on health and socioeconomic status in adulthood. *Child Development*, 90(4), 1138-1154. <https://doi.org/10.1111/cdev.12998>
- <sup>104</sup> Welti, K., Beckwith, S. & Murphy, K. (2022). *Understanding the sexual and reproductive health of opportunity youth*. Child Trends. <https://activatecollective.org/resource/understanding-sexual-reproductive-health-opportunity-youth>
- <sup>105</sup> Hair, E. C., Moore, K. A., Ling, T. J., McPhee-Baker, C., & Brown, B. V. (2009). *Youth who are “disconnected” and those who then reconnect: Assessing the influence of family, programs, peers and communities*. Child Trends. <https://www.researchgate.net/publication/238693464>
- <sup>106</sup> Bloom, D., Thompson, S. L., & Ivry, R. (2010). *Building a learning agenda around disconnected youth*. Manpower Demonstration Research Corporation. <https://www.mdr.org/work/publications/building-learning-agenda-around-disconnected-youth>
- <sup>107</sup> Hair, E. C., Moore, K. A., Ling, T. J., McPhee-Baker, C., & Brown, B. V. (2009). *Youth who are “disconnected” and those who then reconnect: Assessing the influence of family, programs, peers and communities*. Child Trends. <https://www.researchgate.net/publication/238693464>
- <sup>108</sup> Welti, K., Beckwith, S. & Murphy, K. (2022). *Understanding the sexual and reproductive health of opportunity youth*. Child Trends. <https://activatecollective.org/resource/understanding-sexual-reproductive-health-opportunity-youth>
- <sup>109</sup> Ibid.
- <sup>110</sup> Dupéré, V., Dion, E., Pelletier-Dumas, M., Lacourse, E., Archambault, I., Cantin, S., & Ahn, J. S. (2024). Diseases of despair in early adulthood: The complex role of social relationships. *Developmental Psychology*. Advance online publication. <https://doi.org/10.1037/dev0001716>
- <sup>111</sup> Offiong, A., Lewis, Q., & Powell, T. W. (2020). Making success tangible: Reengaging female opportunity youth in Baltimore, MD. *Perspectives in Public Health*, 140(4), 187-189. <https://doi.org/10.1177/1757913920921195>
- <sup>112</sup> Mendelson, T., Mmari, K., Blum, R. W., Catalano, R. F., & Brindis, C. D. (2018). Opportunity youth: Insights and opportunities for a public health approach to reengage disconnected teenagers and young adults. *Public Health Reports*, 133(1S), 54S–64S. <https://doi.org/10.1177/0033354918799344>

- <sup>113</sup> Karandinos, G., Hart, L. K., Montero Castrillo, F., & Bourgois, P. (2014). The moral economy of violence in the US inner city. *Current Anthropology*, 55(1), 1-22. <https://doi.org/10.1086/674613>
- <sup>114</sup> Stretesky, P. B., Schuck, A. M., & Hogan, M. J. (2004). Space matters: An analysis of poverty, poverty clustering, and violent crime. *Justice Quarterly*, 21(4), 817-841. <https://doi.org/10.1080/07418820400096001>
- <sup>115</sup> Hwang, L. (2007). Environmental stressors and violence: Lead and polychlorinated biphenyls. *Reviews on Environmental Health*, 22(4), 313-328. <https://doi.org/10.1515/REVEH.2007.22.4.313>
- <sup>116</sup> Donnelly, R., & Holzer, K. (2018). The moderating effect of parental support: internalizing symptoms of emerging adults exposed to community violence. *Journal of Evidence-Informed Social Work*, 15(5), 564-578. <https://doi.org/10.1080/23761407.2018.1495139>
- <sup>117</sup> Self-Brown, S., LeBlanc, M., & Kelley, M. L. (2004). Effects of violence exposure and daily stressors on psychological outcomes in urban adolescents. *Journal of Traumatic Stress*, 17(6), 519-527. <https://doi.org/10.1007/s10960-004-5801-0>
- <sup>118</sup> Fowler, P. J., Tompsett, C. J., Braciszewski, J. M., Jacques-Tiura, A. J., & Balthes, B. B. (2009). Community violence: A meta-analysis on the effect of exposure and mental health outcomes of children and adolescents. *Development and Psychopathology*, 21(1), 227-259. <https://doi.org/10.1017/S0954579409000145>
- <sup>119</sup> Wright, A. W., Austin, M., Booth, C., & Kliewer, W. (2017). Systematic review: Exposure to community violence and physical health outcomes in youth. *Journal of Pediatric Psychology*, 42(4), 364-378. <https://doi.org/10.1093/jpepsy/jsw088>
- <sup>120</sup> Peckins, M. K., Roberts, A. G., Hein, T. C., Hyde, L. W., Mitchell, C., Brooks-Gunn, J., McLanahan, S. S., Monk, C. S., & Lopez-Duran, N. L. (2020). Violence exposure and social deprivation is associated with cortisol reactivity in urban adolescents. *Psychoneuroendocrinology*, 111, 104426. <https://doi.org/10.1016/j.psyneuen.2019.104426>
- <sup>121</sup> Ibid.
- <sup>122</sup> Wright, A. W., Austin, M., Booth, C., & Kliewer, W. (2017). Systematic review: Exposure to community violence and physical health outcomes in youth. *Journal of Pediatric Psychology*, 42(4), 364-378. <https://doi.org/10.1093/jpepsy/jsw088>
- <sup>123</sup> Benhorin, S., & McMahon, S. D. (2008). Exposure to violence and aggression: Protective roles of social support among urban African American youth. *Journal of Community Psychology*, 36(6), 723-743. <https://doi.org/10.1002/jcop.20252>
- <sup>124</sup> Donnelly, R., & Holzer, K. (2018). The moderating effect of parental support: Internalizing symptoms of emerging adults exposed to community violence. *Journal of Evidence-Informed Social Work*, 15(5), 564-578. <https://doi.org/10.1080/23761407.2018.1495139>
- <sup>125</sup> Macinko, J., Starfield, B., & Shi, L. (2007). Quantifying the health benefits of primary care physician supply in the United States. *International Journal of Health Services*, 37(1), 111-126. <https://doi.org/10.2190/3431-G6T7-37M8-P224>
- <sup>126</sup> Shi, L. (2012). The impact of primary care: A focused review. *Scientifica*, 2012. <https://doi.org/10.6064/2012/432892>
- <sup>127</sup> Ibid.
- <sup>128</sup> Shi, L., Lebrun-Harris, L. A., Daly, C. A., Sharma, R., Sripathana, A., Hayashi, A. S., & Ngo-Metzger, Q. (2013). Reducing disparities in access to primary care and patient satisfaction with care: The role of health centers. *Journal of Health Care for the Poor and Underserved*, 24(1), 56-66. <https://doi.org/10.1353/hpu.2013.0022>
- <sup>129</sup> Ward, P. R. (2009). The relevance of equity in health care for primary care: Creating and sustaining a 'fair go, for a fair innings'. *Quality in Primary Care*, 17, 49-54.
- <sup>130</sup> Polsky, D., Candon, M., Saloner, B., Wissoker, D., Hempstead, K., Kenney, G. M., & Rhodes, K. (2017). Changes in primary care access between 2012 and 2016 for new patients with Medicaid and private coverage. *JAMA Internal Medicine*, 177(4), 588-590. <https://doi.org/10.1001/jamainternmed.2016.9662>
- <sup>131</sup> Burns, M. E., & Leininger, L. J. (2012). Understanding the gap in primary care access and use between teens and younger children. *Medical Care Research and Review*, 69(5), 581-601. <https://doi.org/10.1177/1077558712453335>
- <sup>132</sup> Ibid.
- <sup>133</sup> McGorry, P. D., Mei, C., Chanan, A., Hodges, C., Alvarez-Jimenez, M., & Killackey, E. (2022). Designing and scaling up integrated youth mental health care. *World Psychiatry*, 21(1), 61-76. <https://doi.org/10.1002/wps.20938>
- <sup>134</sup> Hawkins, M., & Panzera, A. (2021). Food insecurity: A key determinant of health. *Archives of Psychiatric Nursing*, 35(1), 113-117. <https://doi.org/10.1016/j.apnu.2020.10.011>
- <sup>135</sup> Kolak, M., Bradley, M., Block, D. R., Pool, L., Garg, G., Toman, C. K., Boatright, K., Lipiszko, D., Koschinsky, J., Kershaw, K., Carnethon, M., Isakova, T., & Wolf, M. (2018). Urban foodscape trends: Disparities in healthy food access in Chicago, 2007-2014. *Health & Place*, 52, 231-239. <https://doi.org/10.1016/j.healthplace.2018.06.003>
- <sup>136</sup> Walker, R. E., Keane, C. R., & Burke, J. G. (2010). Disparities and access to healthy food in the United States: A review of food deserts literature. *Health & Place*, 16(5), 876-884. <https://doi.org/10.1016/j.healthplace.2010.04.013>
- <sup>137</sup> Krukowski, R. A., West, D. S., Harvey-Berino, J., & Elaine Prewitt, T. (2010). Neighborhood impact on healthy food availability and pricing in food stores. *Journal of Community Health*, 35, 315-320. <https://doi.org/10.1007/s10900-010-9224-y>
- <sup>138</sup> Epstein, L. H., Handley, E. A., Dearing, K. K., Cho, D. D., Roemmich, J. N., Paluch, R. A., Raja, S., Pak, Y., & Spring, B. (2006). Purchases of Food in Youth: Influence of Price and Income. *Psychological Science*, 17(1), 82-89. <https://doi.org/10.1111/j.1467-9280.2005.01668.x>
- <sup>139</sup> Larson, N., & Story, M. (2009). A review of environmental influences on food choices. *Annals of Behavioral Medicine*, 38(S1), S56-S73. <https://doi.org/10.1007/s12160-009-9120-9>
- <sup>140</sup> Zewdie, H., Zhao, A. Y., Patel, H. H., Hansen, E., Messiah, S. E., Armstrong, S. C., Skinner, A. C., Neshteruk, C. D., Hipp, J. A., & D'Agostino, E. M. (2021). The association between neighborhood quality, youth physical fitness, and modifiable cardiovascular disease risk factors. *Annals of Epidemiology*, 57, 30-39. <https://doi.org/10.1016/j.annepidem.2021.02.004>
- <sup>141</sup> Haney, C. (2012). Prison effects in the era of mass incarceration. *The Prison Journal*. <https://doi.org/10.1177/0032885512448604>
- <sup>142</sup> Forman Jr., J. (2012). Racial critiques of mass incarceration: Beyond the new Jim Crow. *New York University Law Review*, 87, 101-146.

---

<sup>143</sup> Freudenberg, N. (2002). Adverse effects of US jail and prison policies on the health and well-being of women of color. *American Journal of Public Health*, 92(12), 1895-1899. <https://doi.org/10.2105/AJPH.92.12.1895>

<sup>144</sup> Ibid.

<sup>145</sup> Kamalu, N. C., Coulson-Clark, M., & Kamalu, N. M. (2010). Racial disparities in sentencing: Implications for the criminal justice system and the African American community. *African Journal of Criminology and Justice Studies*, 4(1).

<sup>146</sup> Murray, J., & Farrington, D. P. (2008). The effects of parental imprisonment on children. *Crime and Justice*, 37(1), 133-206. <https://doi.org/10.1086/520070>

<sup>147</sup> Murray, J., Farrington, D. P., Sekol, I., & Olsen, R. F. (2009). Effects of parental imprisonment on child antisocial behaviour and mental health: A systematic review. *Campbell Systematic Reviews*, 5(1), 1-105. <https://doi.org/10.4073/csr.2009.4>

<sup>148</sup> Jones, A., Buntman, F., Ishizawa, H., & Lese, K. (2024). The mental health consequences of parental incarceration: Evidence from a nationally representative longitudinal study of adolescents through adulthood in the United States. *American Journal of Criminal Justice*, 49, 1-24. <https://doi.org/10.1007/s12103-022-09689-2>

<sup>149</sup> Hagan, J., & Foster, H. (2012). Children of the American prison generation: Student and school spillover effects of incarcerating mothers. *Law & Society Review*, 46(1), 37-69. <https://www.jstor.org/stable/41475253>