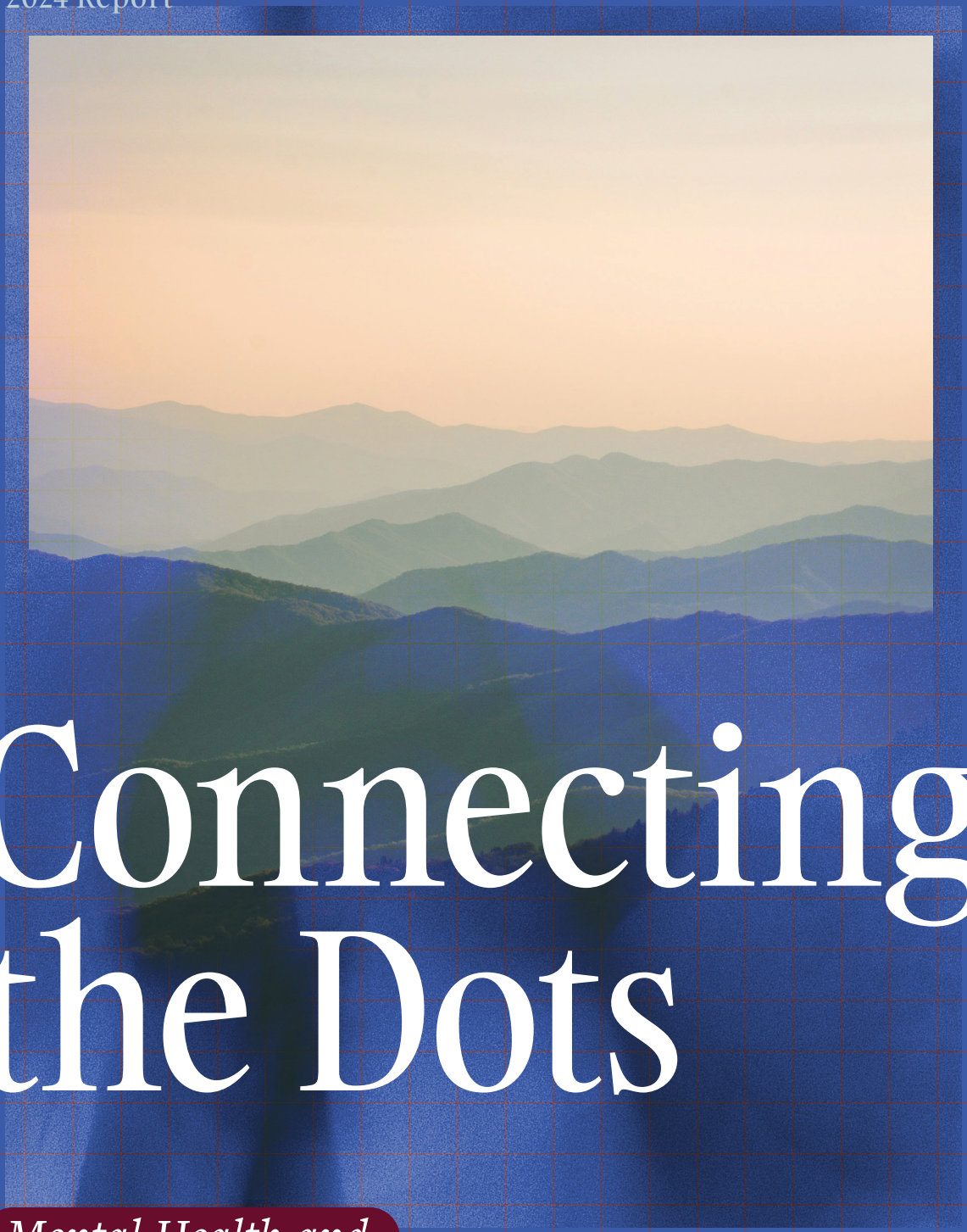
2024 Report



Connecting the Dots

Mental Health and Student Success in Tennessee

A COLLABORATION BETWEEN BELMONT DATA COLLABORATIVE, NASHVILLEHEALTH, & SCORE

Connecting the Dots

Mental Health and Student Success in Tennessee

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Young people are struggling with mental health.

This is true across the United States, and it is certainly true in Tennessee. There is a lot of data to back up this reality, and you will find plenty of it in the pages that follow. Young people are reporting more anxiety, thoughts of suicide, and depression than ever before—and parents are keenly aware of the suffering their children are facing.

The crisis of youth mental health is too big for just one group to solve. It cannot solely rest on the shoulders of schools or health-care providers. It demands collective recognition and action from all of us to address this pressing issue. Schools, education systems, parents, community leaders, and policymakers have a remarkable opportunity to continue coming alongside students and their families to address the mental health crisis. Through raising awareness about mental health and providing mentorship and spaces to talk about experiences with mental illness, our schools can support the work of parents and mental health professionals to respond in a way that improves the lives of our young people. Providing appropriate mental health support leads to improved academic performance, higher graduation rates, and increased college attendance and completion.

But to be really effective, schools, parents, community leaders, and decision-makers need to better understand the shape of the challenges. That's what *Connecting the Dots* is about. The Belmont Data Collaborative took a close look at what some of the best available data can tell us about the mental health struggles of young people in the state—and where schools can seize on open doors to make a difference.

In this report, we seek to model the kind of collaborative approach we think successful interventions must follow. The Belmont Data Collaborative's guiding star is our commitment to data for diversity.

Diversity of Person

From the beginning, we brought together people with unique perspectives to inform this work—voices from the community, voices from industry, voices from academia. This helped us ensure we were focused in a way that allowed the inclusion of experiences and views that are sometimes overlooked. In this report, we use data as a call to action by illuminating stories that inspire Tennesseans to continue the conversation by bringing diverse solutions and resources to bear.

Diversity of Thought

Data is a powerful convener of people, communities, and sectors who bring a broad array of frameworks to the challenges of mental health and student success. We crafted this report to maximize this draw and open our audience to information and approaches they might not have been exposed to before. In this way, we use data as a tool to gather the most diverse cross-section of stakeholders possible to participate in a conversation that can move us all closer to actionable, effective solutions.

Diversity of Perspective

When people alter their perspective, grand change can follow. We believe that data can be the catalyst for this kind of shift in perspective. Through this report, we want to connect the dots that will help all kinds of people in Tennessee come to a clear understanding of how a community's structure—from the built environment, resources, and funding allocations to patterns of behaviors and the interactions between people and systems—fundamentally condition a person's ability to thrive. This is precisely why looking at data at the right level of granularity is so important.

More than anything, we hope that *Connecting the Dots* motivates you to consider what action you can take to help address the crisis around mental health and student success in Tennessee. Our plan is not to send this report out into the world and be done. With our partners at the State Collaborative on Reforming Education (SCORE) and NashvilleHealth, the Belmont Data Collaborative is ready to continue the conversation with you to enact lasting change for our state and for our young people.

Mental Health
At a Glance

Top 10 Vulnerable Counties in Tennessee

RANK	COUNTY	REGION
1	Hancock County	East
2	Lake County	West
3	Haywood County	West
4	Hardeman County	West
5	Perry County	Middle
6	Laurderdale County	West
7	Grundy County	Middle
8	White County	Middle
9	Wayne County	Middle
10	Grainger County	East

Top 10 Vulnerable Zip Codes in Tennessee

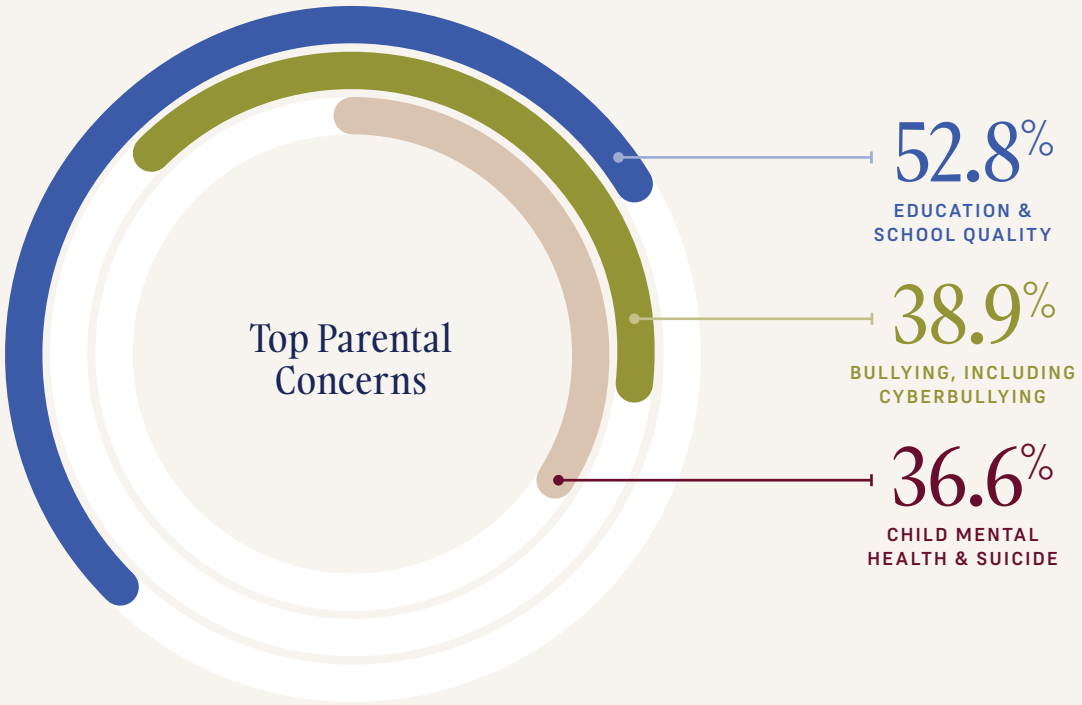
RANK	ZIP CODE	REGION
1	38108 *Hollywood (Memphis)*	West
2	37410 *Piney Woods (Chattanooga)*	East
3	37407 *Clifton Hills (Chattanooga)*	East
4	38118 *Oakville (Memphis)*	West
5	38106 *South Memphis*	West
6	38381 *Toone (Hardeman County)*	West
7	38114 *Orange Mound (Memphis)*	West
8	38116 *Whitehaven (Memphis)*	West
9	38127 *Frayser (Memphis)*	West
10	38109 *Whitehaven (Memphis)*	West

The Vanderbilt Child Health Survey in the fall of 2023 found that school performance, bullying, and mental health top the list of concerns parents have for their children in Tennessee.[1]

When asked about top educational concerns, mental health again rises to the top.

MY CHILD'S LEARNING & EDUCATIONAL PROGRESS

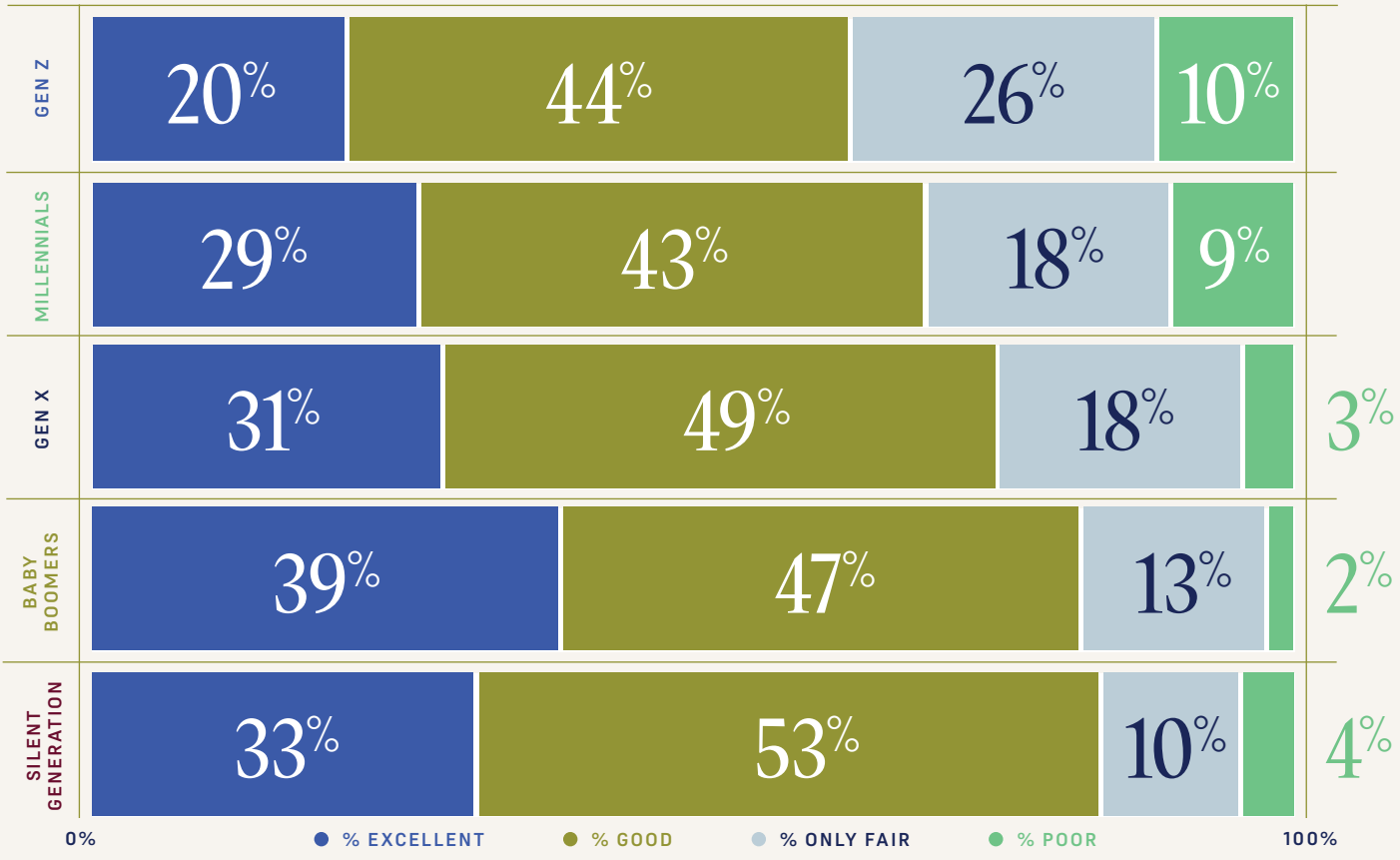
MY CHILD'S SOCIAL & EMOTIONAL WELL BEING



Generational Differences

Youth in the U.S. are experiencing a massive generational shift in reports about their mental wellbeing.[2]

Self-reporting among members of Generation Z (ages 13–27 in 2024) shows a significant drop in mental health compared to relatively stable numbers among the four previous generations (all the way back to the Silent Generation of World War II).



This chart was recreated from the infographic titled Generational Differences in Overall Mental and Emotional Wellbeing on page 6 *of the Gallup | Walton Family Foundation report,* Voices of Gen Z. *Learn more about this source in the* ENDOTES *of this report on* PAGE 31.

Data for Good, Data for Diversity

We recognize that data is inherently biased.

Our committment is to use data for the good of our diverse communities throughout Tennessee.

Due to the legacy of both institutionalized and personal racism, data too often ignores, marginalizes, and misrepresents low-wealth communities and communities of color.

But data can also be a tool for equity. To move toward this goal, our approach must take up a framework of diversity from the outset. At Belmont Data Collaborative, we focus on infusing our data-informed work with diversity through **THREE KEY TOUCHPOINTS**.

TOUCHPOINT 01

Thought

What we bring to a conversation through experiences, information, and storytelling.

TOUCHPOINT 02

Perception

How we aim to shape the mental impression that our data-informed story delivers to our audience.

TOUCHPOINT 03

Person

Whose voices we bring to a conversation to ensure all parties are included, valued, and considered.

Our Approach

DDIA

01 Dilemma

02 Data

03 Insights

04 Action

Assessment

At **EACH STEP**, we seek measurable indicators of progress that accurately describe our results and validate our approach.

In this way, we build reflexivity into our process in order to **COURSE CORRECT** when needed and reach deeper levels of clarity.

Dilemma

We tackle truly puzzling situations where the way forward seems unclear.

At Belmont Data Collaborative, we take on some of the toughest challenges that threaten the well-being of our communities in Tennessee.

We look for focused community issues where there is widespread agreement on a need to take action but a lack of clarity around the best pathway forward.

Data

We gather the best available information, recognizing it delivers an imperfect view.

For puzzles that are hard to solve, we collect reliable data that helps define the barriers keeping individuals and communities from thriving.

We acknowledge traditional approaches to data often misrecognize or ignore some communities. Instead, we seek to use data for good—through a lens that prioritizes the significance of diversity and the dignity of all communities.

Our Approach

DDIA

01 Dilemma

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03 Insights

We use equity-infused analysis to generate a deep visualization of the data.

Through our exploration of the data, we summarize and contextualize the key challenges, gaps, and opportunities in order to highlight critical differences and relationships and conceptualize new ways forward.

When we start with an ethical framework and follow the data, we arrive at epiphanies that validate simple, innovative strategies that can have revelatory impact.

04 Action

We identify clear next steps to build momentum toward outcomes that empower.

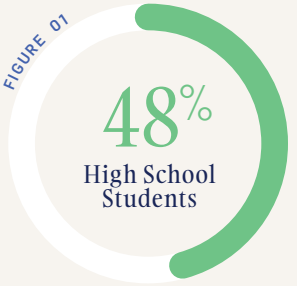
We use our insights to invite key partners into a fruitful conversation about the best ways to take measurable, achievable steps that help communities in Tennessee overcome barriers and thrive.

ONE
Dilemma

Mental health challenges start very young.

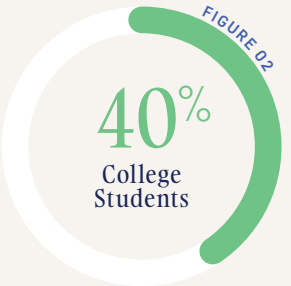
When we think of mental health challenges among young people, we often picture adolescents struggling with world-changing transitions in their bodies, their social lives, and their family structures.

FIGURE 01



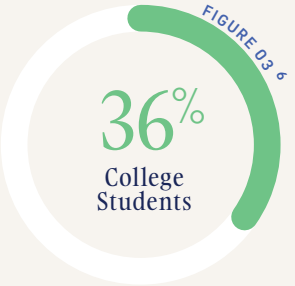
STRESS & ANXIETY OVERSHADOWS COLLEGE SEARCH & PLANNING

FIGURE 02



EXPEREINCE SOME LEVEL OF DEPRESSION

FIGURE 03 [6]



SCREENED POSITIVE FOR ANXIETY DISORDERS

It can be quite a shock to realize how very young mental health challenges begin for many.

16 PERCENT OF CHILDREN aged two to eight years have a diagnosed mental, behavioral, or developmental disorder.[3] Many mental health challenges can be traced back to a child's formative years.

HALF of all lifetime mental health conditions begin **BEFORE AGE 14**. And these mental health issues don't resolve themselves as children mature.[4]

In one survey of over 6000 high school students, **48 PERCENT** said that "stress and anxiety overshadow their college search and planning." **(FIG. 01)**

And college acceptance is not a cure. In a recent University of Michigan study, about **40 PERCENT** of college students experience some level of depression, **(FIG. 02)** and **36 PERCENT** screened positive for anxiety disorders. **(FIG. 03)** [5]

By the end of 2022, TikTok videos with #mentalhealth had more than 45 billion views.*

** Statistic according to the recent U.S. Surgeon General's Advisory on Social Media and Youth Mental Health.*

HOME LIFE

Parents are worried.

Awareness is often a significant barrier to addressing mental health. But parents are not clueless. In fact, surveys show they are *very worried* about their children's mental health.

85 PERCENT of parents in the U.S. are worried about depression negatively impacting the lives of their teenage children. **36 PERCENT** of Tennessee parents are very worried about their children's mental health and suicide risk.[7]

Unfortunately, concern does not always translate into effective action, and cultural stigma too often prevents an awareness that's attuned to the realities of mental illness.

Inadequate understanding of the causes and symptoms of mental illness can cause parents to misunderstand what their children are experiencing and may also cause misguided feelings of shame in the parents.

Parents often lack understanding of how mental illness works, its sources and treatment, and they lack experience in navigating a complicated mental health response system. What is clear is that despite parental concern, kids are looking for answers outside the home as well.

Consistent attendance in school declined during and after the pandemic. We are seeing increases in chronic absenteeism,* and it is important that we try to understand what factors may be contributing to a student's absences. Consistent attendance is closely linked to academic success and well-being.

** Defined as a student missing 10 percent or more of the days the student is enrolled-for any reason.*

EDUCATION

Schools provide a remarkable opportunity.

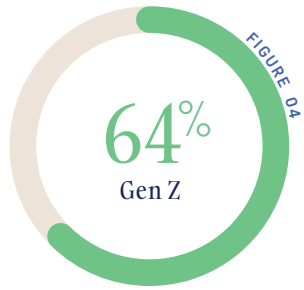
In this environment, schools have a unique opportunity to continue making a difference.

Among Generation Z (**13 TO 27 YEAR-OLDS IN 2024**), a Walton Family Foundation study found that greater school engagement is related to more positive life outlooks. And positive mental health supports strong performance for students in school.[8]

Students with excellent mental health are more than twice as likely as those with fair or poor mental health to say they get excellent grades in school and are 24 points less likely to have missed any school in the past month.

One positive influence schools can provide is **ADULT RELATIONSHIP**.

Adult encouragement massively influences mental outlook. Among Gen Z, those who strongly agree they have an adult or mentor who strongly encourages them to pursue their goals and dreams are more than twice as likely to strongly agree they have a great future ahead of them and that they can achieve their goals. On the academic side, decades of research have confirmed that teacher quality is the most important school-related factor influencing student achievement.



FINANCIAL RESOURCES ARE A BARRIER TO FUTURE PATHWAYS

But structural factors play a large role in determining both students' outlook on their life possibilities and the effectiveness of schools in shaping outcomes.

So while school engagement and mentorship is helping Gen Z students, **64 PERCENT (FIG. 04)** of this generation says financial resources are a barrier to at least one of the pathways they hope to pursue in the future.[9]

Meanwhile, schools are frequently overwhelmed with the size of the mental health crisis they are facing while available funding for schools and agencies does not come close to addressing the scale of the challenge.

And even when schools have programmatic responses in place, there is little evidence to show what approaches are most effective.

One recent study surveyed the existing literature and found "a lack of rigorous research that can inform efforts to improve the implementation and effectiveness of school-based mental health interventions."[10]

TWO
Data

Approaching mental health through a data mindset.

One of the best ways to gauge the broad well-being of communities is to look at Social Determinants of Health. These are the societal and economic conditions that make people more vulnerable to poor health.

They include measures like income level and food security—but also adverse childhood experiences, exposure to pollution, and lack of access to transportation or health care.

Social determinants help identify the big, upstream challenges that put communities and individuals in tough situations and limit choices that could promote a healthier lifestyle. It is much more difficult for young people to experience the health benefits of being outside in nature if there is no park within walking distance of their house or if they spend 45 minutes on a bus getting to school and back.

Social Determinants also help clarify what collaborative or policy actions can make the most impact in addressing a difficult issue.

Community partners can identify reasons for the absence of green space or lack of bus drivers and identify actions to address the need and reduce vulnerability to poor health.

IDENTIFICATION

Social Determinants

Social determinants can help gauge a community's mental health vulnerabilities.[11]

Just as with community health broadly, social determinants can help identify the societal and economic landscape that impacts a community's mental health status.

Structural stressors—from employment and income insecurity to poor air quality and repeated neighborhood blackouts—contribute significantly to mental health vulnerabilities, and the most effective approach to improving mental health outcomes will focus on these structural issues.

That's why we make use of the Social Determinants of Mental Health framework, which identifies four major areas of social impact on mental health risk in communities.

An approach to mental health using social determinants also captures a more complete view than traditional measures, relying heavily on data from health insurance companies, which often do not reflect the experience of community members who have the highest levels of mental health vulnerability.

EXTERNAL MEASURES

Factors determining student success.

While most of these measures have an impact on mental health vulnerability broadly, we identify the following social determinants as particularly significant for the relationship between mental health and student success:

01
Experience of Bullying

02
Home Access to Broadband Internet*

03
Time Spent on Social Media

As part of our ongoing conversation, we are gathering Belmont Data Collaborative faculty fellows from multiple disciplines to review the social determinants landscape and identify additional factors that bear specifically on student success.

** Including access to mental health resources online.*

01 Highly Detrimental U.S. Social Problems

- EXPERIENCE OF BULLYING
- TIME SPENT ON SOCIAL MEDIA
- ADVERSE CHILDHOOD EXPERIENCE
- DISCRIMINATION OR SOCIAL EXCLUSION
- EXPOSURE TO VIOLENCE
- CRIMINAL JUSTICE INVOLVEMENT

02 Socioeconomic Status and Opportunities for Accruing Wealth

- HOME ACCESS TO INTERNET
- LOW EDUCATIONAL ATTAINMENT
- UNEMPLOYMENT OR JOB INSECURITY
- POVERTY & INCOME INEQUALITY
- NEIGHBORHOOD POVERTY

03 Basic Needs

- HOUSING STABILITY
- FOOD INSECURITY
- POOR OR UNEQUAL ACCESS TO TRANS-PORTATION
- POOR ACCESS TO HEALTH CARE

04 Immediate and Global Physical Environment

- ADVERSE BUILT ENVIRONMENT
- NEIGHBORHOOD DISORDER
- EXPOSURE TO POLLUTION
- IMPACT OF CLIMATE CHANGE

- *Student Success Factor*
- *Have Identified Relevant, Geographically Granular Data*
- *Have Identified Partially-Relevant Data* OR *Data Does Not Have Desired Geographic Granularity*
- *Have Not Identified Relevant Data Source*

TABLE 01

Data Contributing to Mental Well-Being Index

	VARIABLE NAME	SDMH SUB-CATEGORY
Highly Detrimental US Society Problems	Child Households Below Poverty	Adverse Childhood Experiences
	Percent Disconnected Youth	Adverse Childhood Experiences
	Total Crime Index	Exposure to Violence
Socio-economic Status & Opportunities for Accruing Wealth	Percent Population with No HS Diploma	Low Educational Attainment
	Unemployment Rate	Unemployment of Job Insecurity
	Employment Access Index	Unemployment of Job Insecurity
	Employment Entropy Index	Unemployment of Job Insecurity
	Income Inequality (Gini) Index	Poverty or Income Inequality
	Percent Households Below Poverty	Neighborhood Poverty
Basic Needs in Terms of Housing, Food, Trans-portation, & Health Care	Eviction Filing Rate	Housing Instability
	Rent as Percent of Gross Income	Housing Instability
	Housing Costs (Owners) as Percent of Gross Income	Housing Instability
	Food Insecurity *Percent Population Low-Income and Low-Access*	Food Insecurity
	Percent Households with No Vehicle	Poor or Unequal Access to Transportation
	Percent Population with No Health Insurance	Poor Access to Healthcare
Immediate & Global Physical Environment	Walkability Index	Adverse Built Environment
	Park Acres per Capita	Adverse Built Environment
	Percent Population that Votes	Neighborhood Disorder
	Social Associations per Capita	Neighborhood Disorder
	Air Quality *Lifetime Cancer Risk*	Exposure to Pollution
	Air Quality *Respiratory Hazard Index*	Exposure to Pollution

For more information on these variables and their sources please see TABLE 01 *in the Appendix on* PAGE 26.

A community Mental Well-Being Vulnerability Index for Tennessee.

To capture the Social Determinants of Mental Health framework with a data driven approach, the Belmont Data Collaborative created a Mental Health Index for communities across 95 counties in Tennessee drawing on a variety of publicly available datasets.

Our methodology is based on the CDC's Social Vulnerability Index. Our dataset selects 21 variables—each available at the county, zip code, and census tract level—that provide a view of mental health vulnerability based on the four major themes and 16 subcategories of the Social Determinants of Mental Health framework.

The index uses a comparative scoring methodology on a scale of 0 to 1. A geographic area that has low vulnerability related to one of the 21 social determinants will receive an index score of 0. The closer an index score for a particular area is to 1, the higher the vulnerability is for that geography.

The closer an index score for a particular area is to 1, the higher the vulnerability is for that geography.

Data offers a helpful (but imperfect) view.

At its best, data helps us clarify problems that seem overwhelming and focus dialogue in the most efficient, effective way.

But data is not a silver bullet—it gives us an imperfect view of the world, and there are always gaps in the picture data paints of people, their communities, and the complex challenges they face.

We believe that honesty about where our data is lacking can inspire potential collaborators to help fill in the gaps and generate more robust conversation about the shared path to progress on mental health outcomes in Tennessee.

THREE
Insights

Mapping Mental Health in Tennessee

Mental Health Vulnerability at the County Level

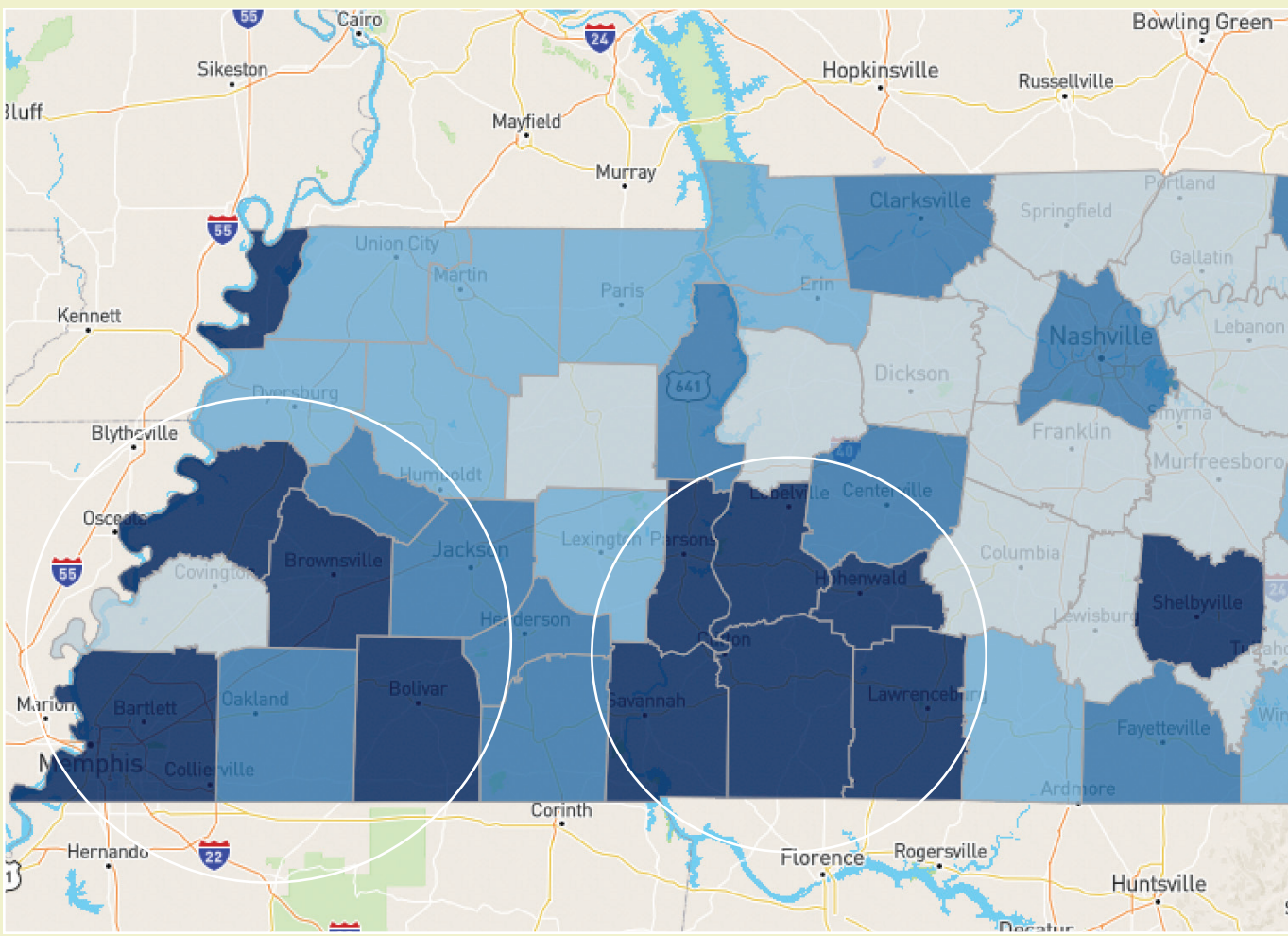
FIGURE 01

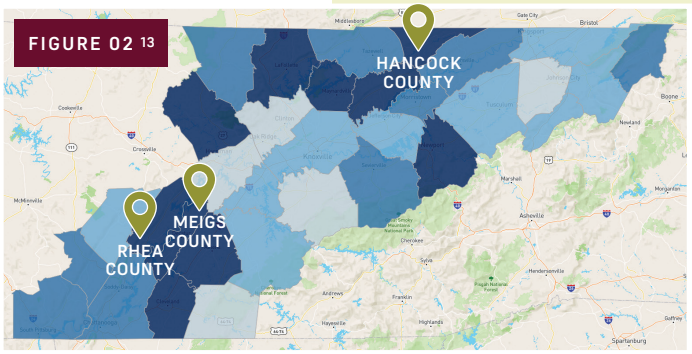
At the county level, mental health vulnerability in Tennessee clusters in the eastern and western parts of the state—while Middle Tennessee is a broad swath of lower vulnerability.

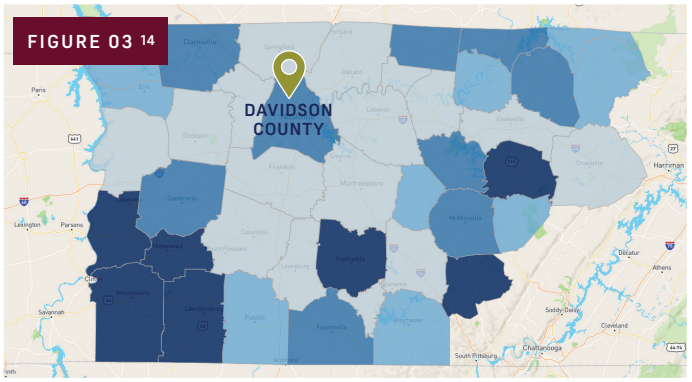
FIGURE 02

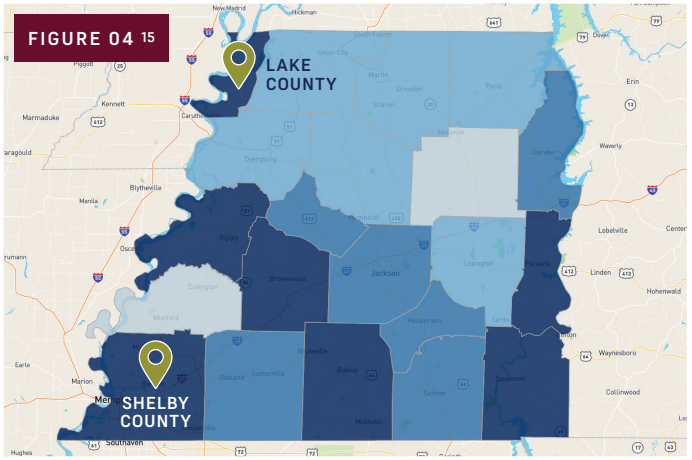
In the **EAST**, high vulnerability counties are rural Appalachian counties. This includes **HANCOCK COUNTY,** the most vulnerable in the state.

FIGURE 01 [12]









Northeast of Chattanooga, there is a cluster of four counties—Meigs, Rhea, Bradley, and McMinn—with high mental health vulnerability. While these counties have a marginally higher rate of childhood poverty and lower rate of post-secondary education than the state average, the lack of mental health providers is striking. **RHEA** has over 3300 residents per provider (more than six times the state average). In **MEIGS**, the number is more than 6600, or more than 12 times the state average.

FIGURE 03

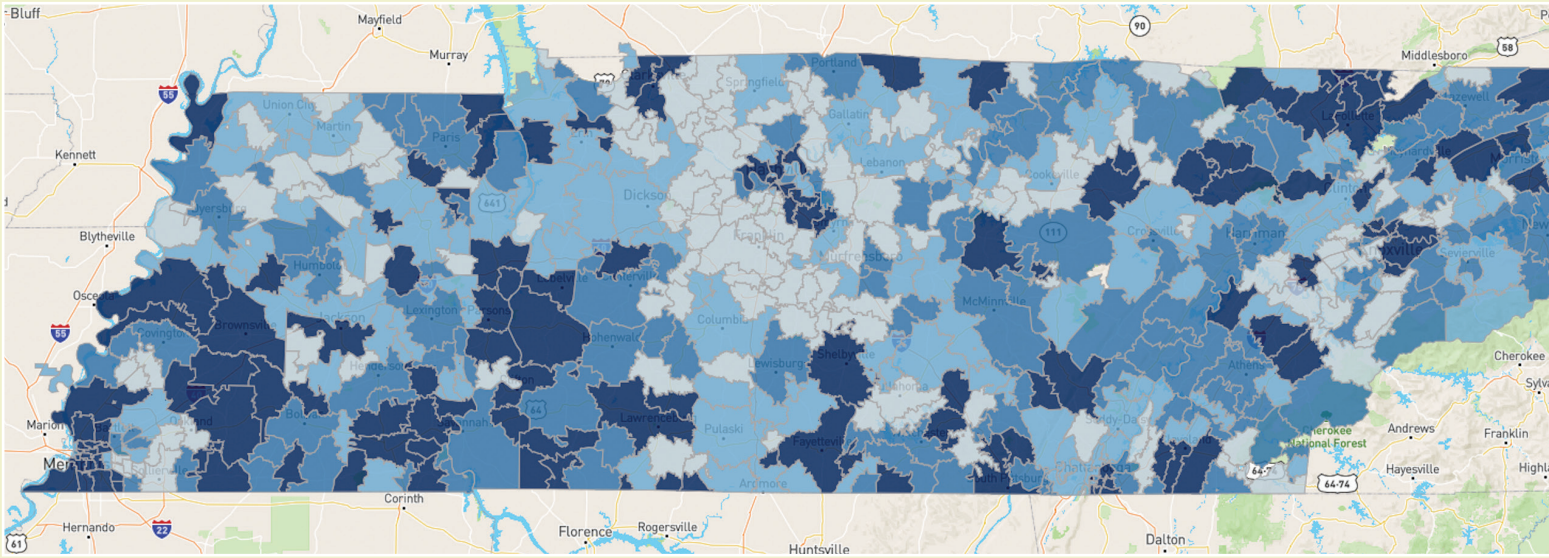
Southwestern **MIDDLE** Tennessee has a group of six rural counties with extremely high vulnerability, including two of the ten most vulnerable in the state. The northern part of middle Tennessee, including Nashville's **DAVIDSON COUNTY**, has no counties in the highest vulnerability group.

FIGURE 04

In **WESTERN** Tennessee, Lake County is the state's second most vulnerable due in large part to the Northwest Correctional Complex in **TIPTONVILLE**, a state prison whose inmates make up nearly one third of the county's population.

SHELBY COUNTY, home to Memphis, is another high vulnerability area in Western Tennessee—at the county level, the Memphis metro area falls just outside of the top ten most vulnerable counties.

FIGURE 05 [16]



Mental Well-Being Index

0.00–<0.25 0.25–<0.50 0.50–<0.75 0.75–1.00

A Zip Code Level View of Mental Health

FIGURE 05

A zip code level map offers a more detailed view of mental wellbeing in specific communities. When we move to this more granular approach, there's a lot more going on in the map of the state. Some of the same clusters of vulnerability persist, but in other areas, the picture looks more complicated. And in some regions, the pattern changes dramatically.

FIGURE 06

Some of the biggest shifts at the zip code level are around urban areas. At the higher level, all of Knox County is an area of low-moderate vulnerability (.26). The more granular approach reveals seven zip codes in the greater **KNOXVILLE** area that are high risk areas for mental health vulnerability.

CHATTANOOGA is a similar story. The city's Hamilton County is a moderate risk area (.59), but the metro area contains seven high risk areas, including two of the five most vulnerable zip codes in the entire state and five of the ten most vulnerable in East Tennessee.

FIGURE 06 [17]

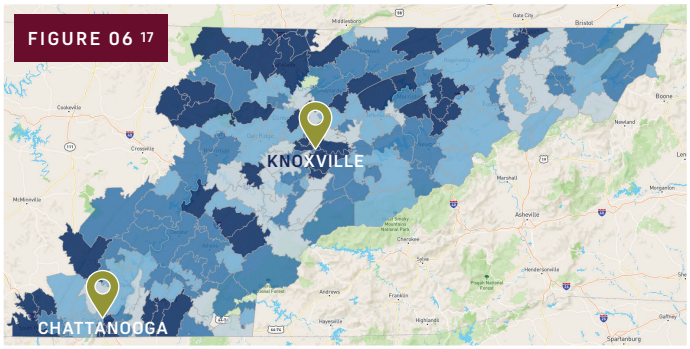


FIGURE 07 [18]

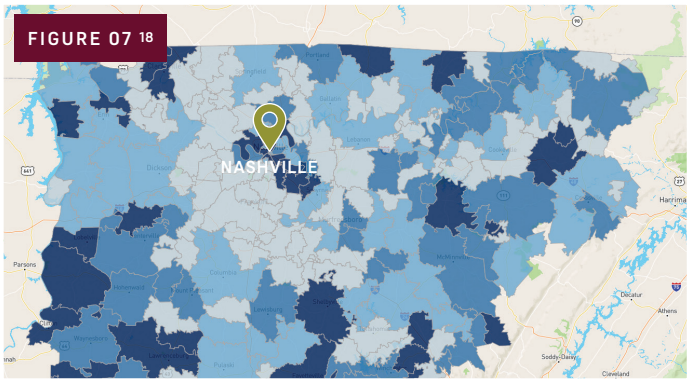
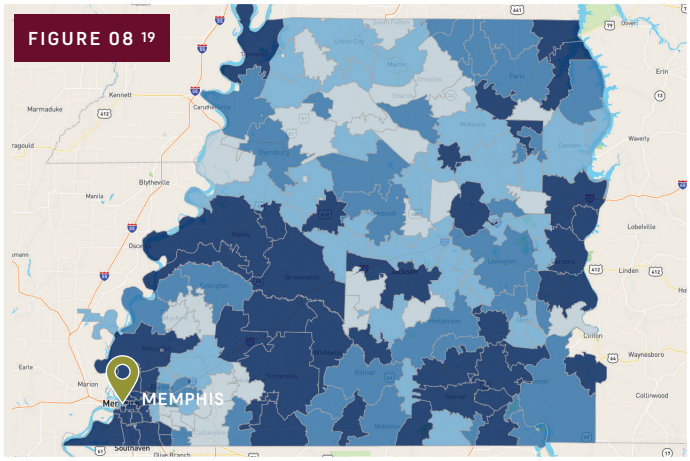


FIGURE 08 [19]



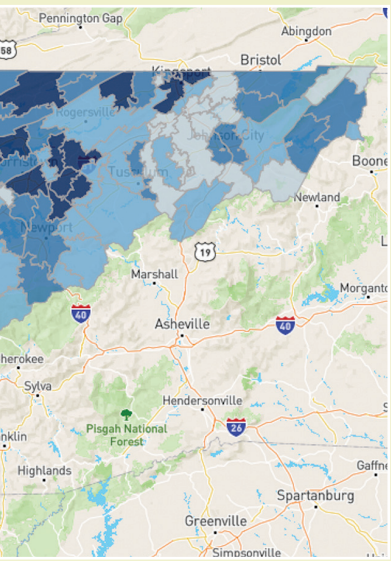


FIGURE 07

In Middle Tennessee, the complexities of urban inequities emerge starkly in **NASHVILLE**. Davidson County has a moderate-high mental health vulnerability, but the Nashville metro region contains extreme divergences—from three of the ten most vulnerable areas in Middle Tennessee to the fifth least vulnerable.

At the county level, all of **RUTHERFORD COUNTY**, home to Murfreesboro, appears to be doing well—it's not far from the top ten least vulnerable counties in the state. But a closer look reveals that zip codes in this county run the full gamut from high vulnerability to low, with all stops in between.

FIGURE 08

At a glance, West Tennessee sees the fewest changes as we move from county to zip code level. The more granular view, however, puts a spotlight on **MEMPHIS**. Shelby County registers as high vulnerability, but as a whole it is not one of the ten most high risk counties in the state. At the zip code level, Memphis countains seven of the ten most vulnerable areas for mental health in the state of Tennessee.

Seeing mental health vulnerability accurately.

We can only see how communities are struggling with mental health vulnerability across Tennessee's grand divisions when we zoom to the more granular zip code level. When we stay at the county level, many highly vulnerable areas appear to be healthy because they share borders with very low risk areas.

In order to identify and prioritize the Tennessee communities that are most in need of policies where mental health vulnerability is most powerfully impacting student success—officials, analysts, reporters, and decision-makers must look below the county level and take a more detailed approach.

FOUR
Action

Continuing the conversation.

Across Tennessee, a broad range of students show high vulnerability to mental illness—some are rural, some are urban, some are suburban commuter areas. Often high vulnerability areas are adjacent to areas of much lower vulnerability.

There is no single blend of factors driving the vulnerabilities of all these communities—but as our snapshots show, looking at the Social Determinants of Mental Health through the Mental Well-Being Index helps to paint a picture of what is driving vulnerability—and contributing to student struggles—in a particular community.

What do we do with these snapshots of mental health? What is the way forward?

ONE

The start of the dialogue.

One of the hardest things about mental health is talking about it.

One of the most important pathways to responding well to mental illness is talking about it.

We want our snapshots of mental health—and the availability of a Mental Health Index for Tennessee—to help start conversations in households, in neighborhoods, in school boards and PTO meetings and research centers and legislative committees. Responding well to mental illness and student success begins with starting hundreds of other conversations with people who want to see change.

TWO

Help us fill in the data gaps.

Please get in touch.

If you are aware of or have access to information that can improve our Mental Well-Being Index—and build out our model of its impact on student success—please contact Belmont Data Collaborative to continue the conversation.

If you can connect us to organizations that want to help make a difference for mental health and student success in Tennessee, please contact us to continue the conversation.

If you can use the Mental Well-Being Index to help share the story of mental illness vulnerability in your school, we want to help you convene a group of concerned individuals and organizations (and decision-makers) to continue the conversation.

THREE

We can help your organization continue the conversation.

Belmont Data Collaborative can empower your non-profit, school, district, or board to be more aware of the impact of mental illness on student success and become part of the solution in your community—please contact us so that we can help you continue the conversation.

Belmont Data Collaborative can provide access to the data your district needs to address mental illness in your schools—please contact us so that we can help you continue the conversation.

FOUR

We want to work with you on effective change.

If you are a government decision-maker, elected official, organizer, legislative staffer, or political advocate seeking policy changes to promote the well-being of your community—we want to continue the conversation with you to help identify the most urgent priorities and the most effective strategies.

Final Thoughts

This report is the beginning, not the end.

Data does not provide solutions. Instead, it starts important and provocative conversations that can clear pathways toward meaningful action. We hope this report sparks many fruitful conversations on mental illness and student success in Tennessee, and we are ready to help convene and facilitate conversations that lead to change.

01

More granularity is better.

As we saw in the Data section, new challenges emerge as we move from county level data to zip code level data. Looking more closely at the community level is critical to seeing the full complexity of the landscape on mental health vulnerabilities.

02

There is no magic cure for mental illness.

But there is clear hope. There is no one solution that will help students and families suffering with mental illness across Tennessee. But Belmont Data Collaborative and our partners are gathering the best data available, looking at it with clear eyes, working to fill the information gaps, and making it all accessible to communities and partners who are ready to help us do the work.

03

Conversation is the way forward.

For young people, families, schools, and decision-makers—talking about mental illness is the best first step to increasing understanding, reducing stigma, fighting isolation, identifying and lowering barriers to resources, and taking steps toward improved mental well-being. Belmont Data Collaborative can help start those conversations.

Key Contributors

Catherine E. Bass, Ph.D.

POSITION
Director

ORGANIZATION
Belmont Data Collaborative

Dr. Bass serves as the Director of Belmont University's Data Collaborative and holds a faculty position in the College of Business. Her areas of responsibility include data curation and management, analytics, overseeing the infusion of data experiences into Belmont's programs and curriculum, and management of the Belmont Data Collaborative's internal and external initiatives aimed at helping people and communities thrive. She holds a Ph.D. in Health and Human Performance with an emphasis in Population Health Management.

Dr. Bass has over 20 years of experience in the health and wellness industry, including a national award from the Center for Disease Control and Prevention for innovations in healthy behavior data collection. Her areas of expertise include analytics, reporting, data management, social determinants of health, experimental design, needs assessment, intervention design and measurement, and survey science. Dr. Bass has authored articles for peer-reviewed and trade journals, speaks at industry conferences, and is active in the data and technology industry in Nashville.

Marquinta Harvey, Ph.D.

POSITION
Assistant Director, *Special Programs*

ORGANIZATION
Belmont Data Collaborative

Dr. Marquinta Harvey serves in a dual role as Assistant Director of the Belmont Data Collaborative and Assistant Professor of Public Health - Epidemiology at Belmont University. Dr. Harvey is a leader within the fields of public health, data analytics, epidemiology, and behavioral neuroscience with over 15 years of experience ranging from biological and chemical warfare agent testing for the Department of Defense, to understanding the neurobiological mechanisms that control social stress. Dr. Harvey is a published author with publications in peer reviewed journals including *Stress and Behavioral Neuroscience*. She has presented research at many local, state, and national conferences. Dr. Harvey was named as a recipient of the inaugural University of Tennessee Knoxville Alumni Volunteer 40 under 40 award. Dr. Harvey is a devoted public health advocate with a passion for understanding and applying information obtained from health data and research to improve processes that lead to better health outcomes for vulnerable populations. She has expertise in fostering trusting relationships, team collaboration, problem solving and innovation, while providing leadership, management, and strategic vision.

Tommy Strickler, M.S.

POSITION
Manager, *Data Analytics*

ORGANIZATION
Belmont Data Collaborative

Tommy Strickler serves as the Manager of Data Analytics for Belmont University's Data Collaborative. His responsibilities include data curation and management, data warehouse oversight, predictive analytics, and training and management of junior data analysts. He holds a B.S. and M.S in Statistics from the University of Tennessee with an emphasis in predictive modeling. Mr. Strickler brings 20 years of experience in data analytics in the areas of health care, insurance, and population health management. His areas of expertise include statistics, predictive modeling, data science techniques, index creation, social determinants of health, product ideation, and the product development life cycle. He is a frequent contributor to research projects resulting in conference presentations, trade and industry publications, and won a national award from the Center for Disease Control and Prevention for innovations in healthy behavior data collection.

Damitry Dong

BELMONT UNIVERSITY
Class of 2024

Damitry Dong is a soon-to-be graduate of Belmont University, specializing in Business Systems and Analytics. With a keen focus on data integration and visualization, Mr. Dong has experience working with a variety of databases, ranging from Smith Travel Research to The Branch of Nashville. Post-graduation, Mr. Dong aspires to further hone his expertise in data analytics within the realms of healthcare, civil work, and management. His dedication to the field is evident in his achievement of securing a highly coveted internship at Healthcare Corporation of America (HCA), the largest healthcare provider in the nation, surpassing numerous competitors in the process. Mr. Dong is an outspoken advocate for data integrity and normalization, recognizing their pivotal roles in modern business operations. Understanding the essential and continually growing role data plays in all industries, he looks forward to contributing to the ways in which he can use data to transform business.

Key Partners

Belmont University

Located near the heart of thriving Nashville, Tennessee, Belmont University consists of nearly 8,800 students who come from every state and 33 countries. The University is nationally recognized for its innovative approach as well as its commitment to undergraduate teaching (U.S. News & World Report). As a Christ-centered, student-focused community, Belmont's mission is to develop diverse leaders of purpose, character, and wisdom who possess a transformational mindset and are eager and equipped to make the world a better place. With more than 115 areas of undergraduate study, 41 master's programs and five doctoral degrees, Belmont University aims to be the leading Christ-centered university in the world, producing leaders who will radically champion the pursuit of life abundant for all people. For more information, visit www.belmont.edu.

Belmont Data Collaborative

The Belmont Data Collaborative (BDC) is an initiative at Belmont University that looks to infuse data skills into every facet of the culture and curriculum as well as within the community. Founded in 2021, the Belmont Data Collaborative has focused on data skills for all and championing the solution to complex problems within the community through data. Through the work of the Data Collaborative, Belmont University seeks to create storytellers that can use data to provide meaningful insights and actionable stories. Not only will Belmont produce students that are data ready through classroom experiences, but through the BDC, students and faculty will have real-world projects for social innovation and the well-being of the community.

NashvilleHealth

In 2015, former U.S. Senate Majority Leader Bill Frist, M.D. established a robust and collaborative health movement, NashvilleHealth. Senator Frist recognized that his hometown—despite its reputation as a health services capital—ranked far behind peer cities in community health with the worst life expectancy and highest rates of infant mortality, smoking, and number of poor mental health days. Since its origin, NashvilleHealth has sought to improve the health and well-being of every single Nashvillian in a collective, collaborative, and coordinated way by identifying our city's health challenges, advancing partnerships for action, and catalyzing initiatives for measurable outcomes.

Key to this vision is the need for accurate, accessible, and, most importantly, actionable data to identify the obstacles to health that many in our community face. In 2019, NashvilleHealth conducted a citywide Community Health and Well-being Survey to identify and document our city's health challenges, unveiling harsh health equity disparities particularly among our most vulnerable. Seeking to build on this work and understanding the necessity of good data for impact, NashvilleHealth and Senator Frist reached out to Belmont University to propose a comprehensive, trusted, integrated, and sustainable data center that will positively impact the wellness of every single member of our community. This report serves as the first product of this data collaborative, setting the stage for sustainable and impactful community-wide initiatives that will propel our city toward a more equitable and healthier future.

State Collaborative on Reforming Education (SCORE)

SCORE's mission is to catalyze transformative change in Tennessee education so that all students can achieve success. SCORE is an independent, nonprofit, and nonpartisan institution, founded in 2009 by Senator Bill Frist, MD, former US Senate Majority Leader. SCORE is focused on advancing change for students from kindergarten to career through policy and practice—and taking it to scale.

SCORE has three goals that guide the organization's work to drive success for all students in Tennessee: 1) All students receive an excellent public K-12 education. 2) All students earn a credential or postsecondary degree of value that prepares them for a career enabling economic independence. 3) Economically disadvantaged students, students of color, and rural students see improved success across all goals relative to their peers. To achieve these goals, SCORE prioritizes great teaching and leadership, innovative school models and approaches, education-to-career pathways, and supporting the broader education ecosystem to achieve its potential and ensure educational excellence.

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TABLE 01

Data Contributing to Mental Well-Being Index

Highly Detrimental US Society Problems	Socioeconomic Status & Opportunities for Accruing Wealth	Basic Needs in Terms of Housing, Food, Transportation, & Health Care	Immediate & Global Physical Environment

VARIABLE NAME	DESCRIPTIVE	SDOMH SUB-CATEGORY	DATA SOURCE
Child Households Below Poverty	Family Below Poverty Level (with Children) *Percentage of Households*	Adverse Childhood Experiences	American Community Survey *US Census*
Percent Disconnected Youth	Percent Disconnected Youth *Age 16–19 Not Enrolled in School and Unemployed/Not in Labor Force (2017–2021)*	Adverse Childhood Experiences	American Community Survey *US Census*
Total Crime Index	Total Crime Index *Geographic area's crime risk relative to the national average.*	Exposure to Violence	FBI / Applied Geographic Solutions
Percent Population with No HS Diploma	People in Household Less than High School per capita age 25 and over in households (2017-2021)	Low Educational Attainment	American Community Survey *US Census*
Unemployment Rate	Percentage of Population 18 to 64 that is Unemployed (2017–2021)	Unemployment of Job Insecurity	American Community Survey *US Census*
Employment Access Index	The employment access index is a measure of job opportunity and can be used as a proxy for economic activity. The higher the index, the more job opportunities there are. (2016)	Unemployment of Job Insecurity	HUD Exchange
Employment Entropy Index	The employment entropy Index ranges from 0 to 1, with higher values indicating a greater degree of employment mix across industries. (2018)	Unemployment of Job Insecurity	US Census *Longitudinal Employer-Household Dynamics*
Income Inequality (Gini) Index	A summary measure of income inequality. The higher the value, the more inequality.	Poverty or Income Inequality	American Community Survey *US Census*
Percent Households Below Poverty	Households Below Poverty Level *Percentage of Total Households (2017–2021)*	Neighborhood Poverty	American Community Survey *US Census*
Eviction Filing Rate	Eviction Filing Rate (2018) *Percent of rental housing units that have eviction filing*	Housing Instability	Eviction Lab
Rent as Percent of Gross Income	Median Gross Rent as a Percentage of Income (2017–2021)	Housing Instability	American Community Survey *US Census*
Housing Costs (Owners) as Percent of Gross Income	Median Selected Monthly Ownership Costs as a Percentage of Income (2017–2021)	Housing Instability	American Community Survey *US Census*
Food Insecurity *Percent Population Low-Income and Low-Access*	Low Income People 1 Miles Urban/10 Miles Rural with Low Access to Healthy Food per Capita (2019)	Food Insecurity	USDA Food Access Research Atlas
Percent Households with No Vehicle	Percent Households with No Vehicle (2017–2021) *Combination of Renter and Owner Households*	Poor or Unequal Access to Transportation	American Community Survey *US Census*
Percent Population with No Health Insurance	Health Insurance Coverage *Uninsured per Civilian Noninstitutionalized Capita (2017–2021)*	Poor Access to Healthcare	American Community Survey *US Census*
Walkability Index	Walkability Index (2019) *Converted from 2010 to 2020 Census Tracts and Aggregated to Zip Code/County*	Adverse Built Environment	US EPA Smart Growth Project
Park Acres per Capita	Park Area (acres) per 1,000 in Total Population	Adverse Built Environment	National Neighborhood Data Archive (NaNDA)
Percent Population that Votes	Percent of Over 18 Population within Geographic Region that Typically Votes in Local/State/Federal elections	Neighborhood Disorder	Redistricting Data Hub
Social Associations per Capita	Social Associations (Membership Organizations) per 1,000 in Total Population	Neighborhood Disorder	Census Business Patterns
Air Quality *Lifetime Cancer Risk*	Air Quality *Individual Lifetime Cancer Risk (2014)*	Exposure to Pollution	US EPA *National Air Toxics Assessment*
Air Quality *Respiratory Hazard Index*	Air Quality *Respiratory Hazard Index (2014)*	Exposure to Pollution	US EPA *National Air Toxics Assessment*

TABLE 02

Vulnerability Index by County

RANK	COUNTY	REGION	MENTAL WELL-BEING INDEX	US SOCIETAL PROBLEMS	ECONOMIC STATUS	BASIC NEEDS	PHYSICAL ENVIRONMENT
1	Hancock County	East	1.000	0.789	0.979	0.800	1.000
2	Lake County	West	0.989	0.989	1.000	0.579	0.821
3	Haywood County	West	0.979	0.979	0.958	0.958	0.484
4	Hardeman County	West	0.968	0.947	0.863	0.611	0.832
5	Perry County	Middle	0.958	0.537	0.989	0.653	0.947
6	Lauderdale County	West	0.947	0.937	0.779	0.821	0.526
7	Grundy County	Middle	0.937	0.674	0.800	0.947	0.632
8	White County	Middle	0.926	0.905	0.937	0.874	0.274
9	Wayne County	Middle	0.916	0.653	0.747	0.695	0.874
10	Grainger County	East	0.905	0.105	0.926	0.937	0.958
11	Shelby County	West	0.895	0.968	0.126	1.000	0.800
12	Campbell County	East	0.884	0.884	0.884	0.716	0.389
13	Bedford County	Middle	0.874	0.758	0.337	0.979	0.768
14	Union County	East	0.863	0.811	0.905	0.095	0.968
15	Morgan County	East	0.853	0.347	0.832	0.768	0.811
16	McMinn County	East	0.842	0.821	0.411	0.589	0.937
17	Bradley County	East	0.832	0.663	0.263	0.832	0.979
18	Lawrence County	Middle	0.821	0.832	0.737	0.642	0.505
19	Decatur County	West	0.805	0.400	0.968	0.484	0.842
19	Rhea County	East	0.805	0.589	0.726	0.779	0.600
21	Lewis County	Middle	0.789	0.916	0.537	0.989	0.221
22	Hardin County	West	0.779	0.695	0.621	0.474	0.853
23	Meigs County	East	0.768	0.126	0.768	0.705	0.989
24	Cocke County	East	0.758	0.926	0.789	0.663	0.179
25	Overton County	Middle	0.747	0.779	0.874	0.558	0.326
26	Scott County	East	0.737	0.800	0.853	0.526	0.347
27	Sequatchie County	East	0.726	0.842	0.474	0.884	0.284
28	Davidson County	Middle	0.716	0.632	0.063	0.968	0.779
29	Hamblen County	East	0.705	0.484	0.305	0.926	0.684
30	Madison County	West	0.695	0.737	0.284	0.905	0.453
31	Warren County	Middle	0.684	0.958	0.526	0.463	0.411
32	Hawkins County	East	0.674	0.600	0.758	0.126	0.863
33	Hickman County	Middle	0.663	0.463	0.632	0.337	0.905
34	McNairy County	West	0.653	0.442	0.716	0.253	0.916
35	Sevier County	East	0.642	0.684	0.200	0.916	0.516
36	Lincoln County	Middle	0.632	0.305	0.400	0.789	0.789
37	Macon County	Middle	0.616	0.568	0.558	0.568	0.579
37	Montgomery County	Middle	0.616	0.621	0.084	0.853	0.716
39	Benton County	West	0.595	0.516	0.811	0.347	0.589
39	Hamilton County	East	0.595	0.379	0.105	0.895	0.884
41	Crockett County	West	0.579	0.853	0.663	0.674	0.074
42	DeKalb County	Middle	0.568	0.705	0.684	0.621	0.242
43	Chester County	West	0.553	0.768	0.442	0.389	0.568
44	Johnson County	East	0.553	0.495	0.842	0.811	0.021
45	Claiborne County	East	0.537	0.421	0.895	0.200	0.611
46	Clay County	Middle	0.526	0.547	0.705	0.326	0.537
47	Fayette County	West	0.516	0.368	0.368	0.632	0.737
48	Marion County	East	0.505	0.558	0.516	0.432	0.558

VULNERABILITY INDEX BY COUNTY — CONTINUED

RANK	COUNTY	REGION	MENTAL WELL-BEING INDEX	US SOCIETAL PROBLEMS	ECONOMIC STATUS	BASIC NEEDS	PHYSICAL ENVIRONMENT
49	Henderson County	West	0.495	0.295	0.463	0.547	0.747
50	Henry County	West	0.484	0.716	0.421	0.737	0.168
51	Bledsoe County	East	0.474	0.358	0.947	0.074	0.642
52	Jackson County	Middle	0.463	0.211	0.916	0.168	0.705
53	Sullivan County	East	0.453	0.726	0.347	0.600	0.232
54	Monroe County	East	0.442	0.642	0.432	0.379	0.442
55	Weakley County	West	0.432	0.411	0.547	0.758	0.158
56	Fentress County	Middle	0.421	0.863	0.642	0.042	0.316
57	Unicoi County	East	0.411	0.895	0.568	0.358	0.011
58	Dyer County	West	0.400	0.874	0.611	0.116	0.211
59	Greene County	East	0.389	0.389	0.579	0.537	0.295
60	Carter County	East	0.379	0.274	0.589	0.842	0.053
61	Cannon County	Middle	0.368	0.579	0.505	0.505	0.147
62	Pickett County	Middle	0.353	1.000	0.674	0.011	0.032
62	Stewart County	Middle	0.353	0.326	0.453	0.274	0.663
64	Van Buren County	Middle	0.337	0.074	0.695	0.263	0.653
65	Franklin County	Middle	0.321	0.316	0.379	0.516	0.463
66	Giles County	Middle	0.321	0.526	0.389	0.084	0.674
67	Jefferson County	East	0.305	0.200	0.274	0.411	0.758
68	Houston County	Middle	0.289	0.189	0.821	0.158	0.474
69	Loudon County	East	0.289	0.242	0.137	0.368	0.895
70	Obion County	West	0.274	0.611	0.653	0.189	0.189
71	Knox County	East	0.263	0.232	0.053	0.400	0.926
72	Gibson County	West	0.253	0.432	0.232	0.863	0.042
73	Marshall County	Middle	0.242	0.747	0.158	0.063	0.421
74	Anderson County	East	0.226	0.221	0.253	0.284	0.547
75	Humphreys County	Middle	0.226	0.116	0.484	0.305	0.400
76	Tipton County	West	0.211	0.474	0.221	0.242	0.358
77	Dickson County	Middle	0.195	0.263	0.168	0.453	0.379
78	Washington County	East	0.195	0.284	0.189	0.726	0.063
79	Roane County	East	0.179	0.168	0.316	0.147	0.621
80	Sumner County	Middle	0.168	0.042	0.074	0.684	0.432
81	Blount County	East	0.158	0.179	0.116	0.232	0.695
82	Coffee County	Middle	0.147	0.453	0.211	0.211	0.337
83	Rutherford County	Middle	0.137	0.147	0.032	0.295	0.726
84	Carroll County	West	0.126	0.253	0.326	0.053	0.495
85	Robertson County	Middle	0.116	0.505	0.242	0.105	0.263
86	Putnam County	Middle	0.105	0.337	0.179	0.495	0.095
87	Trousdale County	Middle	0.095	0.063	0.095	0.747	0.105
88	Maury County	Middle	0.084	0.084	0.042	0.442	0.368
89	Smith County	Middle	0.074	0.137	0.495	0.179	0.116
90	Cumberland County	Middle	0.063	0.158	0.295	0.316	0.126
91	Polk County	East	0.053	0.032	0.600	0.137	0.084
92	Wilson County	Middle	0.042	0.053	0.021	0.421	0.305
93	Moore County	Middle	0.032	0.021	0.358	0.221	0.137
94	Cheatham County	Middle	0.021	0.095	0.147	0.021	0.253
95	Williamson County	Middle	0.011	0.011	0.011	0.032	0.200

TABLE 03

Vulnerability Index by Zip Code

Nashville

RANK	ZIP CODE	MENTAL WELL-BEING INDEX	US SOCIETAL PROBLEMS	ECONOMIC STATUS	BASIC NEEDS	PHYSICAL ENVIRONMENT
1	37208	0.930	0.888	0.710	0.966	0.530
2	37210	0.926	0.892	0.606	0.976	0.604
3	37207	0.918	0.973	0.426	0.978	0.646
4	37217	0.894	0.966	0.298	0.950	0.699
5	37211	0.882	0.874	0.307	0.938	0.734
6	37013	0.853	0.914	0.171	0.957	0.723
7	37203	0.838	0.774	0.442	0.954	0.546
8	37218	0.829	0.890	0.592	0.955	0.259
9	37115	0.800	0.736	0.226	0.984	0.688
10	37206	0.662	0.906	0.262	0.949	0.206
11	37209	0.632	0.782	0.200	0.952	0.341
12	37076	0.576	0.717	0.086	0.907	0.447
13	37228	0.434	0.334	0.414	0.554	0.556
14	37189	0.432	0.781	0.154	0.502	0.417
15	37216	0.388	0.614	0.088	0.749	0.325
16	37221	0.250	0.606	0.021	0.667	0.181
17	37205	0.181	0.301	0.072	0.683	0.214
18	37138	0.173	0.336	0.059	0.706	0.154
19	37080	0.134	0.440	0.374	0.226	0.128
19	37215	0.045	0.443	0.037	0.158	0.208
21	37220	0.026	0.146	0.061	0.387	0.102

Murfreesboro

RANK	ZIP CODE	MENTAL WELL-BEING INDEX	US SOCIETAL PROBLEMS	ECONOMIC STATUS	BASIC NEEDS	PHYSICAL ENVIRONMENT
1	37130	0.656	0.765	0.304	0.637	0.602
2	37132	0.643	0.306	0.608	0.578	0.801
3	37127	0.586	0.747	0.094	0.664	0.669
4	37128	0.293	0.514	0.035	0.695	0.336
5	37129	0.088	0.555	0.013	0.320	0.146
6	37085	0.070	0.062	0.178	0.152	0.554

Clarksville

RANK	ZIP CODE	MENTAL WELL-BEING INDEX	US SOCIETAL PROBLEMS	ECONOMIC STATUS	BASIC NEEDS	PHYSICAL ENVIRONMENT
1	37042	0.813	0.861	0.165	0.923	0.714
2	37040	0.765	0.901	0.218	0.886	0.533
3	42223	0.397	0.554	0.155	0.581	0.494
4	37043	0.054	0.453	0.016	0.302	0.139

Chattanooga

RANK	ZIP CODE	MENTAL WELL-BEING INDEX	US SOCIETAL PROBLEMS	ECONOMIC STATUS	BASIC NEEDS	PHYSICAL ENVIRONMENT
1	37410	0.998	0.995	0.974	1.000	0.738
2	37407	0.997	0.984	0.864	0.987	0.854
3	37404	0.965	0.976	0.748	0.982	0.600
4	37406	0.962	0.947	0.742	0.973	0.618
5	37402	0.953	0.971	0.746	0.941	0.562
6	37351	0.893	0.779	0.772	0.883	0.478
7	37411	0.763	0.818	0.376	0.981	0.359
8	37403	0.642	0.414	0.397	0.810	0.667
9	37421	0.625	0.777	0.132	0.814	0.541
10	37416	0.517	0.674	0.128	0.888	0.338

VULNERABILITY INDEX BY ZIP CODE — CONTINUED

Chattanooga

RANK	ZIP CODE	MENTAL WELL-BEING INDEX	US SOCIETAL PROBLEMS	ECONOMIC STATUS	BASIC NEEDS	PHYSICAL ENVIRONMENT
11	37408	0.477	0.407	0.340	0.732	0.475
12	37419	0.338	0.430	0.138	0.848	0.267
13	37405	0.334	0.510	0.213	0.787	0.166
14	37415	0.317	0.565	0.110	0.651	0.298
15	37343	0.301	0.574	0.158	0.594	0.272
16	37409	0.291	0.487	0.205	0.773	0.114

Memphis

RANK	ZIP CODE	MENTAL WELL-BEING INDEX	US SOCIETAL PROBLEMS	ECONOMIC STATUS	BASIC NEEDS	PHYSICAL ENVIRONMENT
1	38108	1.000	0.987	0.978	0.995	0.766
2	38118	0.995	0.982	0.886	0.990	0.786
3	38106	0.994	0.998	0.944	0.992	0.696
4	38114	0.990	0.994	0.837	0.989	0.762
5	38116	0.989	0.986	0.714	0.979	0.891
6	38127	0.987	1.000	0.810	0.998	0.678
7	38109	0.986	0.998	0.814	0.997	0.677
8	38126	0.979	0.992	0.854	0.922	0.624
9	38128	0.974	0.979	0.658	0.994	0.710
10	38107	0.971	0.926	0.813	0.974	0.608
11	38111	0.970	0.880	0.688	0.963	0.788
12	38122	0.966	0.990	0.558	0.960	0.798
13	38112	0.953	0.938	0.748	0.936	0.597
14	38115	0.949	0.974	0.470	0.986	0.781
15	38105	0.947	0.654	0.930	0.970	0.619
16	38141	0.851	0.710	0.232	0.947	0.874
17	38152	0.805	0.528	0.629	0.510	0.978
18	38104	0.790	0.784	0.382	0.931	0.506
19	38134	0.709	0.877	0.107	0.962	0.514
20	38016	0.680	0.838	0.056	0.816	0.664
21	38133	0.565	0.622	0.132	0.851	0.520
22	38018	0.480	0.731	0.018	0.859	0.349
23	38103	0.374	0.818	0.123	0.378	0.434
24	38117	0.286	0.601	0.067	0.714	0.189
25	38119	0.232	0.483	0.075	0.592	0.269
26	38120	0.182	0.496	0.085	0.515	0.184

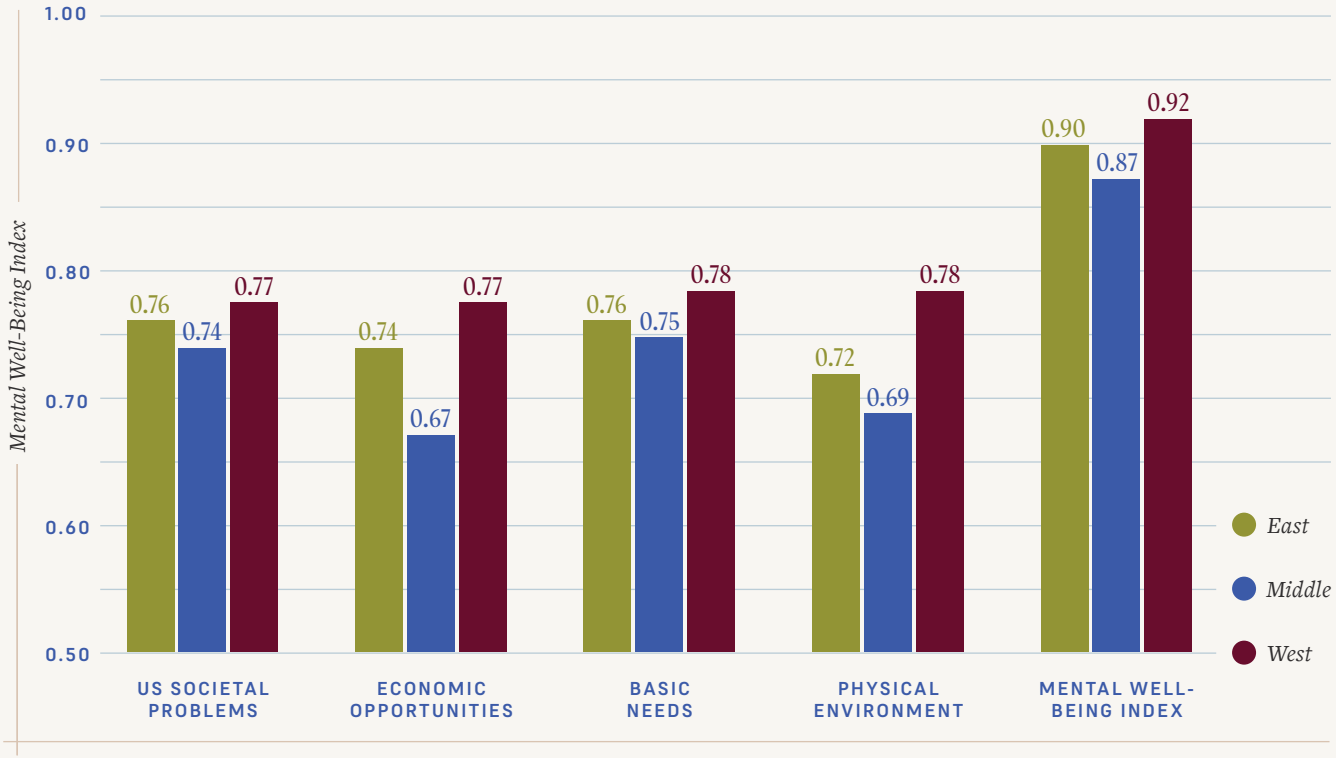
Knoxville

RANK	ZIP CODE	MENTAL WELL-BEING INDEX	US SOCIETAL PROBLEMS	ECONOMIC STATUS	BASIC NEEDS	PHYSICAL ENVIRONMENT
1	37915	0.941	0.829	0.826	0.934	0.556
2	37921	0.915	0.954	0.285	0.926	0.835
3	37912	0.899	0.845	0.338	0.958	0.778
4	37917	0.861	0.878	0.394	0.965	0.538
5	37914	0.827	0.910	0.344	0.971	0.469
6	37920	0.774	0.836	0.237	0.909	0.592
7	37909	0.731	0.699	0.147	0.893	0.757
8	37902	0.677	0.803	0.266	0.723	0.567
9	37916	0.675	0.684	0.631	0.162	0.880
10	37918	0.568	0.719	0.109	0.840	0.467
11	37923	0.533	0.777	0.078	0.602	0.595
12	37919	0.138	0.506	0.083	0.418	0.170

TABLE 04

Mental Well-Being Index Vulnerability Scores

REGION	US SOCIETAL PROBLEMS	ECONOMIC OPPORTUNITIES	BASIC NEEDS	PHYSICAL ENVIRONMENT	MENTAL WELL-BEING INDEX	NO. OF ZIP CODES
East	0.764	0.741	0.764	0.720	0.901	46
Middle	0.739	0.670	0.752	0.693	0.870	30
West	0.773	0.765	0.779	0.778	0.917	50



Endnotes

1 Vanderbilt Child Health Poll (2023). The Center for Child Health Policy. vumc.org/childhealthpolicy/child-health-poll.

2 Gallup. (2023). *Voices of Gen Z: Perspectives on U.S. Education, Wellbeing and the Future*.

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5 The Hechinger Report (Feb. 9, 2024). hechingerreport.org/the-worst-of-the-pandemic-is-behind-us-college-students-mental-health-needs-are-not

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10 Heinrich, Carolyn J., Ann Colomer, Matthew Heironimus. (July 2023). Minding the gap: Evidence, implementation and funding gaps in mental health services delivery for school-aged children. *Children and Youth Services Review* 150. sciencedirect.com/science/article/pii/S0190740923002189?via%3Dihub

11 The Social Determinants of Mental Health. Eds Michael T. Compton and Ruth S. Shim. American Psychiatric Publishing (2015).

12 Map created using mySidewalk (mysidewalk.com) and Belmont Data Collaborative mental health index. See Appendix Table 1 for data sources informing BDC's mental health index.

13 Map created using mySidewalk (mysidewalk.com) and Belmont Data Collaborative mental health index. See Appendix Table 1 for data sources informing BDC's mental health index.

14 Map created using mySidewalk (mysidewalk.com) and Belmont Data Collaborative mental health index. See Appendix Table 1 for data sources informing BDC's mental health index.

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19 Map created using mySidewalk (mysidewalk.com) and Belmont Data Collaborative mental health index. See Appendix Table 1 for data sources informing BDC's mental health index.

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