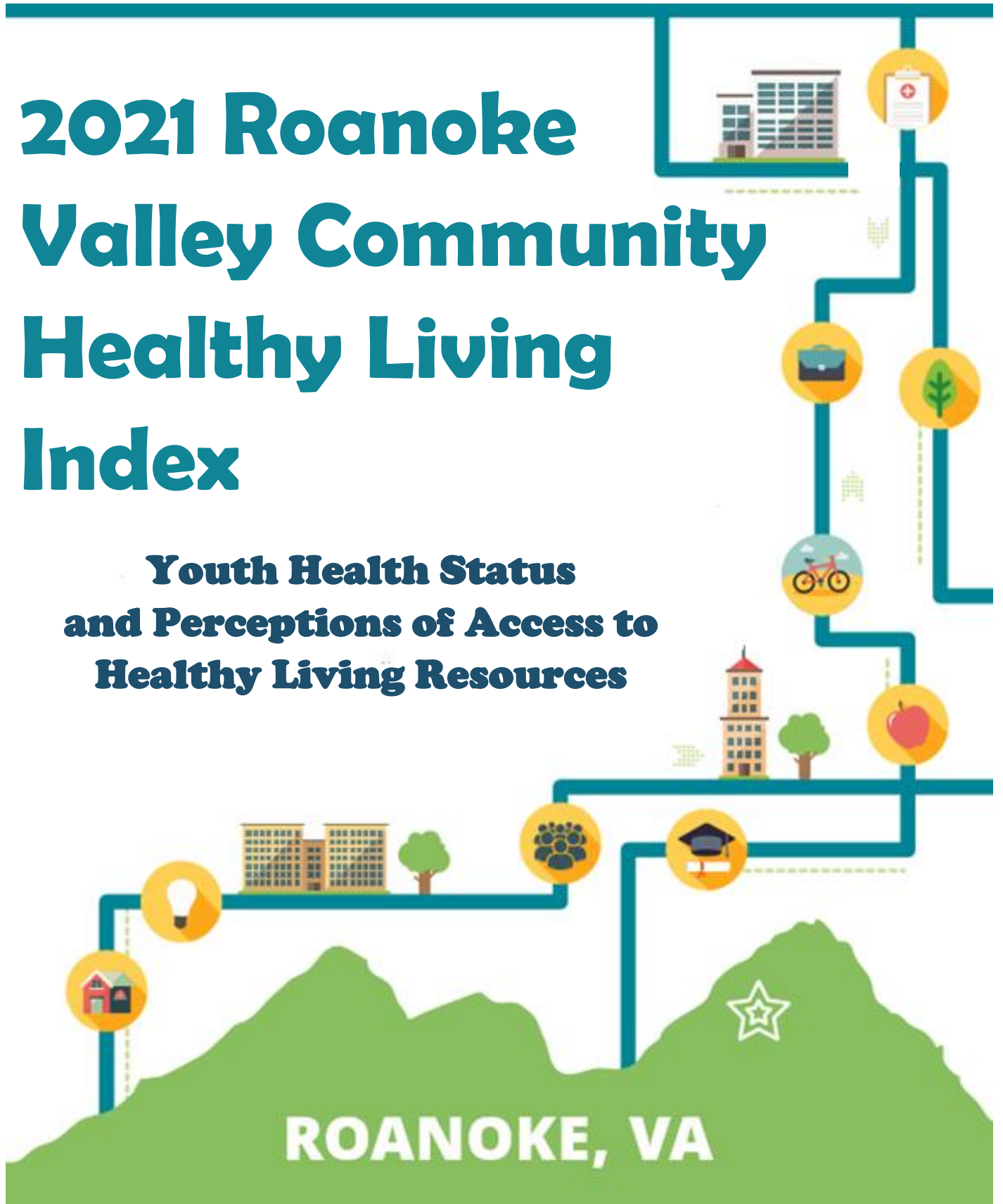


2021 Roanoke Valley Community Healthy Living Index

**Youth Health Status
and Perceptions of Access to
Healthy Living Resources**



ROANOKE, VA

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Background:

The Roanoke Valley Community Healthy Living Index (RVCHLI) was developed in 2011 to facilitate awareness of relationships between “place” and health across Roanoke’s city neighborhoods. Adapted from a previously validated tool developed by the Centers for Disease Control and Prevention¹, the RVCHLI combines GIS technologies with familial perceptions of access to healthy living resources and objective measures of youth health outcomes.² In this way, the RVCHLI serves to empower stakeholders across diverse sectors to make informed decisions in the development of projects and programs seeking to improve community health and to promote equitable resource availability across city neighborhoods.

In addition to providing an array of local stakeholders with benchmark data concerning youth health status across Roanoke’s diverse neighborhoods, the RVCHLI has served as a catalyst for strategic planning for Roanoke’s Invest Health Initiative, Star City Reads, the PATH Coalition, the Northwest Food Access Initiative, and Roanoke’s 2040 Comprehensive Plan.

The RVCHLI is directed by Dr. Liz Ackley, Brian H. Thornhill Associate Professor and Director of the Center for Community Health Innovation at Roanoke College, and is made possible through an enduring partnership with the Roanoke City Public School System. The 2021 data report was prepared with the attentive assistance of Alexis Hartranft, Kavya Iyer, Bryn Haden, Bailee Heatwole, and Kennedy Clemmer, Undergraduate Research Assistants at the Center for Community Health Innovation, and was supported by a generous donation from the New York Community Trust. For more information or for questions concerning this report, please contact the Center for Community Health Innovation at healthinnovation@roanoke.edu or visit us at www.roanoke.edu/healthinnovation.

This report is intended for use by the community and should be cited accordingly:

Ackley, E. I. (2022). The 2021 Roanoke Valley Community Healthy Living Index: Youth Health Status and Perceptions of Access to Healthy Living Resources.

While an internal committee has reviewed the data presented in this report, complete accuracy cannot be guaranteed. The authors assume no liability for the use or misuse of this data.



¹ Soowon, K., et al. (2009). Development of the Community Healthy Living Index: A tool to foster healthy environments for the prevention of obesity and chronic disease. *Preventive Medicine*, 50(S), 80-85.

² Youth health outcomes used in this assessment were determined objectively from the FitnessGram Test Battery. More information on this widely-accepted assessment can be found at <http://www.cooperinstitute.org/fitnessgram/components>.

Executive Summary:

Purpose: This report summarizes weight-related health outcomes in Roanoke city youth, family-reported engagement in healthy behaviors, and perceptions of access to resources supporting healthy living across Roanoke city's diverse neighborhoods. As a secondary purpose, this report documents longitudinal changes in each measured outcome, thus capturing the influence of the COVID-19 pandemic on child weight status, engagement in healthy behaviors, and family reported barriers and facilitators to healthy living.

Methods: The 2021 Roanoke Valley Community Healthy Living Index was conducted in collaboration with the Roanoke city public elementary school system from September to November, 2021. Weight-related health status (BMI-for-age) was collected by physical educators as a component of the FitnessGram test battery ($n = 5,064$, representing 80% of enrolled children). Self-reported engagement in healthy behaviors and perceptions of access to resources supporting healthy living were collected by questionnaire ($n = 1,146$, representing 29% of Roanoke city families with elementary school-aged children). Data were collated, analyzed, and reported by the Center for Community Health Innovation at Roanoke College.

Summary of Results:

- Compared to national estimates of similarly-aged youth (6-11 years), Roanoke city children display higher rates of obesity and lower rates of healthy weight (pg. 6, Table 1). Following a pattern of relative stability across all classifications of weight status since 2017, overweight and obesity in Roanoke city youth rose to 49% of all children, representing a 5% increase from 2019 to 2021, far exceeding nationwide increases in unhealthy weight status (2%) as a result of the COVID-19 pandemic (pg. 5-6).
- Geographic variations in unhealthy weight status occurred across Roanoke's diverse neighborhoods. Whereas some schools zones reported obesity prevalence rates comparable to national estimates, others exceeded national estimates by more than 20% (pg. 6, Figure 2).
- Self-reported engagement in physical activity among Roanoke city youth falls short of the recommended threshold outlined by national guidelines and thus may be insufficient to produce important developmental and health-related benefits (pg. 9-10). Families report challenges related to supportive infrastructure and neighborhood traffic as primary barriers to child engagement in physical activity.
- Healthy eating behaviors remained largely unchanged in 2021 compared to previous assessments, indicating that about half of Roanoke city families eat dinner together as a family nearly every night and prepare most of their meals at home. Perceptions of access to healthy foods varied widely by neighborhood, with families of Northwest Roanoke reporting the most difficulty accessing healthy foods (pg. 15). Most families reported being satisfied with school nutrition programs, recommending enhanced access to healthy food options.
- While fewer than half of Roanoke city families described a neighborhood culture supportive of healthy living, approximately one third of families report having a cohesive group of neighbors who could advocate for the health of the community. Reflecting low levels of reported community engagement, neighborhood forums in Northwest and Southeast Roanoke should be supported in promoting a more cohesive neighborhood culture of health (pg. 17).

2021 Roanoke Valley Community Healthy Living Index

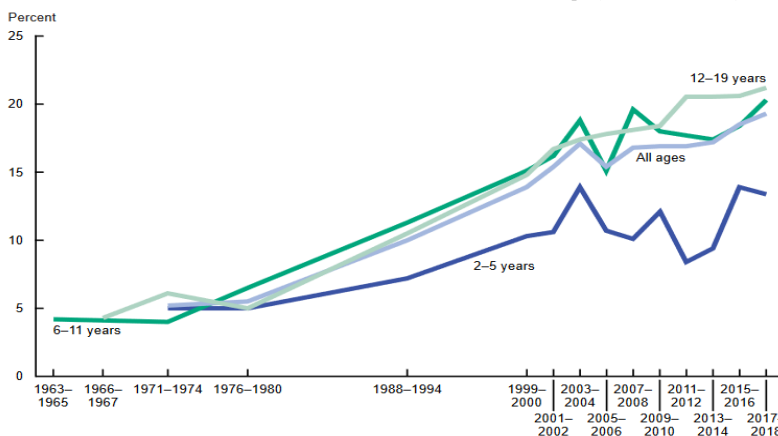
Youth Health Status

Weight-Related Health Status: A National Perspective

Recent data reported by the National Center for Health Statistics indicate that, prior to the COVID-19 pandemic, 20.3%-20.7% of elementary school-aged children in the United States (aged 6-11 years) classified as obese.^{3,4} In the ten year period preceding the pandemic, national patterns of weight-related health outcomes demonstrated a marked increase in obesity from 2014 to 2019 (see Figure 1).³ Across the same time period, state-level indicators in Virginia suggested a similar upward trend, albeit with a slightly lower prevalence of obesity (15%).⁵

The COVID-19 pandemic introduced significant disruptions in daily structure which presented the potential for accelerated weight gain in youth, including irregular meal times, reduced access to healthy foods, and fewer opportunities for structured physical activity. Nationally, the prevalence of obesity in youth rose to 22.4% - up 2% from 2019, with the greatest acceleration in weight gain occurring among 6-11 year olds.⁶

Figure 1: National trends in childhood obesity (1963-2018)³



Measuring BMI-for-Age

The measurement of body mass index-for-age (BMI-for-age) allows for the assessment of weight-related health risk in youth while controlling for maturation as children age. Derived from assessments of weight and height, BMI-for-age percentiles can be used to classify a child as underweight (< 5th percentile for age), healthy weight (\geq 5th to < 85th percentile for age), overweight (\leq 85th to < 95th percentile for age), obese (\geq 95th percentile for age; class-I obesity), or severely obese (\geq 120% to < 140% of the 95th percentile for age; class-II obesity)². For the RVCHLI assessment, BMI-for-age is determined as a part of the FitnessGram test battery, an annual evaluation of the components of health-related fitness conducted by Roanoke city school physical educators.

³ Fryar CD, Carroll, MD, & Afful J (2021). Prevalence of overweight, obesity, and severe obesity among children and adolescents aged 2-9 years: United States, 1963-1965 through 2017-2018. NCHS Health E-Stats. <https://www.cdc.gov/nchs/data/hestat/obesity-child-17-18/obesity-child.htm>

⁴ Stierman B, Afful J, Carroll, M (2021). NHANES 2017-2020 Pre-pandemic Data Files... National Health Statistics Report. <https://stacks.cdc.gov/view/cdc/106273>

⁵ <https://stateofchildhoodobesity.org/states/va/>; Note that the age for this sample is slightly older than national and local comparative groups (10-17 years).

⁶ Lange, S.J. et al. (2021). Longitudinal trends in body mass index before and during the COVID-19 pandemic among persons aged 2-19 years - United States, 2018-2020. *Morbidity and Mortality Weekly Report*, 70(37), 1278-1283.

Weight-Related Health Status: Examining Local Trends

The 2021 RVCHLI provided an opportunity to examine the impact of COVID-19 on weight-related health status in Roanoke city children. Evaluated in the fall of 2021 as a component of the FitnessGram Test Battery, it was determined that 29% of elementary school-aged youth (6-11 years) classified as obese, representing a 5% increase in obesity prevalence from 2019 – more than twice the increase observed nationally (see Table 1 and Figure 2). In 2021, fewer than half of Roanoke city elementary school youth classified as healthy weight.

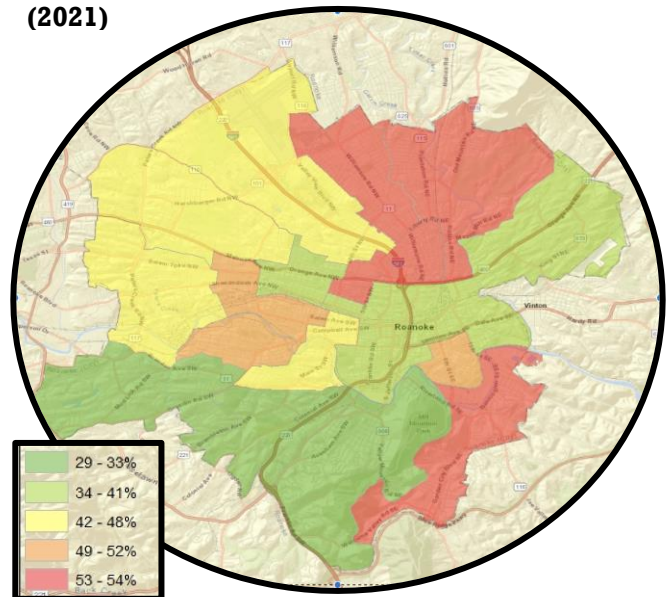
Table 1: Weight status of Roanoke City youth (2021)

BMI-for age Classification	Boys	Girls	Total	United States ³
Underweight	5%	5%	5%	4%
Healthy Weight	50%	48%	49%	61%
Overweight	17%	16%	17%	16%
Obese	28%	30%	29%	19%
Total number of students (n)	2,552	2,512	5,064	n/a

Note. The Roanoke City sample represents 80% of students enrolled in Roanoke City public elementary schools. Comparative data across weight classifications comes from a nationally-representative study of age-matched youth conducted in 2018³.

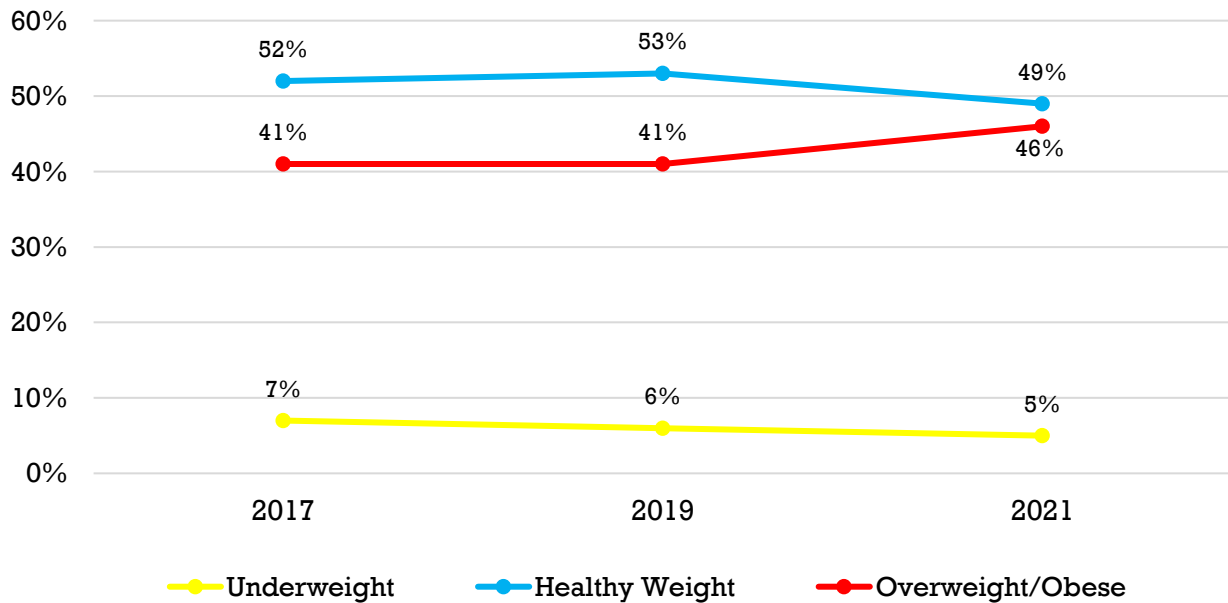
As in previous years of the RVCHLI assessment, considerable variations in the prevalence of unhealthy weight status occurred across Roanoke city neighborhoods. In 2021, the highest concentrations of overweight and obesity occurred in the following school zones: Monterey (54%), Lincoln Terrace (54%), Garden City (53%), Preston Park (53%), Hurt Park (52%), Morningside (51%) and Virginia Heights (50%), where more than half of enrolled students classified as overweight or obese (see Figure 2; prevalence rates are displayed by quantile). Conversely, overweight and obesity were least prevalent among youth attending Grandin Court (29%), Crystal Spring (32%) and Fishburn Park (33%) elementary schools, where approximately one-third of enrolled students classified as overweight or obese - more in-line with national trends compared to other Roanoke city school zones. These trends demonstrate a slight geographic shift in weight related health disparities across the city since 2019. While Monterey elementary continues to demonstrate the most persistent need of intervention, rates of obesity increased citywide, creating changes in the upper quantile classifications compared to prior years of assessment (see Figure 2; in 2019, all school zones exceeding 44% in overweight prevalence were in the upper quantile).

Figure 2: Neighborhood-level prevalence of overweight and obesity in Roanoke city youth (2021)



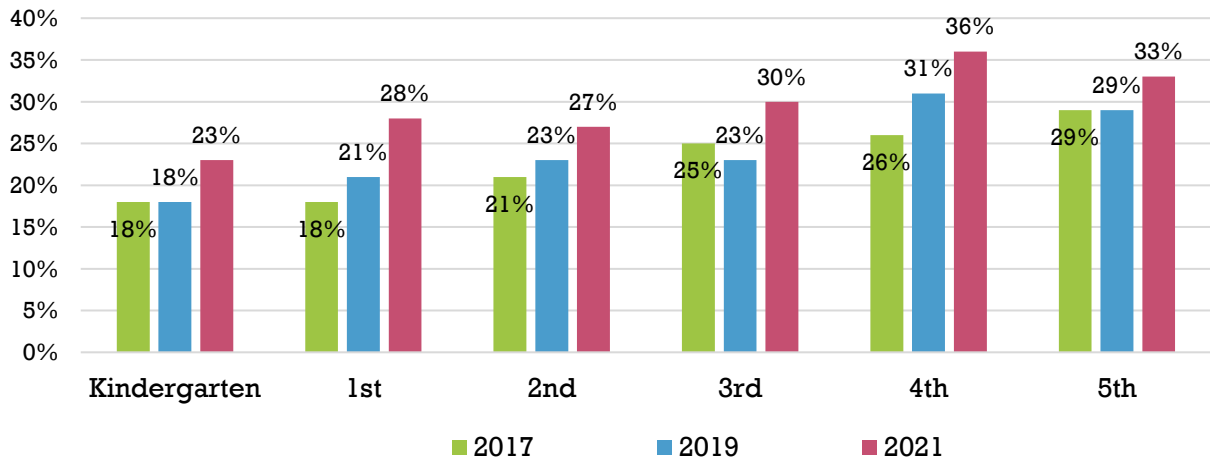
Since citywide estimates of youth health status have been included as a component of the RVCHLI since 2017, temporal patterns in weight status can be observed. Much like national estimates, from 2017 to 2019, the prevalence of all classifications of weight status remained relatively stable. From 2019 to 2021 however, marked increases in childhood overweight and obesity were observed (see Figure 3).

Figure 3: Temporal patterns in weight status among Roanoke city youth (2017-2021)



Since BMI-for-age percentiles control for maturation as children age, healthy weight status should be maintained over time, yet when age-related trends in weight status are observed at a national level, the prevalence of obesity gradually increases with age from 13.4% among youth aged 2-5 years, to 20.3% among youth aged 6-11 years, to 21.2% among adolescents aged 12-19 years.³ In Roanoke, a similar age-related trend occurs but with more accelerated gains among the youngest cohorts in 2021 (Figure 4).

Figure 4: Temporal trends in obesity by grade level (2017-2021)



Data was also examined to elucidate sex-based trends. In a nationally-representative cohort of elementary school-aged boys (aged 6-11 years, from 2017-2020), 22.9% of boys classified as obese.⁴ In Roanoke in 2021, 28% of boys classified as obese, increasing in prevalence by 6% since 2019 (Figure 5). The combined prevalence of overweight and obesity was highest among boys at Preston Park (53%), Fairview (46%), Monterey (44%) and Fallon Park (44%) elementary schools, and lowest at Crystal Spring (25%), Highland Park (26%), and Grandin Court (28%) elementary schools.

In a nationally-representative cohort of elementary school-aged girls from 2017 to 2020, 18.5% of girls classified as obese.⁴ In 2021, 30% of Roanoke city girls classified as obese - nearly twice the national prevalence - representing a 4% increase in obesity since 2019 (see Figure 6). The combined prevalence of overweight and obesity was highest among girls at Preston Park (52%), Westside (50%), Fairview (50%), and Garden City (47%) elementary schools, and lowest at Crystal Spring (26%), Fishburn Park (29%), and Wasena (34%) elementary schools.

When viewed cross-sectionally, as boys and girls grow up in Roanoke, unhealthy weight gain from Kindergarten to 5th grade is relatively similar across sexes, with overweight and obesity increasing gradually over time (see Figure 7).

Figure 5: Temporal trends in weight status among Roanoke city boys

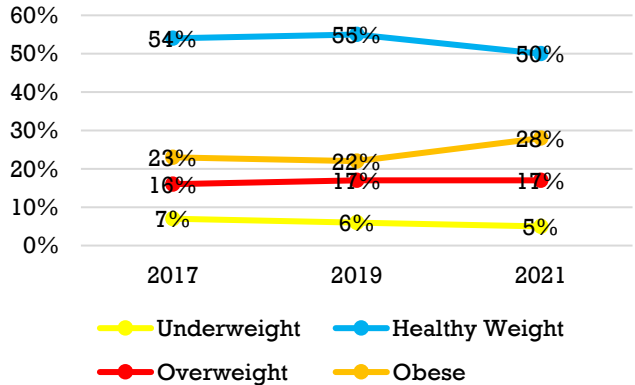


Figure 6: Temporal trends in weight status among Roanoke city girls

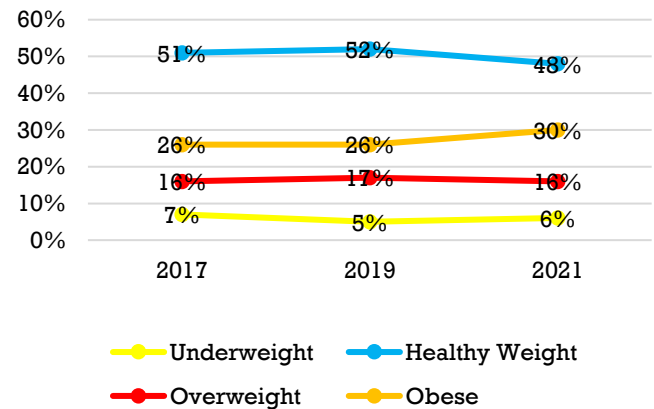
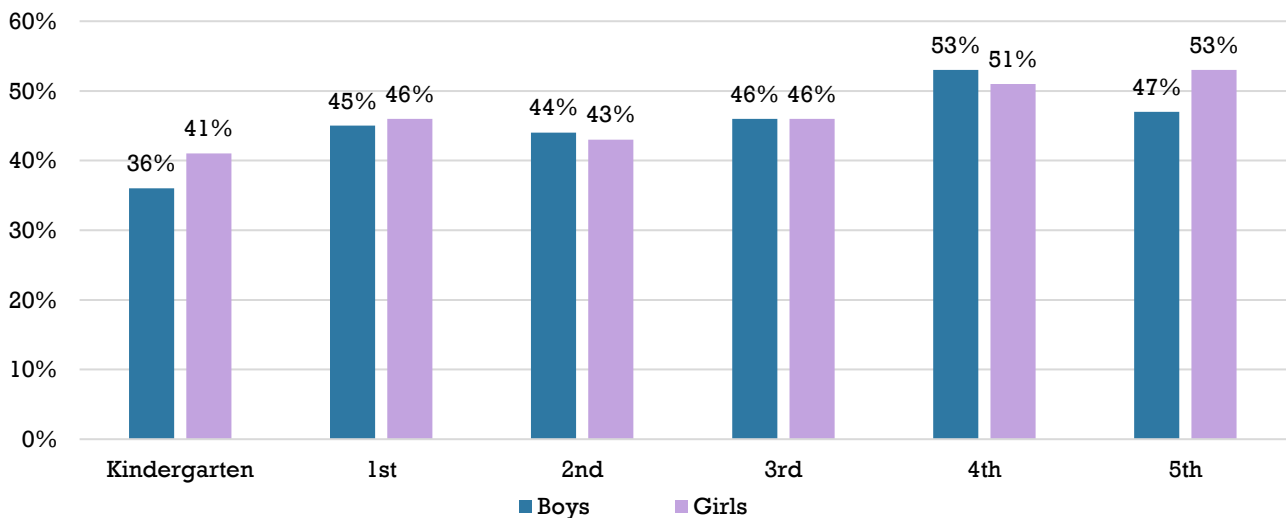


Figure 7: Overweight and obesity by sex and grade level (2021)



Healthy Behaviors

An individual’s health status is influenced by a number of determinants, including (but not limited to) family education attainment, income and employment, genetics, the physical environment, safety, social support, access to clinical and wellness services, and engagement in healthy behaviors. As much as 20-50% of the variation in health status between individuals can be explained by healthy behaviors,⁷ yet the ability to engage in healthy behaviors is largely influenced by access to healthy living resources, such as supportive infrastructure and services. To evaluate engagement in healthy behaviors and access to healthy living resources, families were asked to both describe their child’s physical activity and healthy eating behaviors and to rate their perceived access to resources supporting healthy living in school- and neighborhood contexts. *Due to the voluntary nature of the survey, attention should be given to the sample size before generalizing this data.*



In 2021, 1,446 families with elementary school-aged children (representing all 17 public elementary schools in the city) volunteered to complete the RVCHLI survey. This sample represents 29% of eligible families in Roanoke.

Engagement in Physical Activity

As outlined by the Physical Activity Guidelines for Americans, elementary school-aged children should engage in a minimum of 60-minutes of physical activity each day.⁸ Students were asked to describe their engagement in physical activity across a typical week to determine if they were attaining recommended levels of physical activity. In a typical school week, Roanoke city students spend 30-45 minutes in physical education class once per week and have 20-30 minutes of recess each day.⁹ In the context of physical education, 65% of students reported being active always or often, while 30% reported being active only some of the time or hardly ever (Figure 8). During recess, 72% reported playing hard most or all of the time (Figure 9). These findings demonstrate

Figure 8: Engagement in physical activity during Physical Education classes

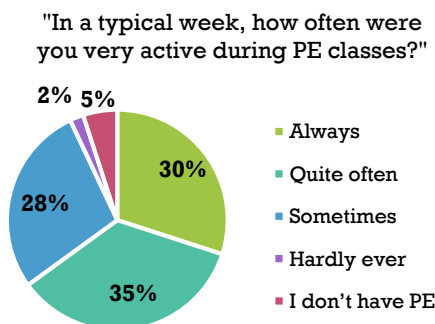
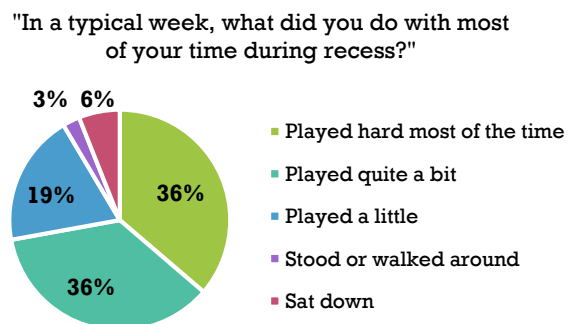


Figure 9: Engagement in physical activity during recess



⁷ Infographic developed by the Bipartisan Policy Center: <https://bipartisanpolicy.org/library/what-makes-us-healthy-vs-what-we-spend-on-being-healthy/>.

⁸ Physical Activity Guidelines for Americans, 2nd Edition: https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf

⁹ Current Roanoke City Public School physical education and recess policies.

that students must engage in physical activity at home in order to meet the physical activity guidelines for youth and to ensure appropriate health benefits. To assess physical activity engagement while at home, students were asked about their frequency of engagement in physical activity across a typical week, patterns of active commuting to school, and the types of activities they engage in most frequently. In reference to the national physical activity guidelines, only 16% of students reported being physically active five or more times during the week (Figure 10) and 78% of students reported being active at least twice in a typical weekend (Figure 11). When asked to describe the physical activities children engage in most frequently, the most commonly reported activities included **biking** (65%), **walking** (55%), **free playing** (37%), **playing sports** (34%), **running** (22%), and **hiking** (22%).

Figure 10: Engagement in physical activity during the week

"On how many days after school did you do activities in which you were very active?"

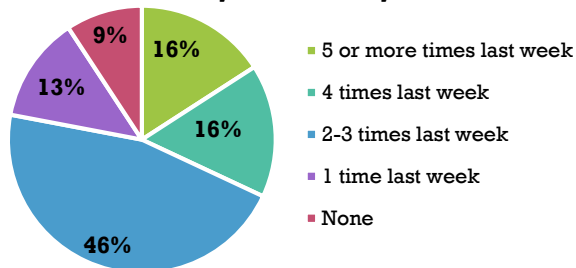
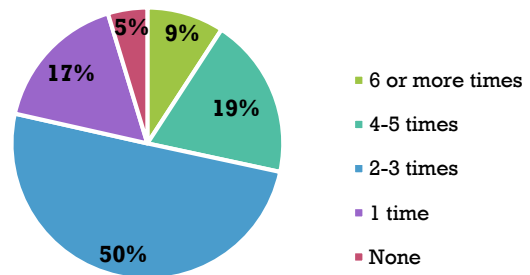


Figure 11: Engagement in physical activity during the weekend

"In a typical weekend, how many times were you active?"



Regarding active commuting, 14% of students reported walking or riding their bike to school (consistent with reports from 2017 and 2019; see Figure 12), with equal rates of participation among girls and boys. Among students who reported active commuting, most attended Crystal Spring (18%), Virginia Heights (13%), or Grandin Court (10%) elementary schools. The lowest rates of active commuting were reported by students attending Hurt Park (<1%), Fishburn Park (2%), Lincoln Terrace (4%), and Round Hill (4%) elementary schools. Despite no existing Safe Routes policies in Roanoke, 26% of families perceived they existed (Figure 13).

Figure 12: Active commuting to school

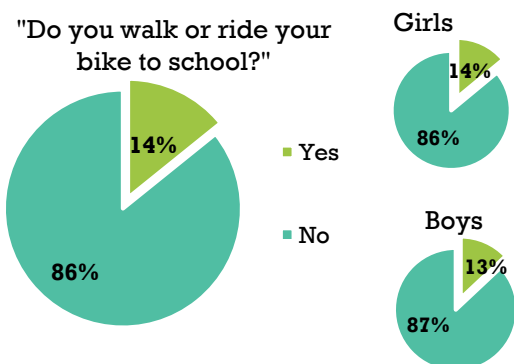
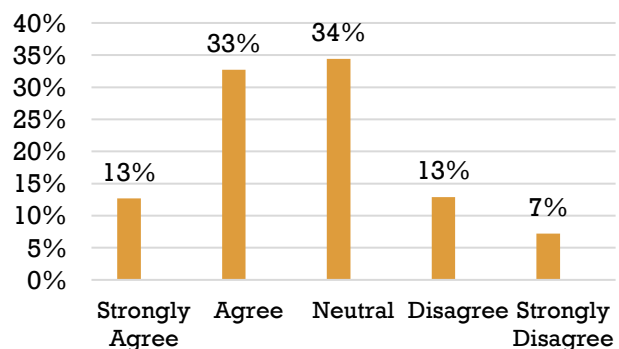


Figure 13: Neighborhood safe routes programs



Taken together, these findings suggest that the physical activity levels of Roanoke city youth are below the recommended threshold outlined in national guidelines and thus may be insufficient to produce important developmental and health-related benefits.

Perceptions of Resources Supporting Physical Activity: Examination of the Neighborhood Environment

To begin to understand factors which may influence physical activity engagement in the home environment, respondents were asked to describe their level of access to resources supporting physical activity in the context of their home neighborhood. Among respondent families, 73% reported having access to parks and recreational facilities in their neighborhood (see Figure 14), a slight decline from 2017 and 2019 (74% and 76%, respectively), particularly among those responding “strongly agree”, which declined from 44% in 2019. When asked to consider the safety of those resources, 42% of respondent families perceived their neighborhood parks, sidewalks, and parking areas were sufficiently lit to be considered safe (compare to 40% in 2017 and 44% in 2019; see Figure 15).

Figure 14: Availability of resources supporting physical activity

"Parks and other areas are available for people of all ages to be active in the neighborhood"

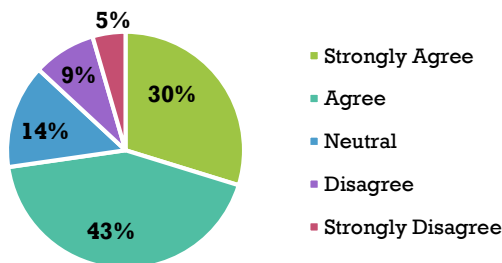
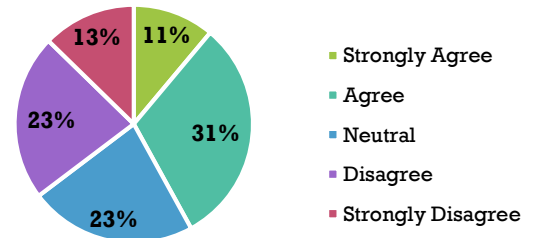


Figure 15: Safety of resources supporting physical activity

"Sidewalks, parks, and parking spots in the neighborhood are well lit at night to keep us safe"



Regarding physical activity, 64% of families perceived their neighborhood as safe for children to engage in physical activities outdoors during the daytime (see Figure 16), whereas 50% of families perceived adequate safety for evening physical activities¹⁰ (see Figure 17); these findings align with reports from 2019. Families were more likely to report adequate safety for daytime activities in the Round Hill (15% of within-school responses), Grandin (13%), Crystal Spring (10%), and Virginia Heights (8%) school zones, and less likely within the Hurt Park (<1%), Lincoln Terrace (2%), Morningside (3%), RAMS (3%), and Gardin City (3%) elementary school zones.

Figure 16: Neighborhood safety for daytime physical activities

"People who walk and bike in the neighborhood during the day feel safe"

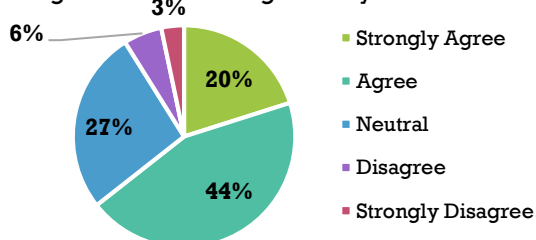
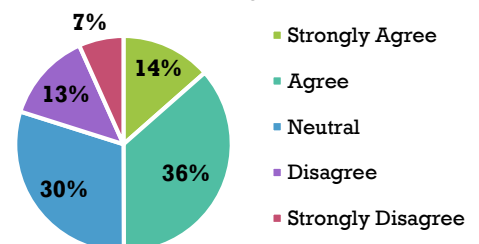


Figure 17: Neighborhood safety for evening physical activities

"People who walk or bike in the neighborhood in the evening feel safe"



¹⁰ As indicated by a “strongly agree” or “agree” response to the prompts, “People who walk and bike in the neighborhood during the day feel safe” or “People who walk and bike in the neighborhood in the evening feel safe”.

According to 54% of respondent families, heavy traffic and inappropriate driving speeds were perceived as significant safety concerns in their neighborhood (comparable to 2017 and 2019, at 56% and 54%, respectively; see Figure 18). When prompted to describe police presence in areas supporting physical activity, respondents were generally impartial about the visibility of police officers in their neighborhood (see Figure 19), representing a 12% decline in perceived police presence since 2019.

Figure 18: Perceptions of traffic safety in areas supporting physical activity

"Car drivers obey speed limits in the neighborhood and stop for people crossing the street"

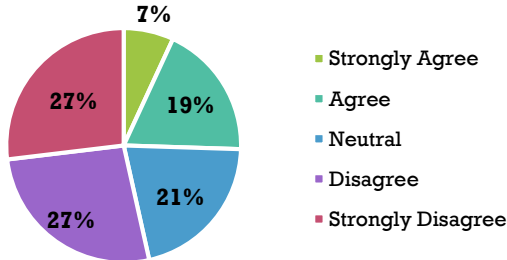
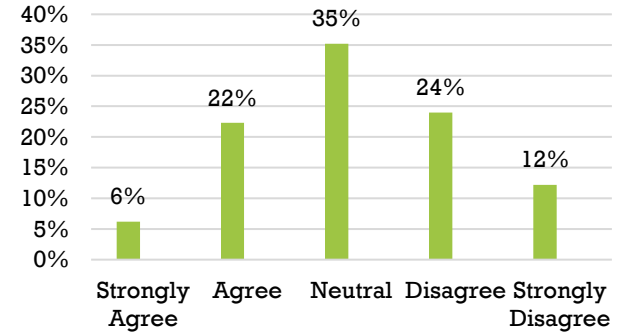
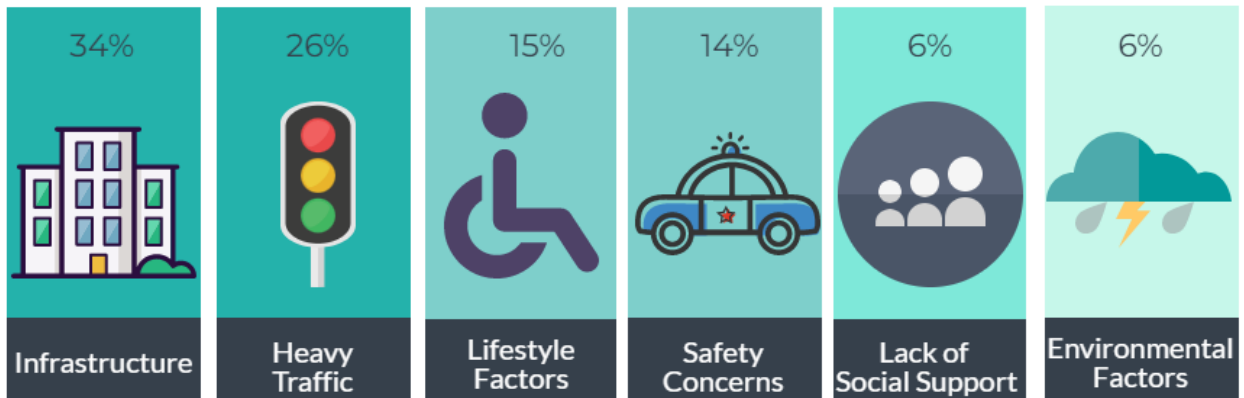


Figure 19: Perceived police presence in areas supporting physical activity



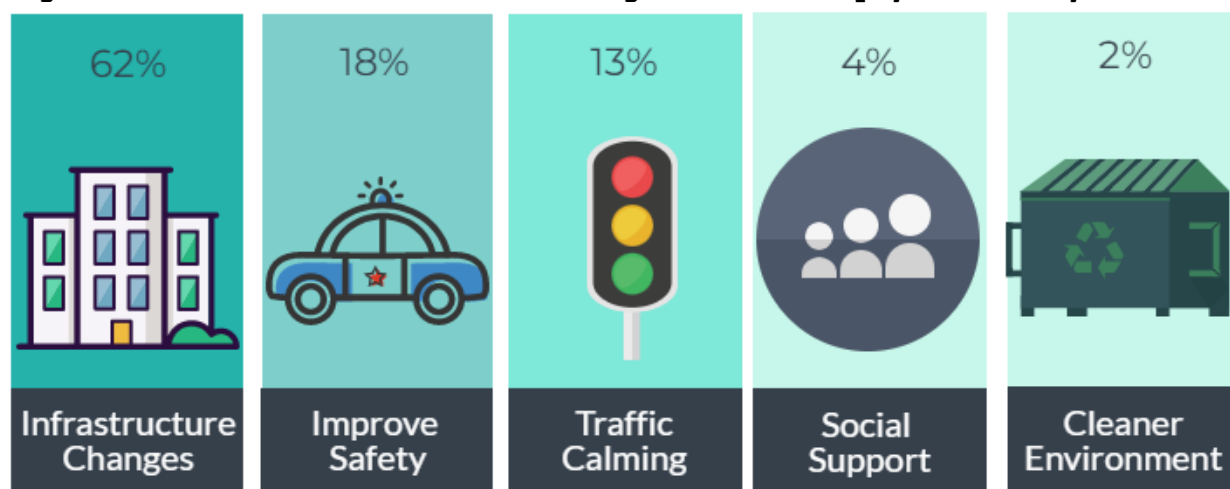
When asked to provide open-ended descriptions of the barriers to physical activity families experience, the most commonly reported barriers related to **infrastructure** [34% of responses, including insufficient sidewalks (51%), a lack of park access (12%), and a lack of cycling safety (12%)], **heavy traffic** [26% of responses, including speeding (73%) and a lack of pedestrian safety (6%)], **lifestyle factors** [15% of responses, including physical limitations of the child or guardian (36%), working parents (27%), or a lack of time (21%)], **safety concerns** [14% of responses, including concerns for gun violence (17%), the presence of crime (10%), and drugs in the neighborhood (6%)], a **lack of social support** (6%), and **environmental factors** (6%); see Figure 20. Primary themes outlining barriers to physical activity have remained largely unchanged since 2017, yet more families reported a need for supportive infrastructure in the neighborhood environment in 2021 (up from 29%).

Figure 20: Family-reported barriers to neighborhood-level physical activity



To overcome neighborhood-level barriers and enhance participation in health-producing physical activities, respondent families provided recommendations to make it easier to participate in physical activities in their home neighborhood. Primary themes related to **neighborhood infrastructure** [62% of responses, including improvements to sidewalks (48%), creating new parks (27%) or upgrading existing parks (8%), and enhancing lighting (6%)], **improving neighborhood safety** [18%, including police patrolling (10%), drug/crime prevention strategies (3%), and addressing gun violence (2%)], **enhancing traffic calming measures** [13%, especially through speed limit enforcement (62%) and better signage (19%)], **improving the neighborhood culture of health** [4%, including more neighborhood activities (49%)], and **creating cleaner neighborhood environments** (2% of responses) – an emergent theme in 2021; see Figure 21.

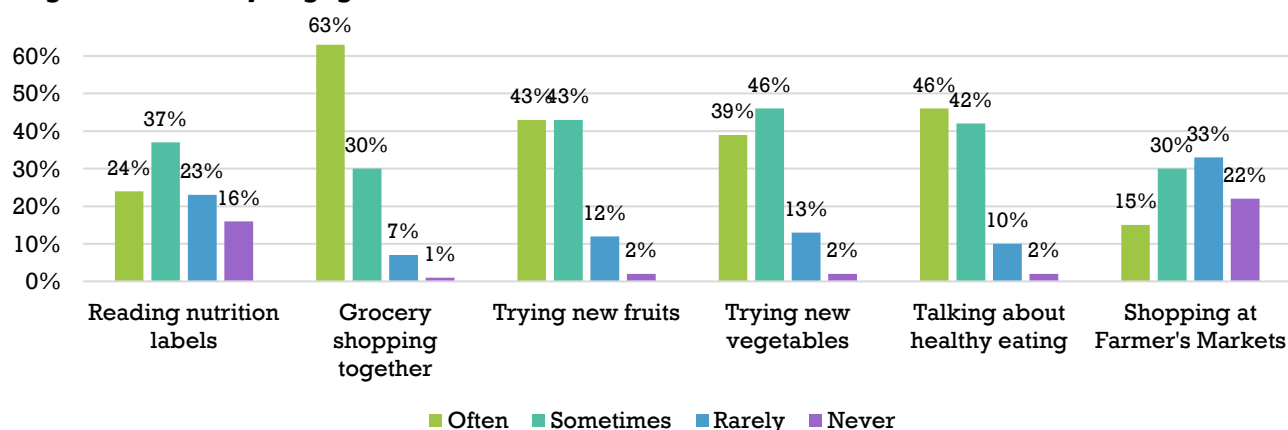
Figure 21: Recommendations to enhance neighborhood-level physical activity



Engagement in Healthy Eating: Family Food Culture

To better understand healthy eating behaviors, students were asked to describe their engagement in a variety of nutrition-related behaviors with their family, including reading food labels, grocery shopping together, trying new fruits and/or vegetables, talking about healthy eating, and shopping at Farmer's Markets. In 2021, the most commonly-reported behaviors included grocery shopping together, trying new produce, and talking about healthy eating (Figure 22). While trends

Figure 22: Family engagement in nutrition-related behaviors



mirror those reported in 2018, 13% fewer families described shopping for groceries together “often” - a potential consequence of COVID-19 social distancing orders - while more families reported trying new fruits or vegetables “often” compared to 2018 (37% and 34%, respectively).

Students were also asked to describe their family food culture related to health beliefs, mealtime behaviors, and food preparation. Collectively, 78% of Roanoke’s families reported believing that the foods they eat affect their physical health “very much” or “somewhat” (Figure 23), down slightly from 81% in 2018. Families reported eating dinner together frequently, with 82% of respondents sharing 4-7 dinners together weekly (Figure 24; similar to 2018). Shared family mealtimes were reported most frequently by students attending Round Hill (15%), Grandin Court (11%), Fallon Park (10%), and Crystal Spring (9%) elementary schools and least frequently by students at Hurt Park (1%), Monterey (2%), Garden City (3%) and Lincoln Terrace (3%) elementary schools.

Figure 23: The effect of food on physical health

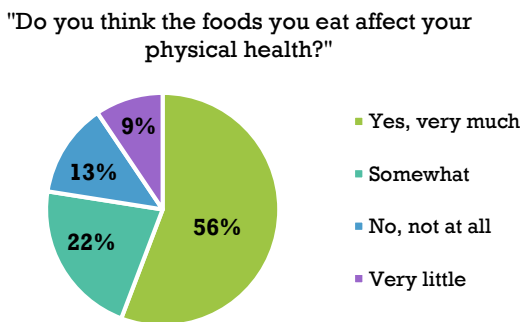
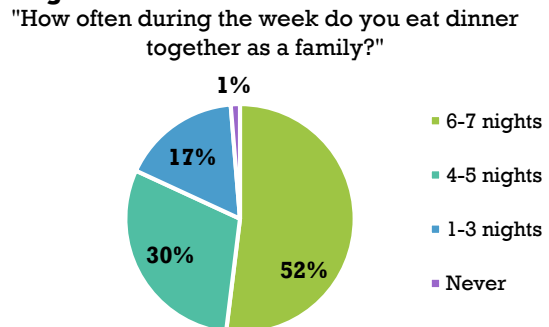


Figure 24: Frequency of family meals together



Families were also asked about meal preparation behaviors. Half of respondent families reported preparing 7 or more weekly meals at home (54%; Figure 25) with 75% of families reporting the consumption of at least 1-3 already-prepared meals during the week (Figure 26; similar to 2018). Consumption of already prepared foods was reported most frequently by students attending Round Hill, Westside, RAMS, Monterey, and Grandin Court elementary schools.

Figure 25: Weekly consumption of self-prepared meals

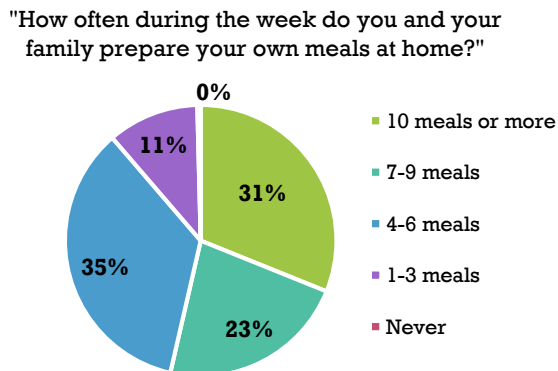
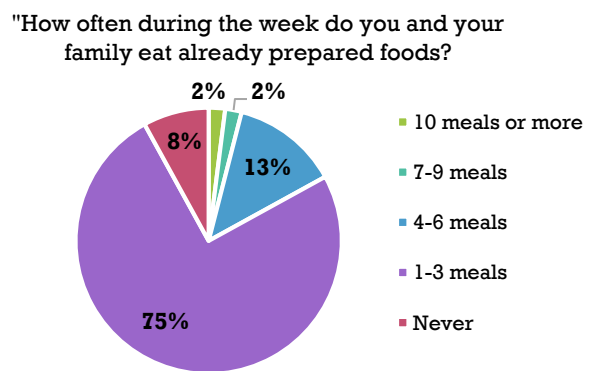


Figure 26: Weekly consumption of already-prepared meals



Perceptions of Resources Supporting Healthy Eating: The Neighborhood Environment

To better understand food resource availability in close proximity to the home, families were asked to describe their ease of food retail accessibility and the availability of neighborhood-level incentives for purchasing healthy foods. As illustrated in Figure 27, 72% of Roanoke city families did not perceive difficulty purchasing healthy foods in their neighborhood (compared to 69% in 2017), and 43% of families agreed that incentives were provided by neighborhood stores to encourage healthy eating¹¹ (see Figure 28). When examining neighborhood-level trends, perceived difficulty in purchasing healthy foods was reported most frequently among families with children attending Lincoln Terrace (51% of within-school respondents), Hurt Park (41%), RAMS (40%), and Westside (39%) elementary schools, and least frequently among families with children attending Crystal Spring (8%), Wasena (11%), and Grandin Court (13%).

Figure 27: Perceived difficulty purchasing healthy foods in the neighborhood

"How difficult is it for you to buy healthy foods in your neighborhood"

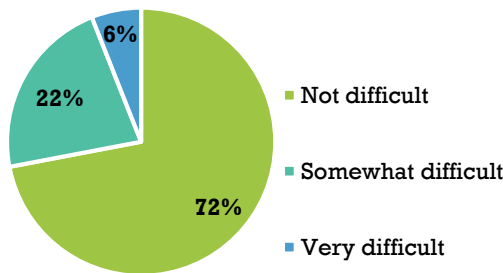
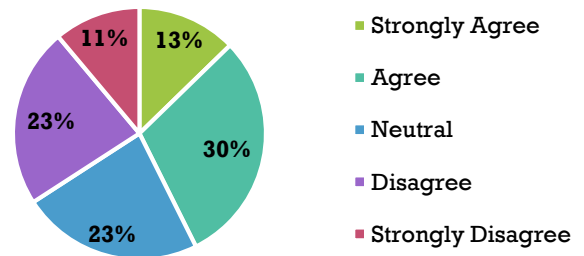


Figure 28: Neighborhood-level food incentive programs

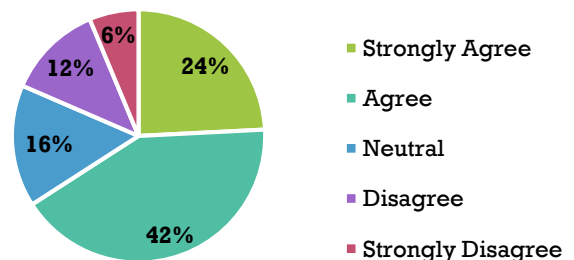
"Neighborhood food stores give us coupons or lower prices for healthy foods and drinks"



In order to gain an understanding of neighborhood-level factors which influence healthy eating behaviors, families were asked to describe food resource proximity to the home. Collectively, 66% of families perceived that healthy food resources were accessible via active commuting or public transportation (down from 71% in 2019; see Figure 29). Difficulty in accessing healthy food resources was reported most frequently by families with children attending Hurt Park (47% of within-school responses), RAMS (37%), Highland Park (28%), and Monterey (26%) elementary schools, and least frequently among families with children attending Fairview (8% reported difficulty), Virginia Heights (9%), Grandin Court (9%), and Morningside (10%) elementary schools.

Figure 29: Neighborhood-level access to healthy foods

"Food stores offering healthy foods are in walking distance from home or are easy to get to by bus"



¹¹ As indicated by responding "agree" or "strongly agree".

When prompted to describe factors that could make healthy eating or healthy food purchases easier in city neighborhoods, families described a desire for **mobile markets and farmers markets** in close proximity to their home (26% of respondents), **enhanced affordability** of healthy foods (23%), and more **grocery retail** options (19%) as primary areas of need (see Figure 30). Families also reported a desire for **easier access to fresh fruits and vegetables** (8%), **healthier fast food and sit-down restaurant options** (5%), **community gardens** in walking distance from home (5%), better access to a **variety of healthy food options**, expanded **food incentive programs**, and healthier food options in **walkable distance from home** (< 4%).

Figure 30: Recommended changes to improve healthy eating and healthy food purchasing



Perceptions of Resources Supporting Healthy Eating: The School Environment

Since the school environment contributes significantly to healthy eating beliefs and behaviors, familial perceptions of the nutritional value of school meals and nutrition programs were also assessed. While only 42% of families reported being satisfied with the nutritional value of the foods served at school (Figure 31), families perceived that school nutrition programs were successful in improving student knowledge of nutrition (80% of family responses; see Figure 32).

Figure 31: Satisfaction with the nutritional value of school foods

"How satisfied are you and your parents with the nutritional value of the foods served at school?"

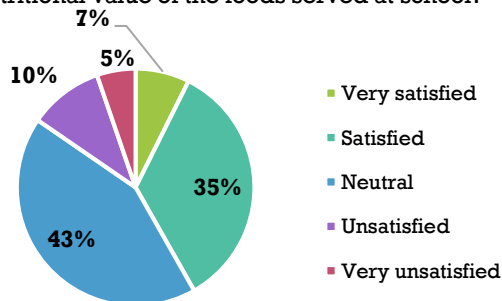
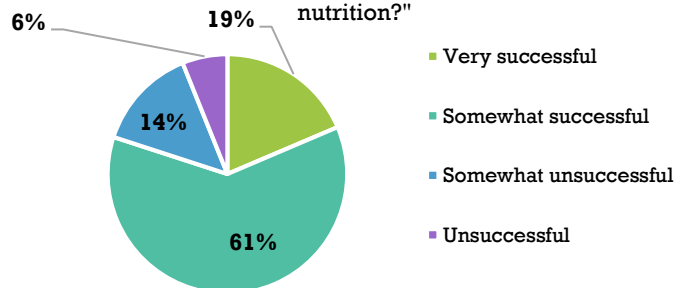


Figure 32: Success of school nutrition programs

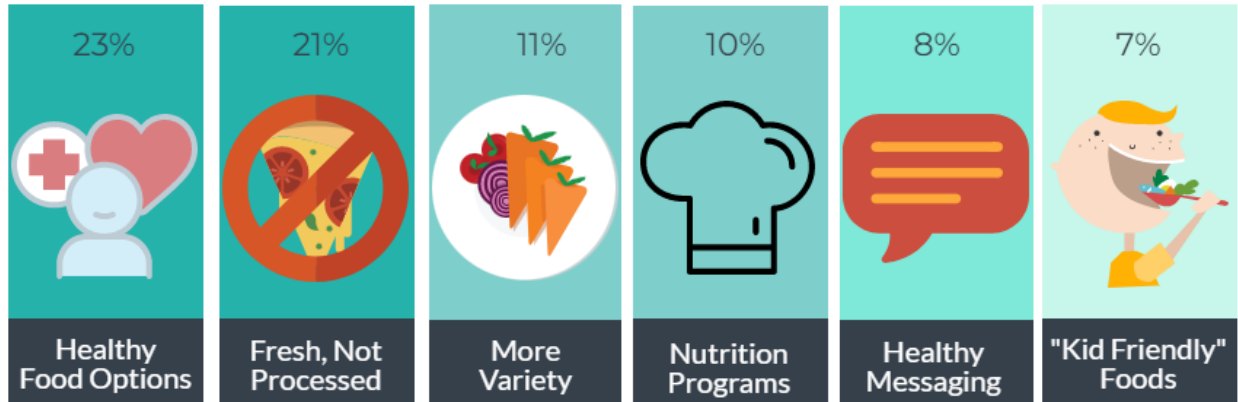
"How successful do you think school programs have been at improving your overall knowledge of nutrition?"



As in past years, few parents and caregivers reported participating in school nutrition programs (4% of respondent families), but many provided suggestions for improving school nutrition. Specifically, families suggested **increasing the availability of healthy food options** [23%,

especially for breakfast (10%) and related to the availability of fresh fruits and vegetables (10%)], **prioritizing fresh over processed foods** (21%), **enhancing the variety** of food options available to students (11%), adding **nutrition programs** [10%, especially those focused on nutrition habits (60%) and cooking (30%)], **enhancing messaging about healthy eating** to students and parents [8%, including providing menus to families in advance of school lunch], and making foods **more “kid friendly”** (7%) by enhancing taste, appearance, or “making healthy eating fun” (see Figure 33).

Figure 33: Recommendations to improve school nutrition



Promoting a Culture of Health

Since sociocultural factors play a significant role in affirming engagement in healthy behaviors during early childhood, families were asked to describe their neighborhood culture supporting healthy living. Specifically, respondents were asked to describe their interactions with neighbors relative to physical activity and healthy eating. Fewer than half of respondent families (43%) described a neighborhood culture supportive of physical activity (Figure 34; representing a 4% decline since 2019) and only one third of families (32%) indicated that healthy foods were served when neighbors gathered together (see Figure 35).

Figure 34: Neighborhood culture of physical activity

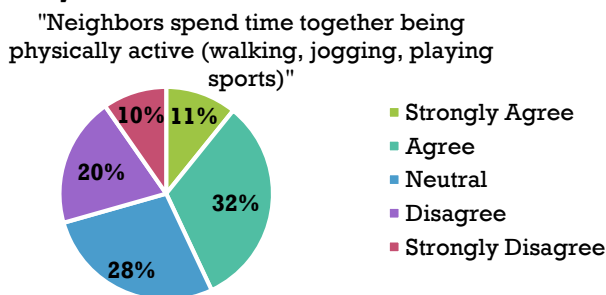
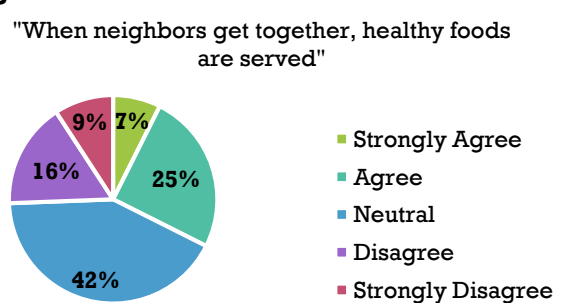


Figure 35: Neighborhood culture of healthy eating



Across the city of Roanoke, neighborhood social cohesion (i.e., collective efficacy) is among the most significant predictors of weight-related health outcomes in children¹². Given the city's priority to strengthen neighborhood forums as a means to foster an inclusive culture of health¹³, families were asked to describe the level of collective efficacy that currently exists in their home neighborhood. Specifically, 32% of families reported having a group of people in their home neighborhood who could actively advocate to improve health (Figure 36), and 34% of respondent families reported that neighbors actively did something to promote health within the last year (Figure 37). Readiness to advocate for health was reported most frequently among families with children attending Crystal Spring, Grandin Court, Round Hill, and Virginia Heights elementary schools, and least frequently among families of Hurt Park, RAMS, Lincoln Terrace, Farview, Morningside, and Garden City elementary schools.

Figure 36: Neighborhood readiness to advocate for health

"We have a group of people in the neighborhood who can help make our neighborhood more healthy"

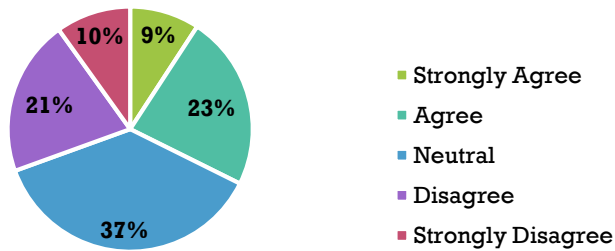
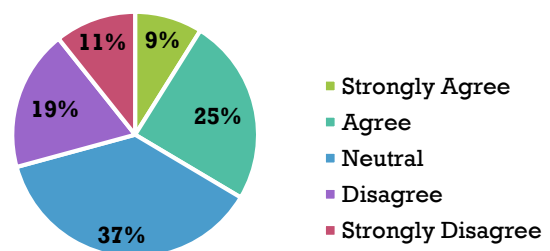


Figure 37: Neighborhood collective efficacy in support of health

"In the past year, people in our neighborhood have done something to make the neighborhood more healthy or safe"



¹² Guthrie, H. & Ackley, E. I. (2020). A Temporal Analysis of Collective Efficacy and BMI-for-age in Roanoke City Youth. Council of Undergraduate Research: Posters on the Hill.

¹³ Roanoke City 2040 Comprehensive Plan: Priority 4 , Policy 2. Found at: <https://planroanoke.org/city-plan-2040-pdf/>

Actionable Recommendations



Advocate

Policies encouraging healthy living, including healthy eating and physical activity, need support from community members like you! Contact your local elected officials and community leaders to advocate for health in all policies or to serve on a local advisory commission (vacancies can be found at <http://www.roanokeva.gov/1066/Vacancies>).



Engage with the City

To promote a stronger sense of community and resident involvement in decision making, the City offers a free, 9-week community leadership program teaching residents how to use a variety of city resources. To sign up or learn more about this opportunity, visit: <https://www.roanokeva.gov/1194/Leadership-College>



Get Involved!

The Roanoke Valley Community Healthy Living Index was developed to support actionable planning across Roanoke's diverse neighborhoods.

Need other forms of data? Contact us at healthinnovation@roanoke.edu to let us know if there are metrics you'd like to see added to the 2024 RVCHLI assessment.



Join your Neighborhood Forum

All of Roanoke's historic neighborhoods are supported by a neighborhood group. These groups are served by residents who are working to realize their vision for a thriving community. To learn more, visit <https://www.roanokeva.gov/1073/Neighborhood-Services>.

We'd love to hear from you! Contact us to share your ideas for a healthier, more equitable Roanoke at healthinnovation@roanoke.edu.