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Healthy Lifestyles Community Readiness Assessment: Co-Creating Initiatives with Communities and Examining Differences in Sectors and Demographic Characteristics across Dimensions

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Healthy Lifestyles Community Readiness Assessment:
Co-Creating Initiatives with Communities and
Examining Differences in Sectors and Demographic Characteristics across Dimensions

An Undergraduate Honors Thesis Submitted in
Partial Fulfillment of University Honors Program Requirements
University of Nebraska-Lincoln

By

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Abstract

Nebraska Extension identified a need to better understand community readiness to engage communities and meet their needs. An interdisciplinary team of Extension Educators and Specialists was developed from the Community Vitality Initiative and the Food, Nutrition, and Health team. Six dimensions were identified as contributing factors for healthful communities and were the basis for the Healthy Lifestyles Community Readiness Assessment (HLCRA): Leadership Energy; Issue Awareness; Participation; Inclusivity; Resources; and Entrepreneurial Activities.

The assessment helps determine: a) programming type needed and b) who Extension can connect with in the community to enhance program success. The assessment was piloted by trained staff through group settings in four neighborhoods across two communities. It involved a written survey portion and open-ended discussions. Participants (n=46) spanned rural and urban settings, various sectors (public and private), age groups (19 to 75 years plus), income levels, and time lived in the community. Participants self-identified across the following sectors: Schools; Community Organizations; Healthcare; Food Supply; Legislation; and Other.

Descriptive statistics were calculated, and significance was examined to identify potential differences in sectoral, dimensional, and demographic responses. Based on these preliminary results, efforts and resources may need to be tailored differently when addressing communities' level of readiness regarding Issue Awareness and Inclusivity. Efforts can also be directed towards increasing positivity towards Leadership Energy and Participation. Demographic variables may play a role in perceptions of community readiness and should be factored into consideration. Results demonstrate and support the need to understand community culture prior to conducting a program or intervention.

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Keywords:

Community readiness, needs assessment, sectors, dimensions, survey, nutrition, healthy lifestyles,

Nebraska Extension

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Chapter 1. Introduction

Nebraska Extension (NebExt) is an organization whose roots extend throughout Nebraska through three main areas: research, education, and outreach/engagement. In partnership with the University of Nebraska-Lincoln (UNL), NebExt receives funding on national, state, and local levels. The United States Department of Agriculture (USDA), state-land grant institutions, and county governments support NebExt, allowing it to achieve its goal of, “helping Nebraskans enhance their lives through research-based education” (Extension.unl.edu, 2019). Extension organizations operate on a nationwide scale, for each state has its own programming. NebExt programming is unique to Nebraska which includes the areas of Beef Systems, Community Environment, Community Vitality Initiative (CVI), Cropping and Water Systems, Food, Nutrition and Health (FNH), The Learning Child, and 4-H Youth Development. Campus and county-based staff focused in each area continue to progress towards increasing Nebraskans’ quality of life.

The FNH group of NebExt serves all populations regardless of occupation, socioeconomic status, and demographics for nutrition impacts everyone and that also includes the Nutrition Education Program (Supplemental Nutrition Assistance Program-Education [SNAP-Ed] and Expanded Food and Nutrition Education Program [EFNEP]) (Food.unl.edu, 2019). The three main areas this group works in are obesity prevention, food systems, and health and well-being. Examples of programming include healthy lifestyles for children and youth, food access, consumer confidence in food, and food safety. FNH partners with UNL’s Nutrition and Health Sciences Department (NHS). NHS specializes in conducting research and how to translate and apply that research in community settings, both urban and rural, in the form of outreach and engagement.

FNH programming has been successful in the past, reaching large quantities of people and providing relevant and valuable information to various communities. Community vitality is equally as important to consider because NebExt’s purpose is not only to maximize vitality but to continually improve Nebraskan’s health and wellbeing. Along with FNH and CVI programming, NebExt values participant feedback because it encompasses perspectives and beliefs regarding individual, interpersonal,

organizational, communal, political, and societal aspects. NebExt finds it necessary to address all tiers of The Socioecological Model (Figure 1) to provide a comprehensive review of a community (McLeroy, et al., 1988). This allows for proper intervention and program development or modifications.

Figure 1. Socioecological Model



Source: http://www.enoughabuse.org/index.php?option=com_content&view=article&id=6&itemi

FNH and CVI deliver a multitude of programs, supply extensive outreach, and maintain perpetual feedback and evaluation. These divisions are incredibly successful at reaching groups and providing education but would benefit from gaining knowledge about the communities they intervene upon. Doing so should amplify understanding, permitting specialized planning and intervention. According to the Transtheoretical Model, preparation precedes action (Prochaska & Velicer, 1997). NebExt has sufficient peri-action and post-action data but limited pre-action data. NebExt chose to define the pre-action steps as community readiness or “a community’s level of ability to approach intervention”. The logic behind choosing the term community readiness is that the subject community or communities must be prepared to receive programming for NebExt to properly engage the public. Community readiness is necessary to quantify because it can determine a community’s needs preceding intervention, whether that consists of

direct or external community intervention. This would increase NebExt's efficacy and impact on community wellbeing. Therefore, FNH and CVI embarked on the journey to quantify community readiness through training, survey development, and pilot testing their respective instruments in communities.

Through secondary analysis, this thesis will

- 1) Address community readiness
 - a) Define community readiness
 - b) Explain community readiness' significance
 - c) Observe literature regarding community readiness
- 2) Describe the Healthy Lifestyles Community Readiness Assessment (HLCRA)
 - a) HLCRA development
 - b) HLCRA methods
 - c) HLCRA results
- 3) Analyze HLCRA results
 - a) Discuss HLCRA results
 - b) Explain the results' significance
 - c) Link results to NebExt, elaborate on future impact

Chapter 2. Literature Review

There are a plethora of resources and tools used to address community readiness and can span a wide range of topics relative to environmental and public health. Each resource reviewed, which are described in the following paragraphs, appears to glean information from a central idea, with readiness assessments having similar dimensions or objectives and categories selected. A multitude of resources' community readiness definitions are congruent, defined as, "a community's level of ability to approach intervention". These resources did not clearly divide ability and inability but instead described readiness

as a progression. NebExt derived its own definition and objectives from this foundation, as well as considering information from past research.

The University of Kansas (KU) created a presentation to serve as an auxiliary model, or guide for others who aim to address community readiness. The KU Community Tool Box guide, titled “Community Readiness”, outlined the various levels of community readiness: no awareness, denial or resistance, vague awareness, preplanning, preparation, initiation, stabilization, confirmation or expansion, and high level of community ownership (Center for Community Health and Development, 2014). The tool emphasized designing a readiness assessment that revolved around a measurable and specific issue. The assessment approach must also be measurable and variable across dimensions and sectors to successfully increase community readiness and knowledge. This would establish sufficient power to facilitate intervention, likewise, increasing environmental and public health. It was encouraged to incorporate policymakers, community activists and coalitions, health organizations, and anyone else who desired social or community change.

Colorado State developed its own readiness tool based on the Transtheoretical Model of Behavior Change (Plested, et al., 2006). The Transtheoretical Model measures the ableness to engage in a novel behavior, which then follows strategies, a change continuum, leading to action and maintenance (Prochaska & Velicer, 1997). The steps are pre-contemplation, contemplation, preparation, action, maintenance, and potentially relapse. These steps are comparable with KU readiness levels; when merged these steps would be no awareness, awareness, considering change, preparing to change, action, maintenance (successful individual change), environmental or community change (all levels of the socioecological model). In addition to the Transtheoretical Model, Colorado State also referred to “SWOT”, strengths, weaknesses, opportunities, and threats, to further accumulate information from each individualized community. Supplementary information was derived from Early Milestones Colorado (EMCO), an organization whose goal is to advance children’s social-emotional health (LAUNCH Together, 2019). Their community readiness assessment categorized dimensions into Community Efforts,

Community Knowledge of Efforts, Leadership, Community Climate, Community Knowledge, Resources, and Community-Related Data.

Based on this material, Colorado State produced a Community Readiness Model (CRM) to measure attitudes, efforts and activities, knowledge, and resources of community members and stakeholders (Plested, et al., 2006). These serve as CRM quasi-dimensions to assess Issue Awareness, Effort Awareness, Community Climate, Leadership, and Resources, the actual CRM dimensions. A complete CRM required a survey, an interview with key respondents, scoring, and a subsequent plan of action. Another team developed, tested, and validated an efficient online community readiness assessment to address assessment completion issues (Kostadinov, et al., 2015). The assessment was delivered through phone connections and online, where participants used both media. Dimensions included Knowledge of Efforts, Knowledge of Issue, Leadership, Community Climate, and Resources.

The World Health Organization (WHO) constructed the “Service Availability and Readiness Assessment (SARA)” (Health Statistics and Information Systems, 2015). While this assessment emphasizes health systems, it serves as valuable information to further understand readiness and how to approach it. SARA measures change and progress to plan and evaluate interventions among practices and managing systems. WHO’s key indicators are Service Availability, General Service Readiness, and Service-Specific Readiness. Service Availability incorporates simply physical resources such as infrastructure, workforce, and service utilization. General Service Readiness consists of a system or organization’s ability to do work and is quantified by basic and essential resources. Service-Specific Readiness embodies general service readiness but extends to a system’s capacity of work. This may include staff and training, equipment, diagnostics, and commodities.

This assessment questions if the necessary tools are available, function to allow the system to successfully function, and the output of both the tools and system. Clemson University used SARA as a foundation for their own assessment (Chao & Fraser, 2018). Clemson University, partnering with South Carolina Extension, fashioned a “Readiness-to-Deliver Assessment” (RDA). Dimensions were comprised of Resource Availability, Training and Education Resources, Service Availability, Policy and

Administration, General Facility Characteristics, and Social Environment. South Carolina Extension also interviewed stakeholders relevant to their issue.

Each assessment possesses unique qualities but an overwhelming proportion of assessments have analogous dimensions. The five essential dimensions, derived from all resources, are Community Efforts, Community Awareness, Leadership, Community Climate, and Resources. A Systematic Review of Community Readiness Applications found that a majority of assessments were individualized primarily by geographical location (Kostadinov, et al., 2015). Eighty-five percent were used to plan while 40% were used to evaluate programs. Most often, readiness assessments, whether it was a model or tool, were implemented to characterize the types of communities or impetus of use, identify SWOT of both the assessment and community, and to synthesize data and results. Details about the systematic review are listed in Table I.

Table I, Summary of Community Readiness Systematic Review

Impetus of use	Limitations of assessments	Strengths of assessments
Planning prevention efforts	Not comprehensive enough	Tailored intervention strategies
Program evaluation	High time and resource commitment	Key contextual information
Community engagement	Subjective scoring	Theory-based framework
Improving community readiness methodology	Response bias	Adaptive
To select intervention communities		Contributes to community development

		Networking
		Outside experts not needed

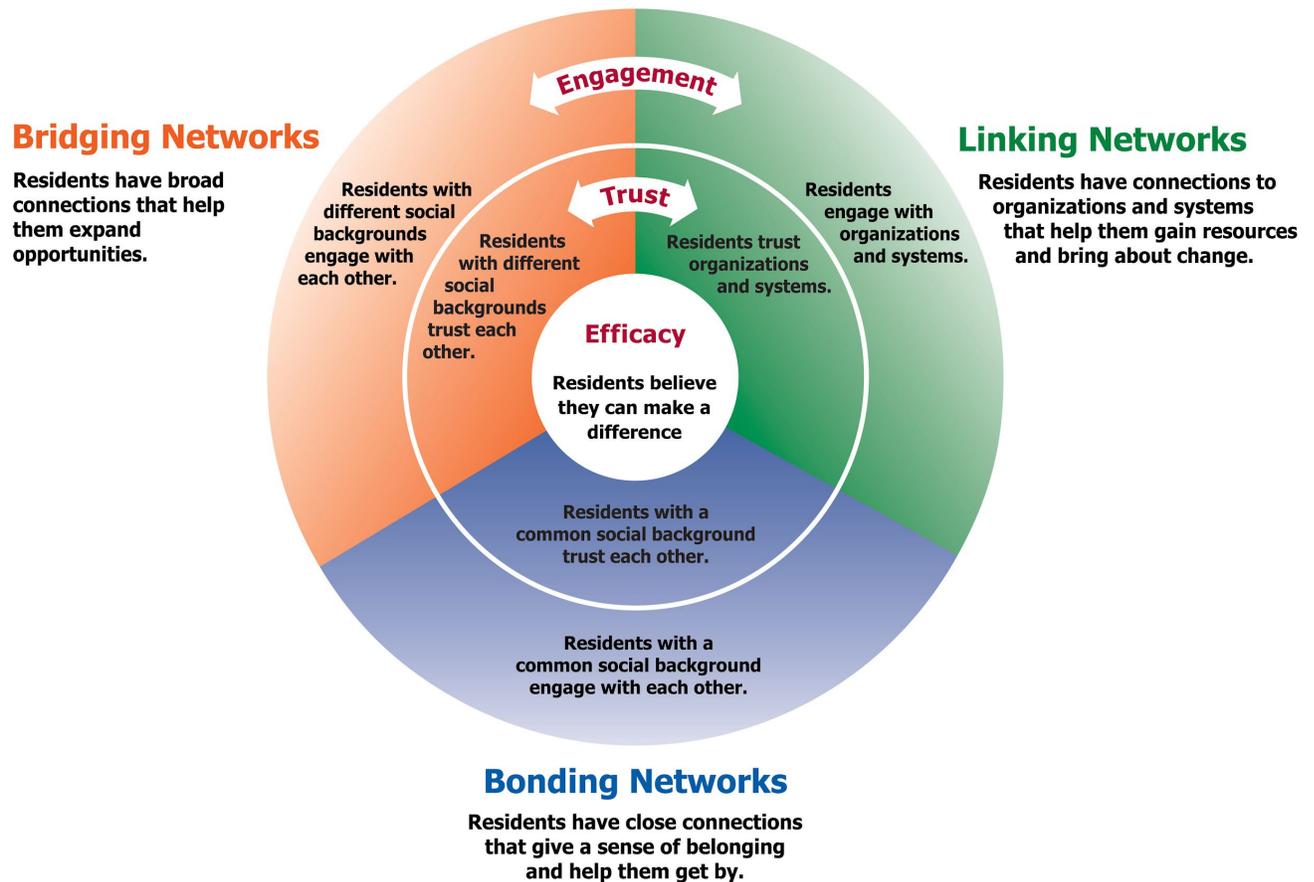
Chapter 3. Methods

Members of the Community Vitality Initiative (CVI) and Food, Nutrition, and Health (FNH) groups from Nebraska Extension (NebExt) were part of a collaborative team called “The Livable Communities Issue Team”. These two groups joined together due to parallel visions and goals of understanding and addressing community needs. The Livable Communities Issue Team came to a consensus that creating an assessment would allow the team to effectively study communities and to design subsequent programming. Through in-person and online meetings, the Issue Team determined *readiness* as a central target element. Literature reviews, program research, and information compilation were carried out. The Issue Team discovered a community readiness training module developed by Dr. Chazdon from the University of Minnesota Extension (Chazdon, et al., 2010). CVI team members applied for and received an internal grant to obtain training from Dr. Chazdon; sufficient funds were available to incorporate FNH representatives in the training sessions.

This model included information regarding the Social Capital Model constructed of “bonding networks”, “bridging networks”, and “linking networks”. The Social Capital Model is significant because it gives insight into the core elements of readiness (University of Minnesota Extension, 2020). Bonding networks consist of close connections within a community such as a relationship between community members. Bridging networks consist of broad connections; one example would be where a community member is simply part of a county’s population. Linking networks are specific connections between organizations or systems similar to a partnership or sponsorship (Chazdon, et al., 2010). Within these three categories are three tiers: engagement, trust, and efficacy. Assessing and addressing community

readiness becomes effective when completing each of these three steps, furthermore, allowing proper intervention and development to ensue. This theory was the basis for any further discussion or research.

Figure 2. Bridging, Linking, Bonding Networks



Source: <https://extension.umn.edu/leadership-approach-and-models/community-social-capital-model>

Building the foundation for intervention and development required The Livable Communities Issue Team to create objectives and outcomes to streamline the process. Four objectives were established.

- 1) Evaluate community readiness to better engage communities in Extension programming
- 2) Increase knowledge on how to increase readiness
- 3) Use the identified training as the basis for information to develop a Community Readiness Assessment
- 4) Connect Issue Teams to address complex issues

To determine success, three outcomes were identified.

- 1) Increase Extension engagement and impact
- 2) Increase community ability to address complex issues
- 3) Create an Extension readiness tool

After building a comprehensive research collection, declaring objectives, and establishing outcomes, the Issue Team began corresponding with Dr. Chazdon.

Dr. Chazdon's community readiness training module consisted of five sections (Chazdon, et al., 2010). The first section, a webinar, covered defining a community and how to increase community readiness for improved public engagement. The second section, the context section, described necessary details to consider when developing a community readiness assessment which included an audience, researcher and participant environments, barriers, past successes and approaches, sectors, data methods, duration and process, as well as communicating results. The third section discussed approaches and dimensions of readiness. This included an overview of readiness approaches, sharing impressions, selection of key readiness dimensions, and measurement devices for each dimension. Readiness dimensions segregate diverse community aspects; community aspects include existing efforts, community knowledge, leadership, community climate, community knowledge of an issue, and resources (Chazdon, et al., 2010). By distinguishing each dimension, research teams are better able to target a community's need or weakness. Moreover, the training delineated nine various levels of community preparedness; No awareness; Denial; Vague awareness; Preplanning; Initiation; Stabilization; Confirmation/expansion; Professionalization (Peers for Progress, 2015). The fourth section requires a review of the community readiness assessment draft and a plan to pilot it. Section five entails ongoing coaching from Dr. Chazdon.

The third pillar of community readiness, the first and second being knowledge of dimensions and community readiness stages, denotes cross-sectoral collaboration (Chazdon, et al., 2010). Long term vitality has the potential to be achieved and maintained if there are greater than or equal to one linking mechanisms between the Social Capital Model networks (University of Minnesota Extension, 2020). This may include committed leaders including Extension researchers and individuals within the targeted

community, legitimate collaboration between organizations and systems, continuous trust-building, and power and conflict management equalization. This is the summation of Dr. Chazdon's training.

With Dr. Chazdon's guidance, the Issue Team created two assessments, one with a CVI focus and another with an FNH focus. The original plan was to create one comprehensive assessment, but the content became exceedingly divergent and the length excessive. CVI's assessment was centralized on community sustainability in terms of population, leadership, and civilian openness. Dimensions included Leadership Energy, Cooperative/Collaborative Climate, Inclusivity, Civic Engagement, Strategic Capacity, and Entrepreneurial Attitude. FNH's assessment was centralized on healthy lifestyles which included wellness efforts, health-oriented organizations, and resources, as well as diverse programming. Dimensions included Leadership Energy, Issue Awareness, Participation, Inclusivity, Resources, and Entrepreneurial Activities. Both assessments contained information to gauge the type of program needed, a community's (in)ability to address complex challenges, and to identify a facilitator(s). Formatting, execution, and products remained comparable.

Following Institutional Review Board (IRB) approval, the FNH and CVI assessments were piloted in a few communities and neighborhoods to finalize each tool. The assessments consisted of a survey portion to be completed individually and an open-ended discussion portion to be completed in a group setting. The group session always followed the written survey. An in-person interview or phone interview-style survey option was extended to individuals who were not able to attend the sessions. The survey remained unchanged for this option but involved only the facilitator and individual participant rather than a group. Participants were recruited through existing Extension educator relationships and through email or telephone which explained the purpose of the session, if in person or by phone, and asked them if they were interested in attending. Participants were also asked to refer individuals who may be interested. Non-student adults were purposefully recruited. Willing participants were sent a consent letter to print, sign, and return to the facilitator. Both assessments emphasized participant feedback to further development; Extension found that the survey participants expressed excitement following the surveys because they were able to express their ideas and learned more about their communities.

Community organization partners also expressed an interest in using the assessment for their own needs. All pilot data was gathered from 2016 to 2017. The remainder of this thesis will focus on FNH's Healthy Lifestyle Community Readiness Assessment (HLCRA).

The FNH HLCRA was comprised of two main categories and three areas of focus. The two categories consisted of quantitative and qualitative questions, being the written survey, which also included free-response questions, and focus group portions. Non-free-response survey questions had an answer selection of "don't know", "not at all", "slightly", "moderately", and "greatly" which were quantitatively tabulated as 1=don't know ranging to 5=greatly. The three areas of focus consisted of six dimensions, six sectors, and demographics. The six dimensions, Leadership Energy, Issue Awareness, Participation, Inclusivity, Resources, and Entrepreneurial Activities were derived from the community readiness training as well as professional experiences and served as themes for each question section. Within the final interpretation of results, Entrepreneurial Activities was not used because this dimension applied to one question of the assessment, which was deemed to be insignificant. Its elimination did not impact the results. The FNH HLCRA questions can be found in the Appendix.

In addition to the six dimensions (Table II), six sectors were established to distinguish community members' backgrounds. The six sectors included Schools, Food Supply, Community Organizations, Healthcare, Legislation, and Other (Table III). Participants were asked to identify which group or sector they belonged to. Sectors were explicitly distinguished in the survey. Examples were provided to the participants within the written survey to improve clarity or understanding.

Demographic information included age, household income, and time lived in the community. The survey consisted of 31 questions, seven of which are free-response and are not included in the readiness scoring. Response ranking determines the readiness score; the response, "don't know" is one point through "greatly" which is five points. Readiness categories were modeled after the survey responses. The minimum readiness score is 19 and the maximum is 95. Minimum and maximums vary based on the number of questions answered. Scoring is as follows: Not at all ready (19-37 points); Slightly ready (36-55 points); Moderately ready (56-75 points); and Greatly ready (76-95 points). The Statistical Package for

Social Sciences (SPSS) was used to analyze data. Descriptive statistics were calculated, and significance ($p < 0.05$) was examined using the Mann-Whitney Test to identify potential differences in demographic responses. This study was approved by the Institutional Review Board at UNL.

Table II. Dimensional Classification

Leadership Energy	Public officials, organizational or community-recognized leaders, policy efforts towards promoting healthy lifestyles
Issue Awareness	General knowledge or education of healthy lifestyles and nutrition
Participation	Incorporation of healthy living in an intrapersonal, interpersonal, or a community level
Inclusivity	Community and program-oriented aspect that highlights diversity, equality, and accessibility
Resources	A functional unit that allows for individual and community healthy lifestyle sustainability
Entrepreneurial Activities	Community initiatives which may include individuals or organizations that pioneer healthy lifestyles

Table III. Sectoral Classification

Schools	Private, public, childcare centers
Food Supply	Agriculture, emergency food access, retail food
Community Organizations	Religious groups, YMCA member/staff
Healthcare	Public health centers, hospitals, primary care physician
Legislation	City and county government
Other	Write-in

Chapter 4. Results

1. *Survey Participant Demographics (Table IV)*

There was a total of 46 participants from both urban and rural backgrounds, a range of income levels and time lived in the community, with the age of participants spanning 19-75 years and up. The largest sector represented was Community Based Organizations (n=15) and the second-largest was the Food Supply sector (n=9). The second smallest sectors were Schools and Legislation (n=5). The smallest sectors were Healthcare and Food Supply (n=4). Four participants did not answer the question. The majority of participants, nearly 60%, were middle-aged or younger. The two age ranges with the largest number of participants were 25-34 and 55-64 years of age. Approximately half the sample had lived in their community for 16+ years. The second-largest proportion lived in the community for 0-3 years (26%). Over 60% of participants ranged from middle to low-middle socioeconomic status.

Table IV. Participant Demographics

Demographic Questions	Response (n)%
<i>Participant Sector</i>	
Schools	(5) 11.9%
Community Based Organizations	(15) 35.71%
Healthcare Systems	(4) 9.52%
Food Supply	(9) 21.43%
Legislation	(5) 11.9%
Other	(4) 9.52%
<i>Age (years)</i>	
19-24	(2) 4.44%
25-34	(13) 28.89%
35-44	(11) 24.44%
45-54	(3) 6.67%
55-64	(13) 28.89%
65-74	(1) 2.22%
75+	(2) 4.44%
<i>Time Lived in Community (years)</i>	
0-3	(11) 25.58%
4-7	(4) 9.3%
8-11	(2) 4.65%
12-15	(3) 6.98%
16+	(23) 53.49%
<i>Household Annual Income</i>	
>\$20,000	(4) 9.3%
\$20,000-\$34,999	(4) 9.3%

\$35,000-\$49,999	(10) 23.26%
\$50,000-\$74,999	(10) 23.26%
\$75,000-\$99,999	(7) 16.28%
\$100,000-\$149,999	(7) 16.28%
\$150,000-\$199,999	(1) 2.33%
\$200,000+	(0) 0%

2. Dimension Results (Tables V, VI)

Almost 80% of respondents rated Leadership Energy as slight to moderate. Most recognized leader's efforts but 17% did not recognize or were not aware of efforts. Leadership Energy had the highest ratings among all dimensions. Issue Awareness was rated as slight to moderate by 70% of respondents. Most (75%) rated Participation to be slight to moderate, although, 19% were not aware of other community member's level of participation giving it the most frequent "don't know" rating. Inclusivity was rated slight to moderate by 72% of respondents. Inclusivity had the least frequent high-ranked responses (moderate to great) and the most frequent low-ranked responses (not at all to slightly). Therefore, Inclusivity was ranked as the overall lowest-rated dimension. Resources were rated as slight to moderate by 72% of respondents. Resources had the most frequent high-ranking responses.

Table V. Survey Dimension Response Rankings

Dimension Questions	Response (n)%
<i>Leadership Energy (3 questions)</i>	
Don't know	(23) 16.67%
Not at all	(1) 0.72%
Slightly	(46) 33.33%
Moderately	(64) 46.38%
Greatly	(4) 2.9%
<i>Issue Awareness (4 questions)</i>	
Don't know	(13) 7.78%
Not at all	(14) 8.31%
Slightly	(62) 35.34%
Moderately	(55) 34.19%
Greatly	(21) 14.38%
<i>Participation (3 questions)</i>	
Don't know	(25) 18.72%
Not at all	(3) 2.22%
Slightly	(54) 40.58%

Moderately	(46) 34.73%
Greatly	(5) 3.77%
<i>Inclusivity (5 questions)</i>	
Don't know	(29) 12.96%
Not at all	(20) 8.89%
Slightly	(92) 41.06%
Moderately	(70) 31.24%
Greatly	(13) 5.84%
<i>Resources (4 questions)</i>	
Don't know	(23) 12.5%
Not at all	(4) 2.18%
Slightly	(59) 32.06%
Moderately	(73) 39.97%
Greatly	(25) 13.59%

Table VI. Survey Summary by Dimension

<u>Dimensions</u>	Percentage of High-Ranked Responses (Great - Moderate)	Percentage of Low-Ranked Responses (Slight - Not At All)
<i>Leadership Energy</i>	49.28	34.05
<i>Issue Awareness</i>	48.57	43.65
<i>Participation</i>	38.5	42.3
<i>Inclusivity</i>	37.08	49.95
<i>Resources</i>	53.26	34.24

Legend		least frequency response (%) per dimension
		most frequency response (%) per dimension
		lowest response proportion (%) among dimensions
		highest response proportion (%) among dimensions

3. Cross-Sectoral and Cross-Dimensional Comparisons (Tables VII, VIII, Figures 3, 4, 5, 6, 7)

Response means and standard deviations were used to gauge each sector's readiness. Due to small sample sizes per sector, comparisons were made (percentages and averages) but no statistical analysis was conducted. Entrepreneurial Activities was omitted but insignificantly impacted total scores. Within Leadership Energy, most sectors had similar responses whereas Community Organizations rated Leadership Energy the lowest. Within Issue Awareness, Healthcare rated it the highest within their own sector whereas Food Supply rated it the lowest. Participation had similar responses across all sectors.

Within Inclusivity, Legislation rated it the highest whereas Healthcare rated it the lowest. Most sectors had similar responses for Resources but Legislation rated it the highest.

Schools rated Issue Awareness the highest and Resources the lowest on average, with responses that varied the most in Inclusivity and were the most unified in Participation. On average, Community Organizations rated Issue Awareness the highest and Leadership Energy the lowest. Community Organizations had responses that varied the most in Leadership Energy and were the most unified in Issue Awareness. Healthcare rated Issue Awareness the highest and Participation the lowest on average. Healthcare's answers varied the most in Issue Awareness and were the most unified in Participation. Food Supply rated Inclusivity the highest and Leadership Energy the lowest on average. Food Supply's answers varied the most in Issue Awareness and were the most unified in Leadership Energy. Legislation representatives rated Inclusivity the highest and Participation the lowest on average. Answers varied the most in Resources and were the most unified in Leadership Energy. Those who identified as “Other” rated Issue Awareness the highest and Leadership Energy the lowest on average.

Answers were the most varied in Issue Awareness and were the most unified in Participation. Inclusivity had the largest average standard deviation across all sectors, meaning the responses greatly varied within and between the sectors. Legislation had the least stratified responses and the highest rating of assessment questions whereas Food Supply had the most stratified responses and the lowest rating of assessment questions. Issue Awareness had the highest average rating of all dimensions while Leadership Energy was the lowest. Issue Awareness had the largest average standard deviation across all sectors, meaning the responses greatly varied among the sectors while Participation had the smallest.

Table VI. Mean and Standard Deviation Comparison Among Sectors and Dimensions

<i>M ± SD</i> Sectors	Dimensions					
	Leadership Energy	Issue Awareness	Participation	Inclusivity	Resources	Total Score
Schools	10.6 ± 2.1	14.0 ± 3.9	10.8 ± 1.9	12.4 ± 3.5	9.4 ± 1.7	57.2 ± 13.1
Community Organizations	8.7 ± 3.9	13.5 ± 2.1	9.3 ± 2.4	11.3 ± 2.8	9.7 ± 2.6	58.3 ± 11.5
Healthcare	11.0 ± 1.0	15.0 ± 1.7	9.7 ± 0.6	10.0 ± 2.0	11.3 ± 1.5	63.3 ± 2.9

Food Supply	9.6 ± 2.9	11.5 ± 5.4	10.4 ± 3.4	12.1 ± 4.4	10.1 ± 4.6	56.0 ± 31.2
Legislation	11.0 ± 0.8	14.7 ± 1.5	10.8 ± 0.5	14.7 ± 1.2	11.5 ± 1.7	69.3 ± 2.5
Other	9.2 ± 2.4	13.2 ± 3.6	9.5 ± 1.9	11.4 ± 3.0	9.9 ± 2.6	58.4 ± 10.7

M: mean, SD: standard deviation

Table VIII. Total Mean and Standard Deviation Per Dimension

Totals	Dimensions				
	Leadership Energy	Issue Awareness	Participation	Inclusivity	Resources
<i>M ± SD</i>	10.0 ± 2.2	13.6 ± 3.0	10.1 ± 1.8	12.0 ± 2.8	10.3 ± 2.5

M: mean, SD: standard deviation

Figures 3 - 7 represent the survey's cumulative results and reflect data from tables V and VI. A majority of responses in the Leadership Energy dimension were ranked slight to moderate, displaying the lowest mean response out of all dimensions. Issue Awareness responses had the highest-ranking mean, yet the highest standard deviation. Participation yielded the lowest standard deviation of all dimensions. The data within Inclusivity and Resources did not reveal any additional information.

Figure 3. Cross-Sectoral Response Comparison of Leadership Energy

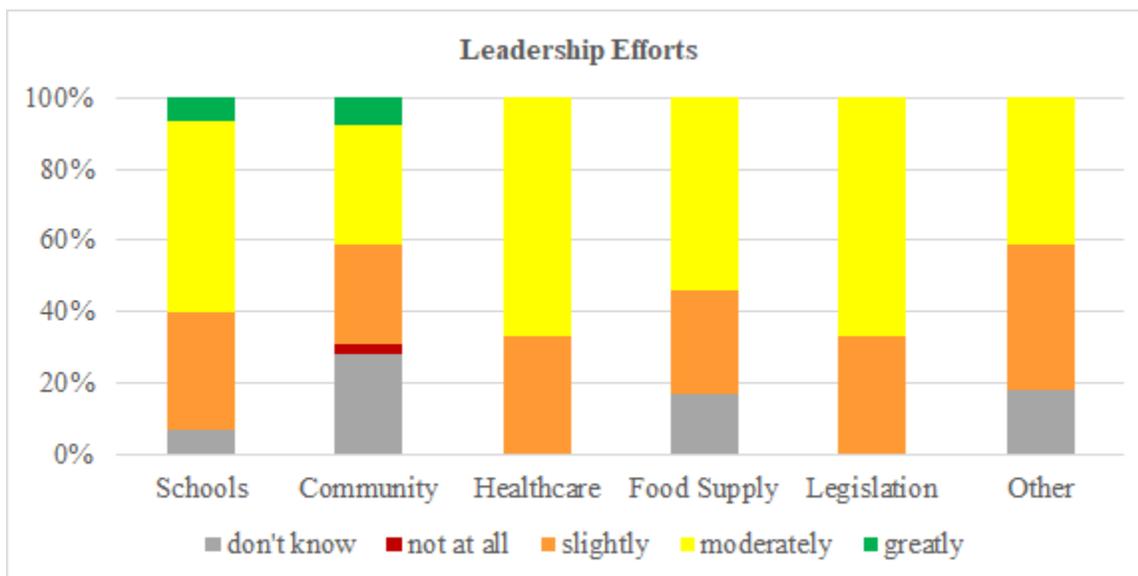


Figure 4. Cross-Sectoral Response Comparison of Issue Awareness

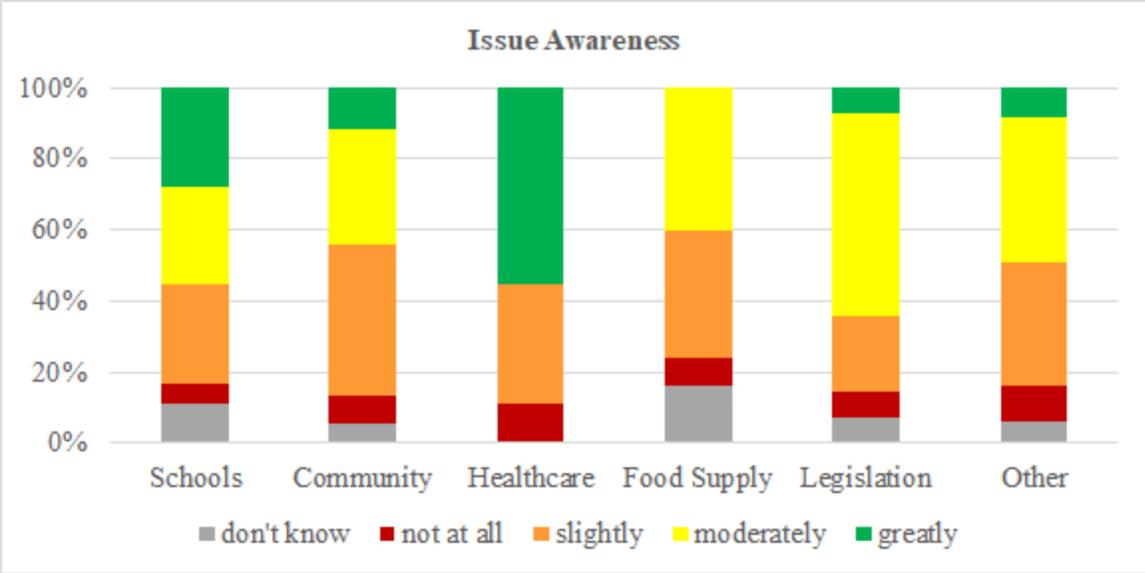


Figure 5. Cross-Sectoral Response Comparison of Participation

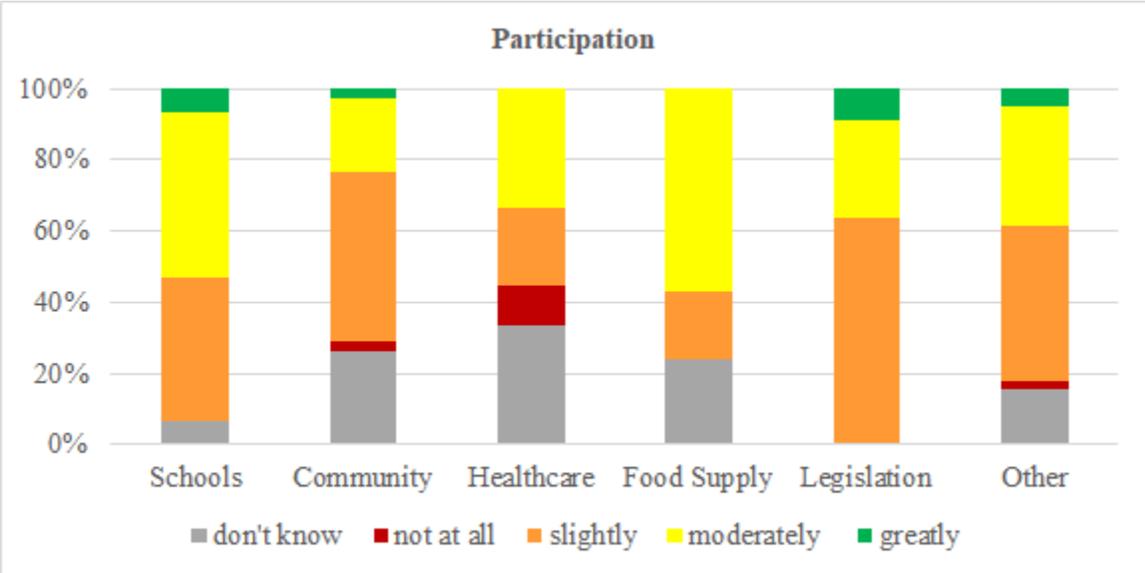


Figure 6. Cross-Sectoral Response Comparison of Inclusivity

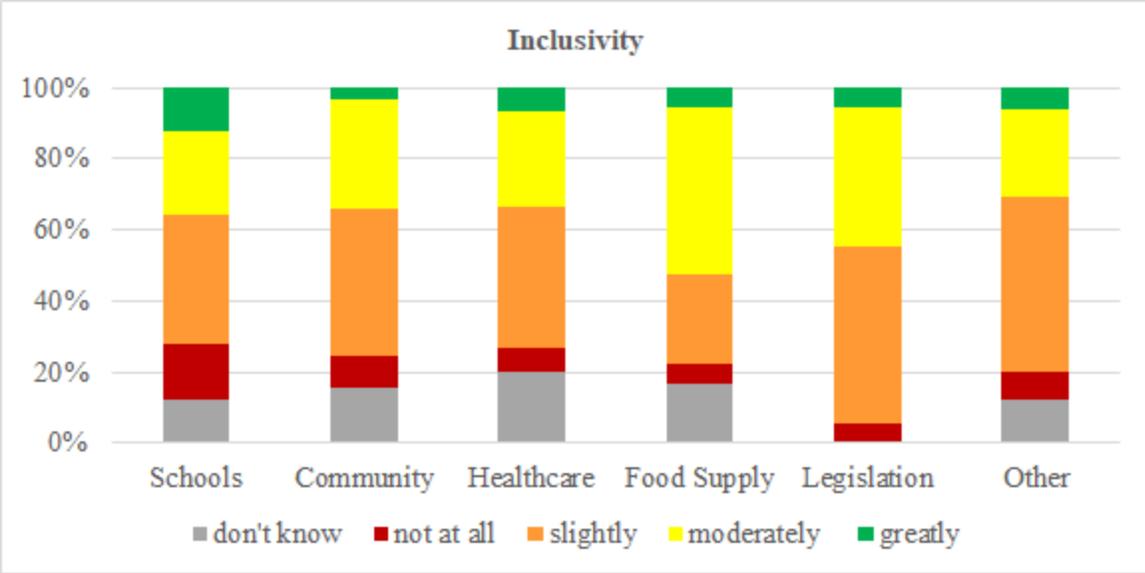
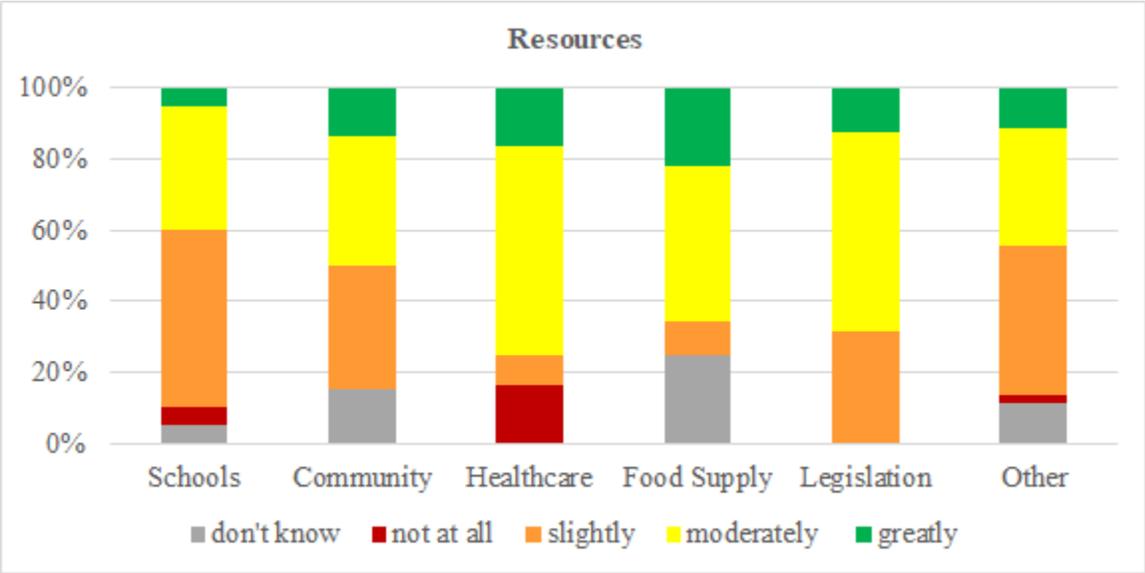


Figure 7. Cross-Sectoral Response Comparison of Resources



4. Significant and Notable Results, (Table IX, Figures 8, 9, 10, 11)

First, Community Organizations had stratified responses with each answer selection represented while the remaining sectors had very similar responses when asked, “Are community leaders forward-thinking rather than comfortable with the way things are?” Second, when asked, “Do people in your organization see unhealthy lifestyles as an issue”, Food Supply answered negatively and did not see an

issue with unhealthy lifestyles. Third, the Schools and Other sectors rated diverse organization collaboration poorly in response to, “Is there collaboration among diverse organizations and groups when working on healthy lifestyle activities?” Additionally, Community Organization had stratified responses with each answer selection represented. Fourth, when asked, “Are innovative and enterprising individuals encouraged and recognized in the community?”, the Other sector had stratified responses, with each answer selection represented while the responses from the remaining sectors were quite similar.

Figure 8. Notable Result - Assessment Question

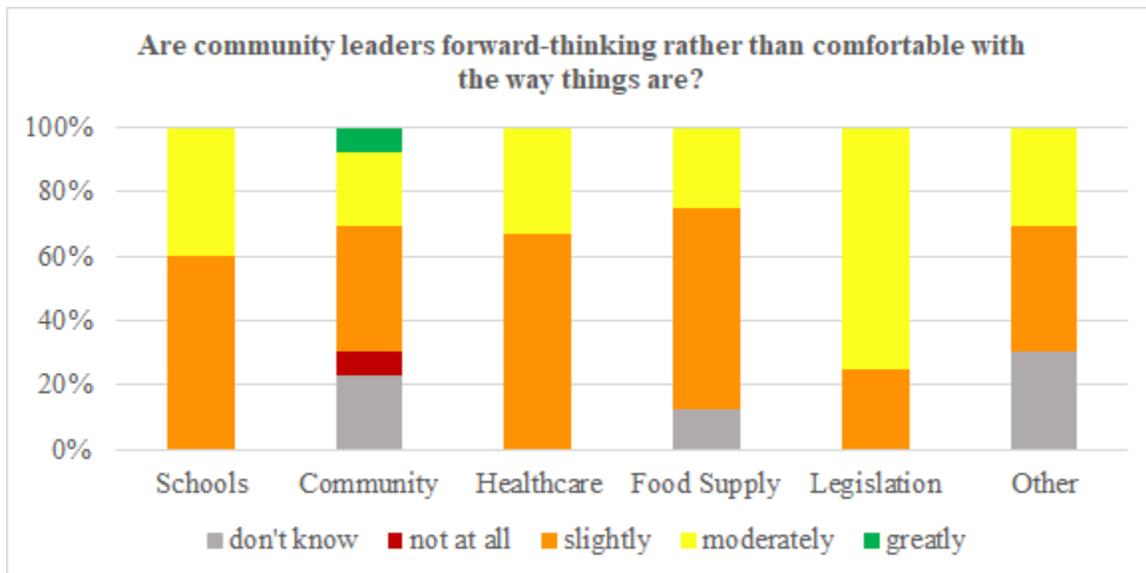


Figure 9. Notable Result - Assessment Question

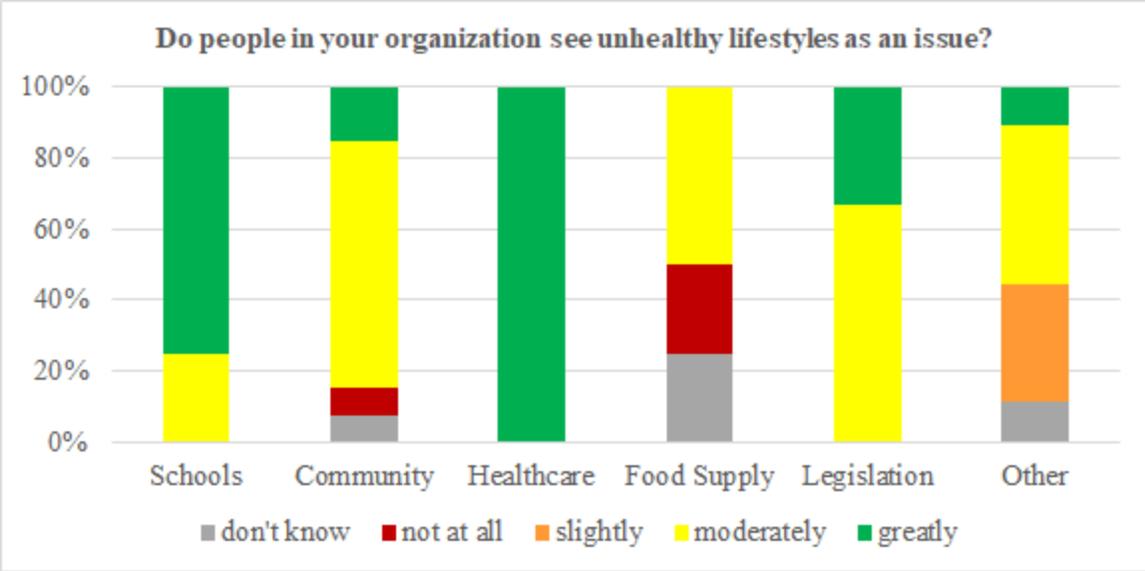


Figure 10. Notable Result - Assessment Question

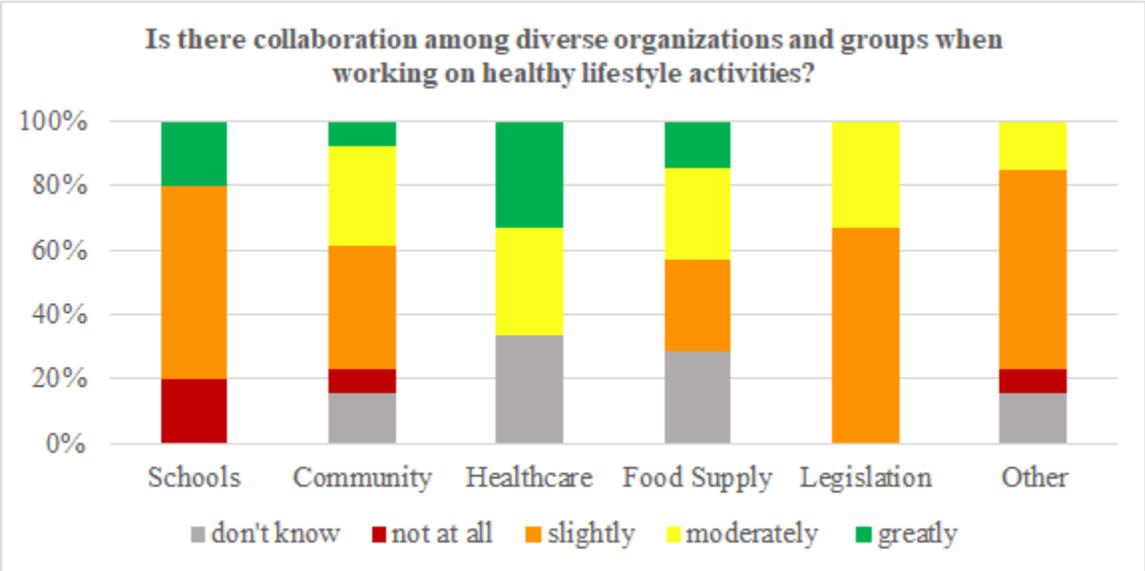
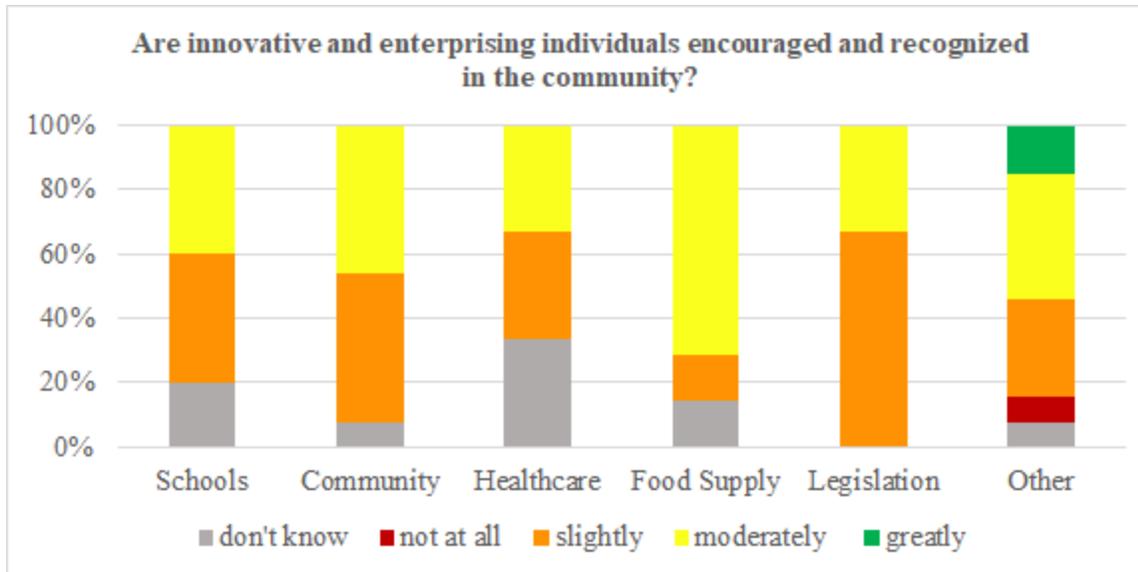


Figure 11. Notable Result - Assessment Question



Demographic questions covered three categories: age, income, and time lived in the community. For analysis purposes, demographic response options were made into dichotomous variables and are represented as follows: Age: 19-44 / 45-75+; Household income: ≤\$49,999 / ≥\$50,000+; and Time lived in the community: 0-15 years / 16+ years (Table IX). There were no significant differences detected for responses by age. However, there were significant differences detected for household income and time lived in the community. Lower-income individuals responded more positively to Leadership Energy and Participation. Those who lived in the community for 16+ years responded more positively to Participation.

Table IX. Significant Results, Mann-Whitney Test

Demographic	Question	Demo. Category	N	Mean Rank	P-value
Income: ≤\$49,999 (1) ≥\$50,000 (2)	<i>Are community leaders willing to address the healthy lifestyle issues?</i>	1	18	26.64	0.024
		2	25	18.66	
		Total	43		
Income: ≤\$49,999 (1) ≥\$50,000 (2)	<i>To what extent do residents participate in healthy lifestyle activities?</i>	1	18	27.22	0.004
		2	24	17.21	
		Total	42		
Time Lived in Community: ≤15 years (1) ≥16 + years (2)	<i>Does the community act upon opportunities?</i>	1	18	17.03	0.044
		2	23	24.11	
		Total	41		

5. Qualitative Results, (Figures 12, 13, 14)

Qualitative data was collected to provide a more comprehensive perspective of the community. The selected quotes, listed below, are representative of qualitative data. The assessment contained open-ended response questions, with responses falling into three representative themes being “Community Issues that Negatively Affect Health” (Figure 12), “Community Resources, Events, and Activities that Promote Healthy Lifestyle Efforts” (Figure 13), and “Additional Community Barriers” (Figure 14). There are critical issues that may need to be addressed before NebExt directly intervenes such as mental health, substance abuse, and poverty. For example one participant stated, *“Both mental health, substance abuse, and low income negatively affect health in our community.”* The most resounding issue brought forth from group discussion was a lack of resources; examples include lack of financial ability, transportation, inclusivity, and practicality. Moreover, community members reported a multitude of organizational resources like governmental programming, trails, health services, and Farmer’s Markets, but a lack of unified efforts from organizations or lack of awareness or disuse of them. As one respondent said, *“The community has great parks and trails but they are not used or talked about enough. Some groups have made some efforts but no unified effort.”*

Frequently reported influential community stakeholders included the YMCA, local public health departments, and the Community Hospital as stated by one participant, *“Local hospital, nursing homes, assisted living, public health, area agencies, and providers are trying to work more closely to help maintain the health of individuals of all ages.”* Other barriers or limiting factors, including time and health disparities, discouraged communities from participating in wellness opportunities and healthy lifestyles. Community members expressed an understanding of the importance to build or maintain healthy lifestyles but did not consider it to be a priority, suggesting that there are additional areas of concern to address, such as mental health, drug, and alcohol abuse. As one stated, *“There is an interest and willingness but it often does not score highly in the priorities. Many lack knowledge or passion for health.”*

Figure 12. Community Issues that Negatively Affect Health

Community Issues that Negatively Affect Health

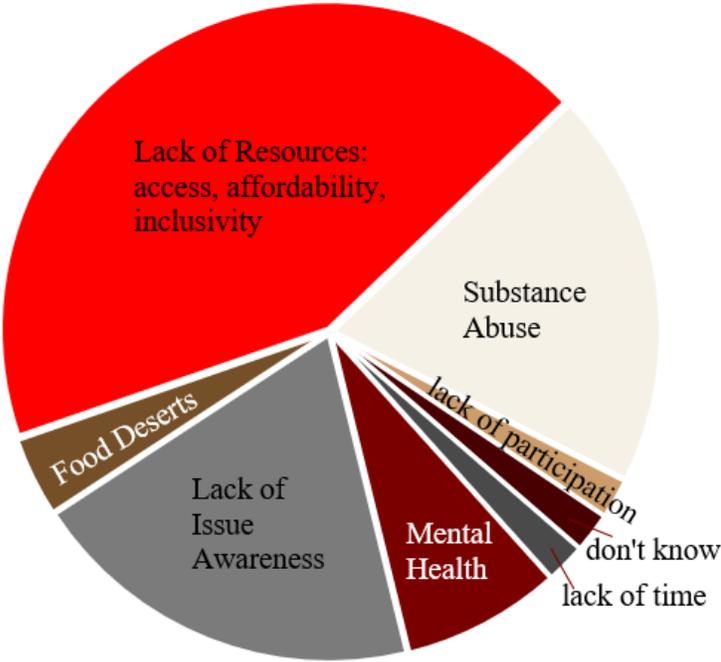
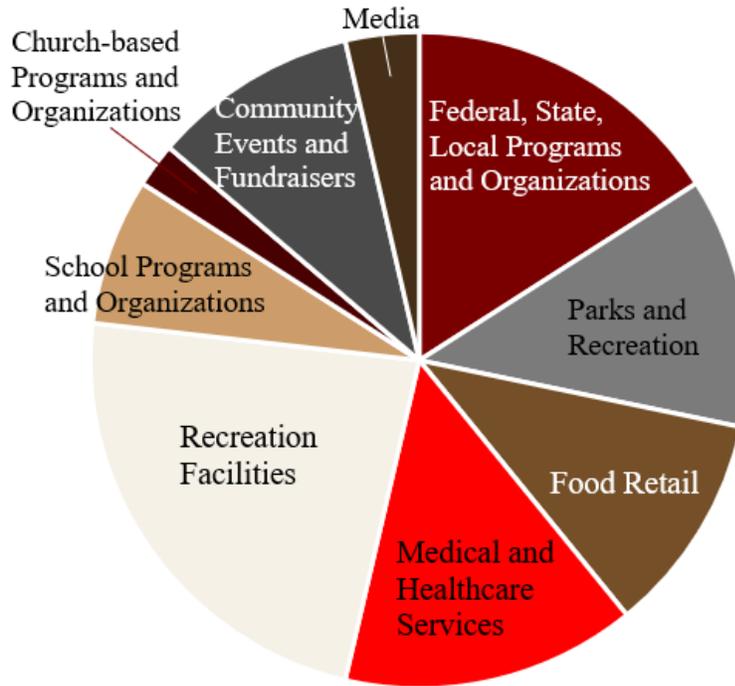


Figure 13. Healthy Lifestyle Efforts

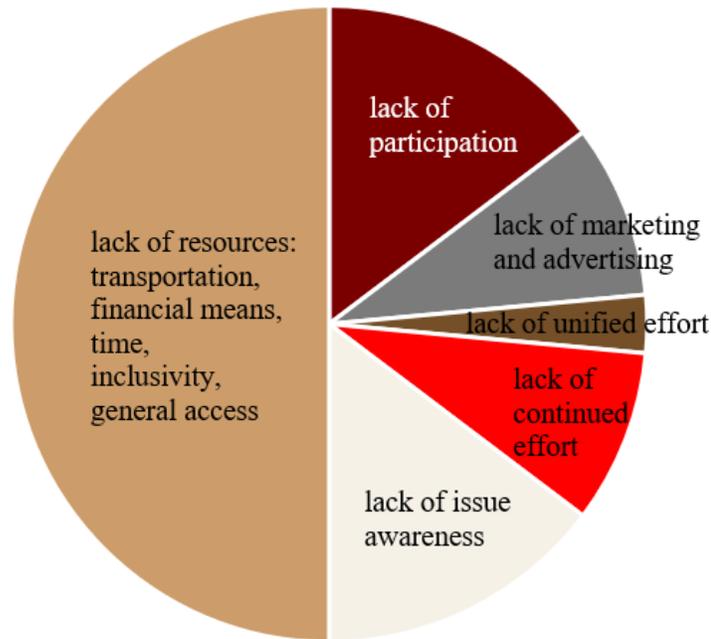
**Community Resources, Events, or Activities
that Promote Healthy Lifestyle Efforts**



Federal, State, Local Programs and Organizations: WIC, DHHS, Extension, Public Health Solutions Health Department, etc
Parks and Recreation: Public Trails, Parks, Swimming Pools
Food Retail: Farmer's Markets, Community Crops, Local Restaurants, Grocery Stores
Medical and Healthcare Services: Hospital, Urgent Care, Pharmacy
Recreation Facilities: YMCA, Recreation Centers, Gymnasiums
Media: 10 Health, Social Media, Newspaper

Figure 14. Additional Community Issues

Additional Community Barriers



6. Readiness Scores, (Table X)

Following Analysis Two, readiness was tabulated. The score was calculated by assigning a point system to the survey answers: “Don’t know : 1, Not at all : 2, Slightly : 3, Moderately : 4, Greatly : 5”. The minimum score possible is 19 while the maximum is 95, yielding a range of 76. Analogous to the survey response options, the readiness ranking scale was classified as “not at all ready” (19-37), “slightly ready” (36-55), “moderately ready” (56-75), and “greatly ready” (76-95). The examined communities received an average score of 60.15, making them “moderately ready”.

Table X. Readiness Ratings

	Dimensions					
	Leadership Energy	Issue Awareness	Participation	Inclusivity	Resources	Total
<i>M ± SD</i>	9.54 ± 2.8	13.47 ± 3.1	9.84 ± 2.2	11.73 ± 3.1	10.04 ± 2.8	60.15 ± 12.9

M: mean, SD: standard deviation

Minimum Score: 19, Maximum Score: 95

Chapter 5. Discussion

When comparing results of our study with others, both comparable and contrasting aspects were found. Four studies within the area of health and wellness provided insight. Many readiness assessments have been used for overweight and obesity intervention. The “Healthier Families Programme”, a behavioral intervention study of childhood obesity, identified three domains that were parallel to the HLCRA dimensions (Teeters, et al., 2018). Physical infrastructure included information pertaining to tangible locations and resources; knowledge infrastructure incorporated issue awareness. Social infrastructure was a combination of leadership energy, participation, and inclusivity. Healthier Families piloted their assessment in four states, Georgia, Michigan, Florida, and Nevada, whereas the HLCRA was only piloted in a handful of communities and neighborhoods within Nebraska. The Healthier Families tool used a list of elements to assess readiness, which may improve standardization among analysis and various organizations but is limiting. Dimensional categories included “Physical”, “Knowledge”, and “Social” with a ranking of “well prepared”, “moderate challenges”, and “unprepared”. A list differs from a mixed-methods approach, which was used in our pilot study, that includes quantitative and qualitative data which may produce broader results and more comprehensively capture a community’s status.

The two following studies resembled one another to a greater degree than the HLCRA, however, methodologies can be compared. Both studies, “Assessing Community Readiness for Overweight and Obesity Prevention in Pre-adolescent Girls” and “Strategies to Build Readiness in Community Mobilization Efforts for Implementation in a Multi-Year Teen Pregnancy Prevention Initiative”, utilized qualitative data derived from key informant and stakeholder interviews (Kesten, Cameron & Griffiths, 2013; Bhuiya, et al., 2017). Analogous dimensions from each study include examples such as community efforts, knowledge, resources, and leadership. The final relevant study, “Community Readiness Model for Prevention Planning: Addressing Childhood Obesity in American Indian Reservation Communities”, contained similar dimensions and qualitative data (Harris, et al., 2019). Researchers exclusively used qualitative data, employed the Transtheoretical Model to devise readiness, and collected data among multiple communities within one American Indian Reservation. Overall, readiness research spans a

variety of topics such as obesity prevention, substance abuse, and tobacco use, as well as community engagement. Many studies possessed similar dimensions but had varied methods, often exclusively using interviews or a combination of interviews and surveys. This shows that community readiness assessments are adaptable to both research and community needs. Results from each study differed, demonstrating that communities are individualistic and unique.

Overall, when comparing the HLCRA dimensions to the Transtheoretical Model (Prochaska & Velicer, 1997), Issue Awareness can be categorized with the first two steps of change: “No Awareness” and “Awareness”. For the community to make a behavioral change, the community has to undergo change itself by providing the necessary supports which include Leadership Energy and Resources. These two dimensions bridge the gap between “Awareness” and “Considering Change”. Participation and Inclusivity encompass the action phases from “Considering Change” to “Maintenance”. Environmental Change can be achieved when all the dimensions possess an equal and adequate level of support.

Incorporating the Socioecological Model (McLeroy, et al., 1988), communities assessed through the HLCRA achieved sufficient environmental support, including Leadership Energy and Resources, but lacked a strong foundation among individuals. Analysis One determined two needs. First, the communities lacked cross-organizational cooperation, where community organizations work together towards a common goal. Second, they lacked organization-to-community communication. There seemed to be no liaison between these organizations or programs and the public. This can include weak or ineffective marketing and programming. Interpersonal and intrapersonal relationships must be targeted through increasing Issue Awareness, Participation, and Inclusivity so that the communities can successfully attain and maintain change.

Analysis Two contained the cross-sectoral, cross-dimensional response comparisons to increase the depth and breadth of knowledge. Participation and Inclusivity remained as distinct dimensions. Participation had the highest proportion of unknown responses consistently in each sector while Inclusivity had the largest average standard deviation across all sectors. These results reinforce the community’s need to strengthen interpersonal and intrapersonal relationships within the communities.

One potential solution was to make NebExt the chain that connects all parts of a community as a liaison between organizations, organizations to individuals, and between individuals. Discrepancies were also found between sectors. Food Supply and Legislation's responses deviated from the other sectors the most frequently. However, Legislation had the least stratified responses. Food Supply was strikingly divergent, having the most stratified responses and the lowest average survey ratings. This was likely attributed to poor intrasectoral connection, requiring additional attention. While discrepancies were present among sectors and dimensions, this study did not have a large enough sample size or evenly proportioned sectors to determine significance. In the future, it may be beneficial for those who implement the HLCRA to explore this segment and purposefully recruit a diverse sample of participants so there is more equal representation among sectors.

Dimensional analyses between Analysis One and Two contrast when factoring "don't know" responses. Unknown responses alter dimensional mean and standard deviation totals. In this case, Leadership Energy, with the lowest mean rating, would be the target dimension for intervention in the communities assessed. Issue Awareness could have been a target because of the large standard deviation but was not as concerning because of its high mean rating. The variance was surprising considering Participation had the greatest number of unknown responses, yet Leadership Energy was most impacted. Two potential solutions to awareness issues are education and communication whereas lower-ranked responses, such as "not at all" and "slightly" may have additional constraints or elicit other approaches.

Four questions displayed notable results and two demographics produced significant results. Previously mentioned, the sample size was lacking to derive significant conclusions in regards to the specific survey questions, but the data provided insight into why particular questions may have varied in mean and standard deviation. There were significant differences detected for responses by income level, but not for age, which were unexpected. The significant difference of time lived in the community was speculated to be influenced by response bias or because of a lack of familiarity and integration among newer community members. Interventions could target higher-income individuals to increase their awareness or support of Leadership Energy and Participation in healthy lifestyles. Intervention could also

target individuals who have lived in the community for less time to increase participation in community opportunities.

The qualitative data was equally as advantageous; a mixed methodological approach allows researchers to decipher research problems and analyze the complexities of a community (Creswell and Plano Clark, 2007; Sandelowski, 2001). The goal of this section was to discover the positive and negative aspects of engaging in healthy lifestyles within a local context. Participants reported a lack of resources in the quantitative section of the assessment, but upon further analysis of the qualitative data, it appeared healthy lifestyle resources may have been present in communities. Instead, resource accessibility and inclusivity were areas that could be improved. Further needs included behavioral and social intervention to address mental health, drug, and alcohol abuse. The qualitative data reinforced the hypothesized target intervention areas: Inclusivity, Issue Awareness, Participation, Food Supply, and connectedness among and between organizations and community members.

Chapter 6. Summary

Community readiness is measured by a community's ability to accept change and thrive. The theory of readiness, based on the Transtheoretical Model of Behavior Change, can range from no awareness to a high level of community ownership. The HLCRA has a simplified ranking system ranging from "not at all ready" to "greatly ready"; and content was derived from literature reviews and from Dr. Chazdon's training. Because of collaborative teamwork between CVI and FNH members, the NebExt Issue Team was able to achieve the following objectives: evaluate community readiness, increase readiness knowledge, produce a Community Assessment, and network with organizations and teams to address complex issues. By doing so, NebExt will be able to substantially impact other communities and organizations. Through careful examination, valuable results were collected regarding sectors, dimensions, and demographic differences.

These communities were moderately ready for intervention, therefore, possessed the ability to accept assistance and to cultivate change. If the score was lower, slightly or not at all ready, NebExt would seek assistance beyond its scope of outreach and learn more about the communities' issues. The readiness scoring was simplified in comparison to the complete Transtheoretical Model because it mirrored the readiness assessment. NebExt also only focused on the total readiness score because the assessment provided sufficient detail to make conclusions upon readiness score determination. NebExt concluded that it could directly engage with these communities and began formulating intervention approaches.

NebExt addressed dimensional deficiencies, particularly within Issue Awareness, Participation, and Inclusivity. To bolster Issue Awareness, NebExt will aim to increase marketing of itself and healthy lifestyle community opportunities. Thus, this may increase nutrition and physical activity education, allowing community members to gain knowledge to engage in healthy lifestyle behaviors. Participation would also benefit from this marketing which may heighten communication, decreasing the number of community members with unknown participation responses. Perhaps organizational quality needs improvement to maximize retention rate. The communities are willing to be engaged, but there were apparent barriers. Inclusivity was the weakest dimension. Similar to Participation, program development may have a positive influence by personalizing opportunities, overcoming barriers, and establishing stable relationships with community members.

NebExt then prioritized the Food Supply sector because its responses were the most stratified, had the lowest average ratings, and was the least represented group. The low representation may be due to its geographical (rural) location and limited communication. Overall, it is necessary to unify values among communities so that populations are incorporated within, acting in, and influencing their environment. By utilizing community feedback, NebExt will boost its efficacy for taking the next steps, making goals, facilitating connections among community groups, introducing new and modifying existing programs, and creating auxiliary partnerships with other organizations when identified barriers are outside of the scope of Extension.

The HLCRA established and maintained other assessment's strengths such as personalized intervention methods, theory-based framework, and adaptive tools. The HLCRA improved upon other assessment's limitations by making the assessment comprehensive, resource-efficient, and free of subjective responsiveness and scoring. Data from each dimension provided valuable results. Progressing forward, use of the HLCRA can help isolate and dissect dimensions to develop tailored intervention strategies and programming.

It would have been ideal to have a larger sample size, but the study remains as a foundation for future-readiness studies. With larger sample sizes, examining response variances among both sectors and dimensions would facilitate fine-tuned analyses for personalized intervention. Another limitation is the assessment's content and duration. One of the challenges of keeping the survey succinct was narrowing the number of demographic and dimensional questions. Additional desirable demographic questions could include race, gender, or education level. Auxiliary dimensional questions could increase data depth. It may be beneficial to create a digital survey to increase accessibility. The survey has not undergone post-implementation editing and could collect additional feedback for future alterations. Although, NebExt believed that the listed dimensions and sectors could be applied to any Nebraska community.

In conclusion, NebExt's goal is to fortify inter-organizational, organization-to-community, and inter-community connections by emphasizing bridging, linking, and bonding networks. Establishing inter-organizational linking networks would boost organizational cooperation, potentially creating partnerships. Building organization-to-community bonds provide opportunities for both parties to engage and influence one another as a means to facilitate ongoing change. Intercommunity connections serve as the baseline for sustainable, thriving communities.

The HLCRA results are only applicable to the assessed communities. The HLCRA can also be used as a pre- and post-assessment tool to measure intervention effectiveness, readiness progression, or developing needs. For HLCRA's continued internal or external use, NebExt developed a process paper, "Community Readiness Assessment Development: Fostering Sustainable Healthy Lifestyles through Interdisciplinary Collaborations", facilitator guide, "Healthy Lifestyles Community Readiness

Assessment: Identifying, Educating, and Engaging Communities for Change”, and a scorecard so that others, such as local businesses, health departments, and Extension programs, may use or adapt the HLCRA.

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Appendix

Leadership Energy
Are community leaders (formal and informal) willing to address healthy lifestyle issues?
Are community leaders willing to look outside of this community for new ideas and new ways of doing things?
Are community leaders forward-thinking rather than comfortable with the way things are?
Issue Awareness
Do people in your organization see unhealthy lifestyles as an issue? (only answer if in an organization)
Are people in your organization aware of existing efforts to promote healthy lifestyles? (only answer if in an organization)
Is the entire community aware of healthy lifestyles as a public health issue?
Are community members aware of the root causes of unhealthy lifestyles?
Participation
Are community organizations engaged in efforts to promote healthy lifestyles?
Is there strong communication in this community that makes it easy for residents to become aware of healthy lifestyle resources or activities?
To what extent do residents participate in healthy lifestyle activities within the community?
Inclusivity
Do youth participate meaningfully in community health activities or decision-making processes?
Is diversity (age, culture, interests) within the community represented in healthy lifestyle activities?
Is there collaboration among diverse organizations and groups when working on healthy lifestyle activities within the community?
Are community services equally accessible to all?
Resources
Do efforts to support healthy lifestyle activities have a broad base of volunteers?
Is there an institutional support (government, local businesses, schools, health care) in the community for efforts to promote healthy lifestyles?
Are there partnerships and collaborations in the community to support healthy lifestyles?
Entrepreneurial Activities
Does the community act upon opportunities?
Are innovative and enterprising individuals encouraged and recognized in the community?
Demographic Questions
What or who do you represent? Please select all that apply by category.
How old are you? Circle the option that best fits you.
How long have you lived in this community?
Income question- If you added together the yearly incomes, before taxes, of all the members of your household for last year, the total would be:
Free Response Questions
Tell me about the willingness of community leaders to address new healthy lifestyle issues.
What are the issues in your community that negatively affect health?
Please tell us more about the participation of community residents and organizations in healthy lifestyle efforts. Please give an example of a successful/unsuccessful community healthy lifestyle event or activity.
Please tell us more about how healthy lifestyle efforts are reaching all members of the community. Please provide an example of a successful/unsuccessful healthy lifestyle event or activity.
Please tell us more about the resources available to promote health in the community.
Does your community take action to promote healthy lifestyles? Please provide an example of why or why not?

Please share any additional information or other factors impacting access to healthy lifestyles in your community.