

UNIVERSITY OF ARKANSAS

FARMS

Farmer Adaptation, Resilience, and Mental Health Study

Summary Report

A Statewide Survey of Arkansas Farmers and Ranchers

June 2026

FARMS

Farmer Adaptation, Resilience, and Mental Health Study

Summary Report

A statewide survey of Arkansas farmers and ranchers

Don E. Willis, Ph.D. — Principal Investigator, University of Arkansas

Kevin Fitzpatrick, Ph.D. — Co-Investigator, University of Arkansas

Cari Bogulski, Ph.D. — Co-Investigator, University of Arkansas for Medical Sciences

Natalie Speer – Graduate Research Assistant

Table of Contents

<i>Table of Contents</i>	<i>i</i>
<i>About This Report</i>	<i>1</i>
Key takeaways.....	1
<i>Methods</i>	<i>2</i>
Institutional review board	2
Sample	2
A note on the numbers	3
<i>Geographic Distribution</i>	<i>4</i>
<i>Sample Characteristics</i>	<i>5</i>
Table 1. Respondent characteristics	5
Farm characteristics.....	6
<i>Mental Health</i>	<i>8</i>
Depression (CES-D-8)	8
Anxiety (GAD-7)	8
Suicidal thoughts and behaviors (SBQ-R)	9
Attitudes toward seeking help (SSOSH)	10
<i>Social Connection and Support</i>	<i>11</i>
Loneliness.....	11
Relationship closeness.....	11
Social trust.....	12
Social support	12
Personal mastery	13
Subjective social status	13
Faith and religious community	14
<i>Physical Health</i>	<i>15</i>
General and dietary health	15
Chronic conditions	15
Health care access and use	16

Physical activity	17
Smoking behavior	17
Stressors	18
Stressful events	18
Financial pressure	18
Food security	19
Discussion.....	20
Limitations	20
From Snapshot to Sustained Monitoring.....	21
Acknowledgements	22
Funding	22

About This Report

The Farmer Adaptation, Resilience, and Mental Health Study (FARMS) was a statewide survey of Arkansas farmers and ranchers. It was designed to describe the health and well-being of the people who work on the state's farms and ranches — their mental and physical health, the stressors they face, and the resources they draw on. This report summarizes what respondents told us. We present findings in plain language and report the basic descriptive results. Within this report, we do not attempt to explain causes or draw conclusions beyond what the descriptive responses show. In the closing section we offer a brief interpretation of the findings and discuss the importance of monitoring farmer/rancher health and well-being.

Key takeaways

- Arkansas farmers and ranchers from 96 percent of the state's counties (72 of 75) participated, giving the study broad geographic reach.
- Most respondents reported good or better general health, strong personal coping resources, and dependable social support.
- 1 in 5 respondents reported elevated depressive symptoms, and about 1 in 3 reported anxiety symptoms ranging from mild to severe.
- The most commonly reported stressors were economic and operational — rising input and machinery costs, and equipment failure.
- Chronic physical conditions were common, led by arthritis, skin cancer, and diabetes.

Methods

FARMS used a two-stage, mixed-mode design. Invitations were first mailed to a simple random sample of Arkansas private pesticide-applicator license holders, followed by a second round of email invitations to all license holders with an email address in their license records. The mail wave was fielded beginning March 9, 2026 (with a reminder mailing March 24) and ended April 10, 2026. The email wave started April 8, 2026. All data collection closed May 1, 2026. Small incentives (\$10 gift cards) were provided for completing the survey.

The survey was administered online. Mailed invitations included a QR code to open the survey, and email invitations included a direct link. The questionnaire was pre-tested with members of the research team, farmers, and extension agents to confirm clarity and length and was estimated to take about 15 to 20 minutes to complete. The survey covered several broad areas: mental health and emotional well-being; physical health and health-care access; social connection, loneliness, and sense of personal control; attitudes toward seeking mental-health help; financial and farm-related stressors; food security; and characteristics of the respondent and their farm or ranch operation. Most survey items were drawn from existing, validated measures.

Institutional review board

This study was reviewed by the University of Arkansas Institutional Review Board and determined to be exempt under 45 CFR 46.104(d)(2)(i) (Protocol #2512643189). The requirement to obtain signed documentation of informed consent was waived under 45 CFR 46.117(c)(1)(ii); all participants reviewed an informed consent statement and indicated agreement electronically before beginning the survey.

Sample

Figure 1 demonstrates the process of selecting our analytical sample. 7,863 unique individuals were invited to participate. Of those invited, 832 entered the survey, 735 met the study's eligibility criteria, and 639 were eligible and completed at least half of the questions applicable to them. Eligibility required Arkansas residence, being 18 or older, and having an active farming or ranching role within 12-months of receiving the survey. This yields a crude response rate of 8.1 percent (639 of 7,863). This response rate is not adjusted for undeliverable invitations or for ineligible individuals on the licensing list. This report describes results for the final sample of 639 respondents.

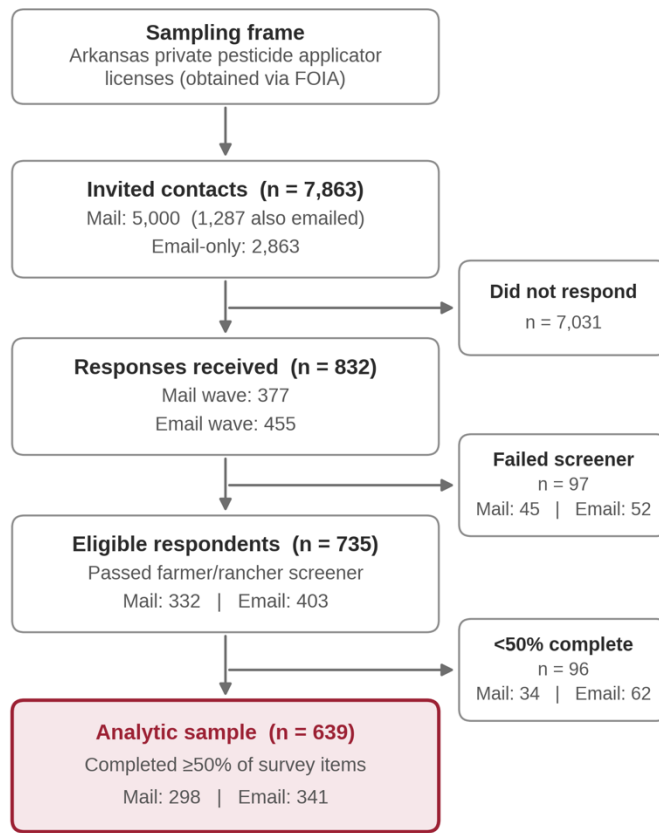


Figure 1. Participant flow from sampling frame to analytic sample.

A note on the numbers

Throughout this report, percentages are calculated using the number of people who answered each question — not the full sample — as the denominator. People who skipped a question, preferred not to answer, or were not asked it are excluded from that question’s percentages and noted separately. Because not everyone answered every item, the number of valid responses varies from question to question.

For symptom and resource scales, this report gives the average (mean) score together with the standard deviation (SD) in parentheses — a measure of how spread out responses were around that average. Larger SDs indicate more variability between respondents.

To protect respondent privacy and avoid over-interpreting very small groups, response categories with fewer than 10 people are combined with adjacent categories where noted (for example, race and ethnicity groups, and food-security levels).

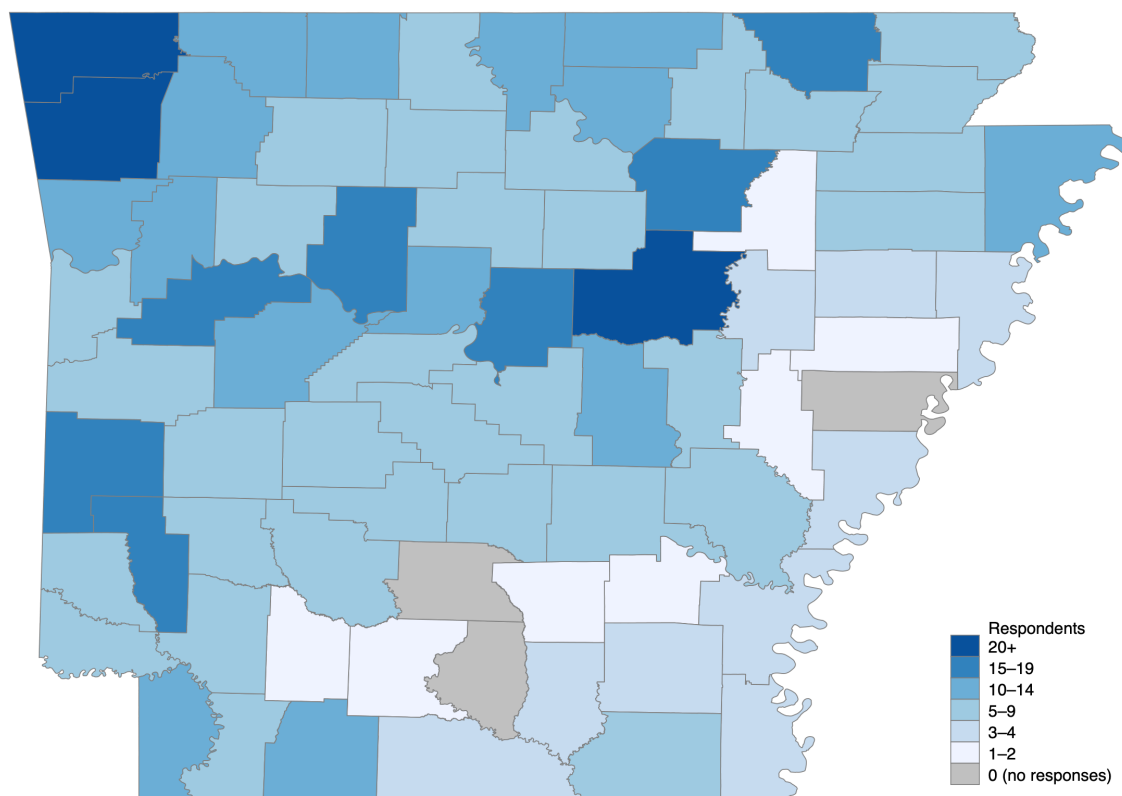
Geographic Distribution

Respondents lived in 96 percent of Arkansas's counties (72 of 75). The five counties contributing the most respondents were Washington (39), Benton (29), White (23), and Faulkner and Logan (19 each) — reflecting both the Northwest Arkansas corridor and the agricultural areas of the central part of the state. Four of these counties are also the four counties with the most farms in Arkansas according to the most recent (2022) Census of Agriculture, and they rank in they rank in the same order.

Only three counties — Calhoun, Dallas, and Lee — had no respondents. Low or no response in these specific counties is consistent with the fact that they have relatively few farms compared to the rest of the state. Dallas and Calhoun counties, for example, have the fewest and second fewest farms of any county in Arkansas.

To summarize: he geographic distribution of FARMS respondents across Arkansas counties closely resembles the distribution of farm operations in the 2022 Census of Agriculture. The two distributions differed only modestly (index of dissimilarity = .12), indicating that 88 percent of the respondent distribution overlaps with the distribution of Arkansas farms.

FARMS respondents by Arkansas county of residence



Analytic sample (n = 639). 72 of 75 counties represented; 3 with no responding residents (gray).

Figure 2. Number of FARMS respondents by Arkansas county of residence (n = 639).

Sample Characteristics

This sample tracks Arkansas producers closely when compared to traits measured on the 2022 Census of Agriculture. The share of respondents who were non-Hispanic White is the same as the share reported in the Census (~95% in each). Average age is also the same (57 years) in the FARMS survey and the Census. Men are over-represented in our sample relative to the the Census (86% vs. 61%).

Table 1. Respondent characteristics

Characteristic	Value
Age	
Mean (SD)	57 years (13.8)
Median (range)	60 years (19–87)
Gender	
Man	86%
Woman	14%
Race/ethnicity	
Non-Hispanic White	95%
All other groups combined*	5%
Marital status	
Married or partnered	89%
Education	
Bachelor's degree or higher	48%
Some college or associate degree	30%
High school or less	22%

*Percentages are of valid (non-missing) responses. *Per the reporting convention, non-Hispanic Black, Hispanic/Latino, multiracial, and other groups (each under 10 respondents) are combined.*

Farm characteristics

Operations spanned the full range of farm sizes and debt levels. Figure 3 and 4 show the distribution of gross agricultural sales and total farm-related debt. The most common sales bracket was \$50,000 to \$99,999, and the largest single debt category was no farm-related debt (42%).

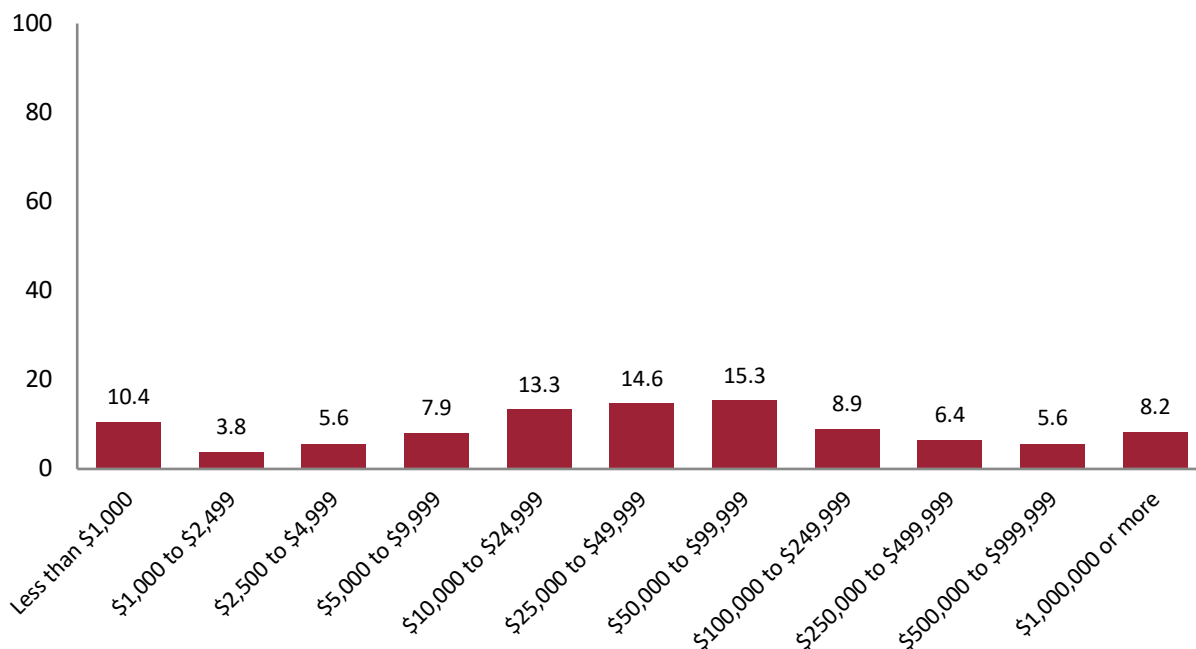


Figure 3. Total gross value of agricultural sales in 2025, before expenses (valid responses, 608).

Most operations were family sole proprietorships (69%), and just over half (53%) had a written succession plan in place. Farming was often a multi-generational endeavor: among email-wave respondents who were asked, about 1 in 5 (22%) were the first generation in their family to farm or ranch, while the rest came from families with two or more generations of farming — most commonly three generations (30%). Reflecting where respondents stood in that chain, about 7 in 10 (72%) identified as the generation that will transfer the operation to others, and 28 percent as the generation receiving it. Households were typically small — averaging 2.6 people — with an average of about one other adult besides the respondent involved in the farming or ranching operation.

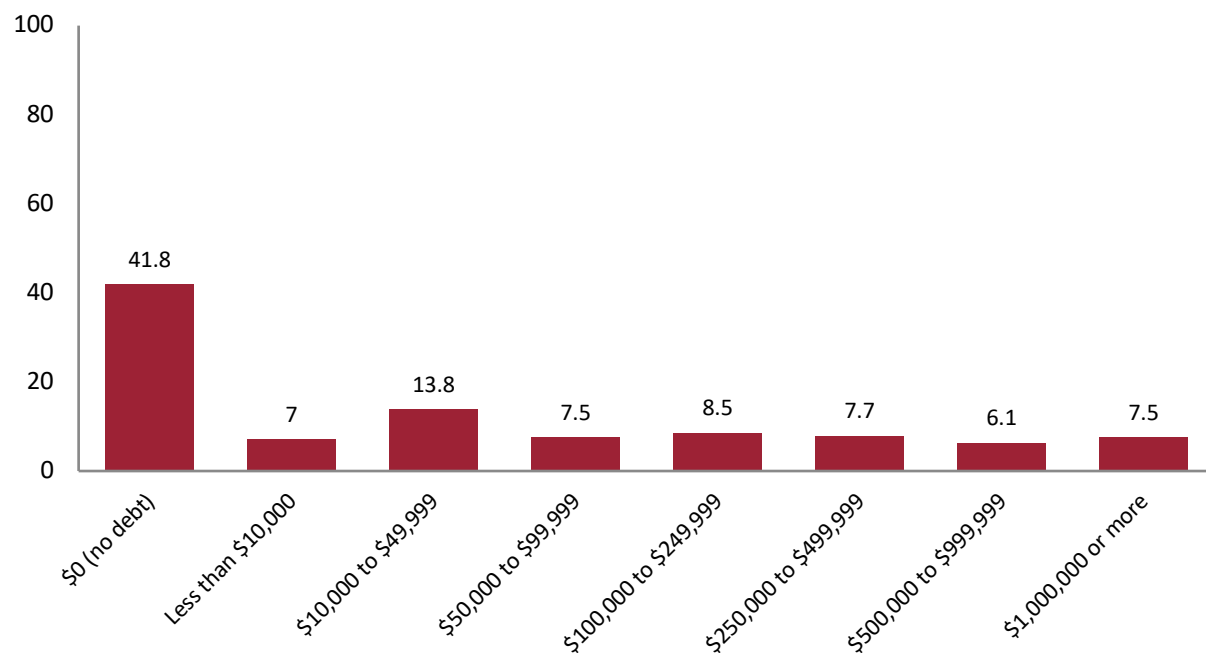


Figure 4. Total farm- or ranch-related debt currently owed (valid responses, 610).

Although the most common response to our question about farm or ranch related debt was \$0 (no debt), over half of the respondents reported some level of debt. Among those who reported any farm or ranch related debt, most owed between \$10,000 to \$49,000.

Mental Health

FARMS measured symptoms of depression, anxiety, and suicidal thoughts and behaviors using standard screening instruments. The screens identify people whose symptoms are frequent or severe enough to warrant attention; they are not clinical diagnoses. Across the three measures, a substantial proportion of respondents screened positive.

Depression (CES-D-8)

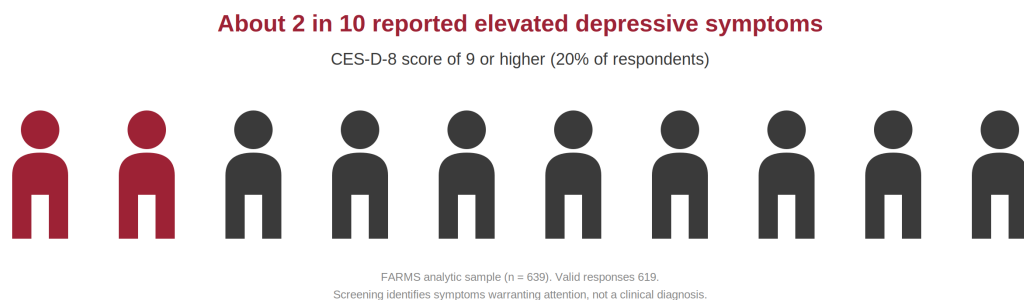


Figure 5. Elevated depressive symptoms on the CES-D-8 (valid responses, 619).

Depressive symptoms were measured with the 8-item Center for Epidemiologic Studies Depression scale (CES-D-8). FARMS scored each item on a four-point frequency scale (0–3), so total scores range from 0 to 24, with higher scores indicating more frequent symptoms. A score of 9 or higher marks a positive screen for elevated depressive symptoms. The average score was 4.7 (SD 4.7), and about 20% scored at or above the cutoff for elevated depressive symptoms.

Anxiety (GAD-7)

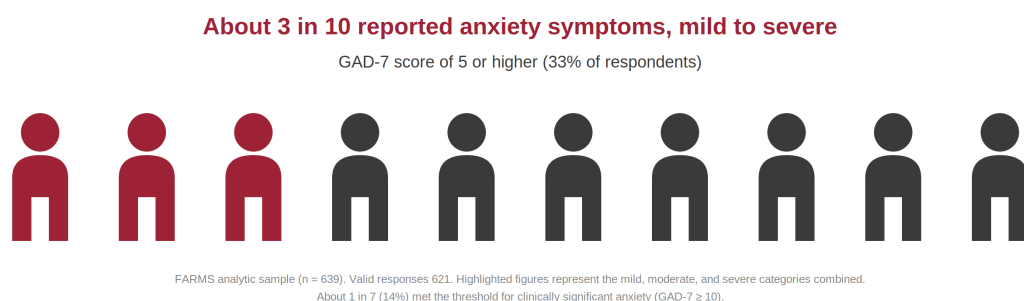


Figure 6. Anxiety symptoms in the mild-to-severe range on the GAD-7 (valid responses, 621).

Anxiety symptoms were measured with the 7-item Generalized Anxiety Disorder scale (GAD-7, range 0–21), scored using the scale's standard severity bands: minimal (0–4), mild (5–9), moderate (10–14), and severe (15–21).

The average anxiety score was 4.1 (SD 5.0) and about 33% reported symptoms in the mild-to-severe range. One in 7 (14%) scored at or above 10, the cutoff for clinically significant anxiety symptoms that warrant further evaluation. The full gradient of severity is shown below.

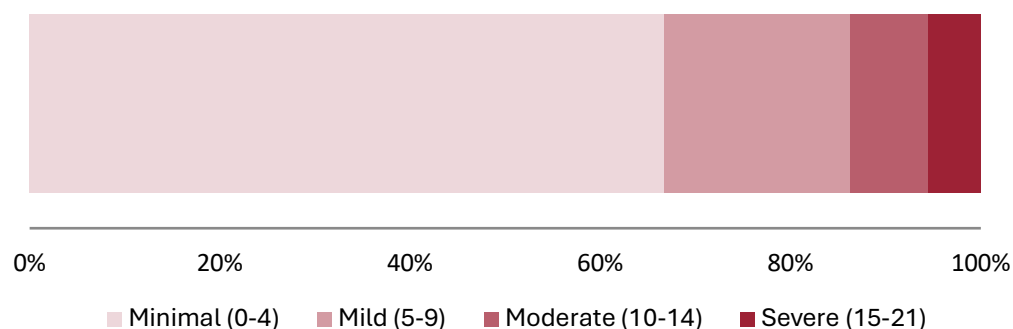


Figure 7. Anxiety symptom severity on the GAD-7, by standard severity band (valid responses, 621).

Suicidal thoughts and behaviors (SBQ-R)

Respondents completed the Suicidal Behaviors Questionnaire–Revised. The first question asks whether a person has ever thought about or attempted to take their own life. It is the most direct single measure of lifetime suicidal ideation and behavior. Among the 630 respondents who answered, most (83%) reported never having had such thoughts. Another 14 percent reported a brief passing thought at some point, and about 3 percent reported having made a plan or an attempt at some time in their lives. In other words, roughly 1 in 6 reported some suicidal ideation in their lifetime.

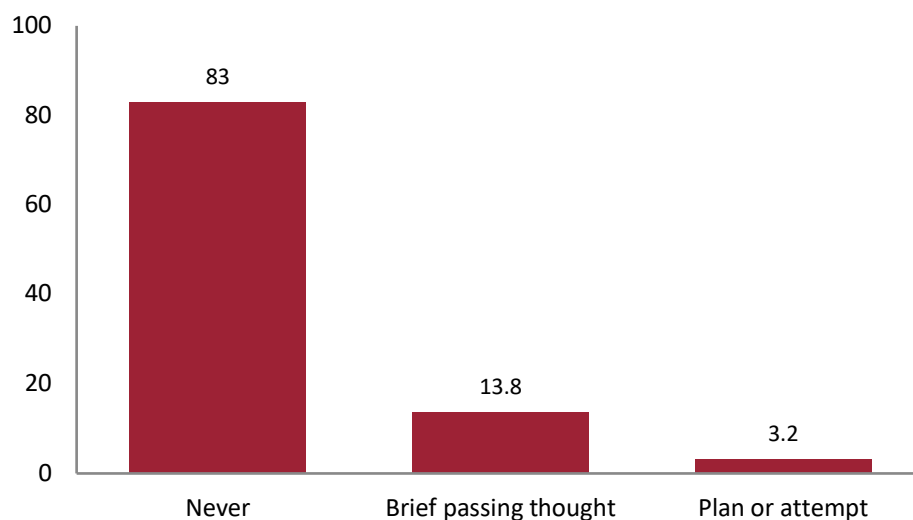


Figure 8. Lifetime suicidal thoughts and behaviors on the first SBQ-R item. Response categories indicating a plan or attempt (each fewer than 10 respondents) are combined.

Attitudes toward seeking help (SSOSH)

The Self-Stigma of Seeking Help scale measures how much a person feels that seeking psychological help would threaten their self-worth (range 1–5; higher scores indicate greater self-stigma). On average, respondents scored 2.7 (SD 0.7) — just below the scale’s midpoint. Figure 9 presents results for each item of the scale, including those that indicate more stigma and those that indicate less.

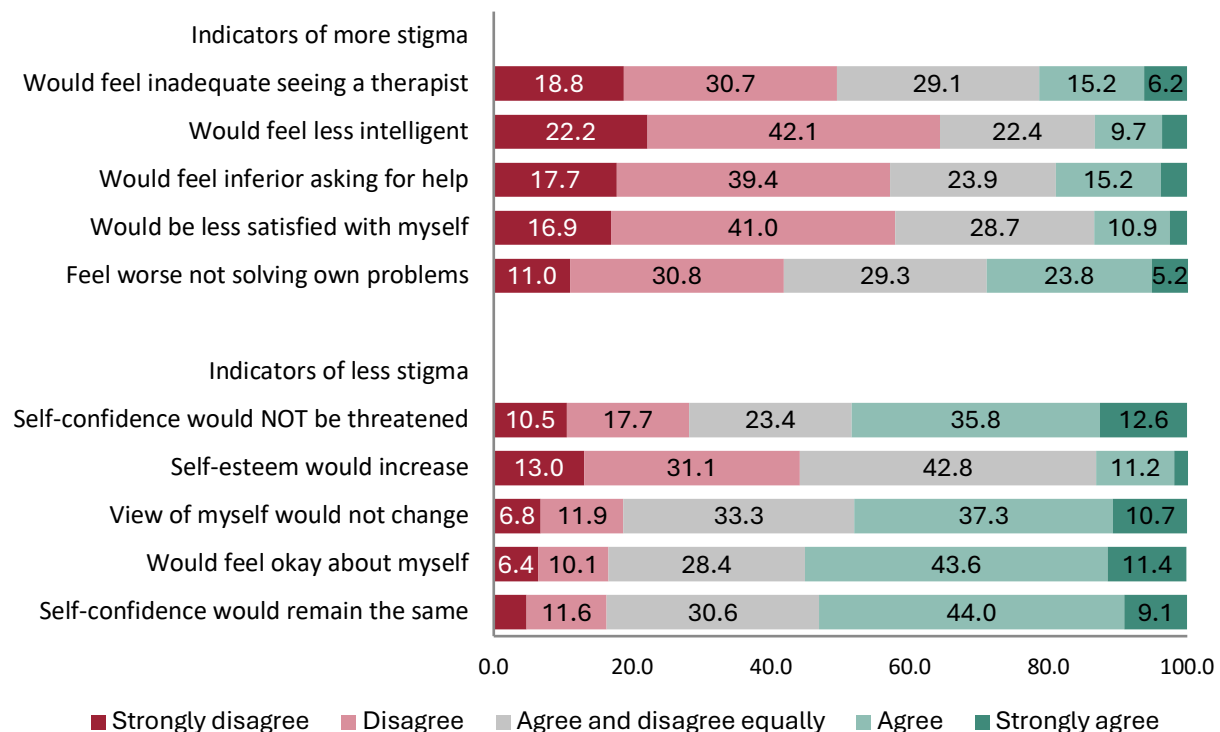


Figure 9. Attitudes toward seeking psychological help on the Self-Stigma of Seeking Help (SSOSH) scale, by item (valid responses per item, 601–612). Item labels abbreviated from full questionnaire wording.

Getting help

If you or someone you know is struggling, help is available, free, and confidential.

- **988 Suicide & Crisis Lifeline**
 - Call or text 988
 - Available 24/7
- **AR ConnectNow (UAMS)**
 - Free, confidential mental-health support for any Arkansan; no insurance or referral needed.
 - Call 1-800-482-9921
 - Available 24/7
- **Farm Aid Farmer Hotline**
 - Support and resource referrals for farm and ranch families
 - Call 1-800-327-6243

Social Connection and Support

Loneliness

Respondents generally reported strong social connection. On the UCLA 3-item loneliness measure, most said they hardly ever or never lacked companionship, felt left out, or felt isolated — though a sizable minority reported these feelings at least some of the time.

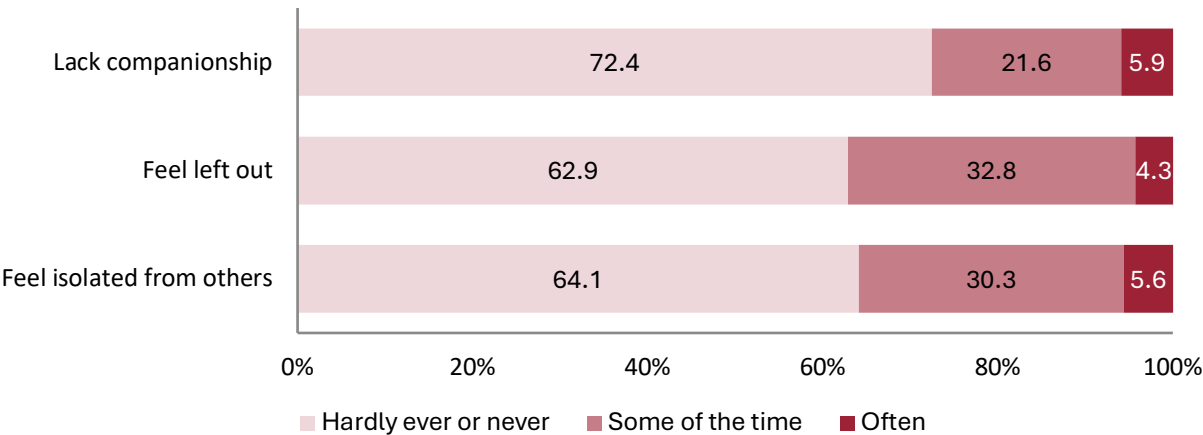


Figure 10. Loneliness on the UCLA 3-item scale, by item (valid responses per item, 606–607).

Relationship closeness

Close personal relationships were the norm. Among respondents with a partner or spouse, nearly 9 in 10 (89%) described that relationship as “very close,” and almost all the rest (10%) as “quite close.”

Nearly 9 in 10 described their relationship as “very close”

Among respondents with a spouse or partner



89% “very close,” 10% “quite close”; the remaining 10 reported a less close relationship.
FARMS analytic sample (n = 639); asked only of respondents with a spouse or partner (564 valid).

Figure 11. Relationship closeness with spouse or partner (valid responses from respondents with a spouse or partner, 564).

Social trust

Respondents were more divided on generalized trust. Asked whether “most people can generally be trusted,” 46 percent agreed or strongly agreed, 27 percent were neutral, and 27 percent disagreed. Strong close ties do not always extend to broad social trust.

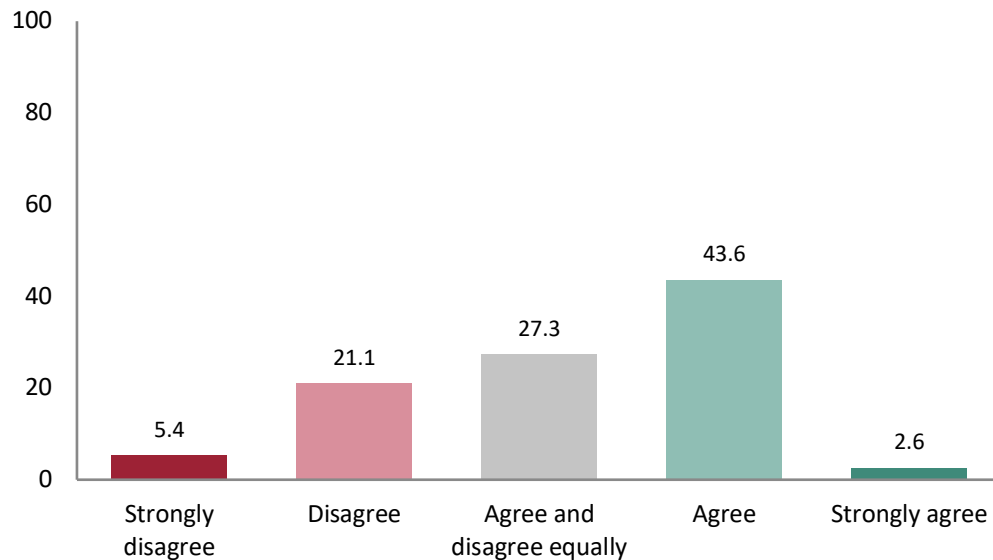


Figure 12. Agreement that most people can generally be trusted (valid responses, 626).

Social support

Respondents reported strong social resources. Perceived social support was high (modified Medical Outcomes Study Social Support Survey, average 4.1 of 5, SD 0.8) — both emotional support (average 4.1, SD 0.9) and practical, instrumental support (average 4.2, SD 0.9) were rated highly.

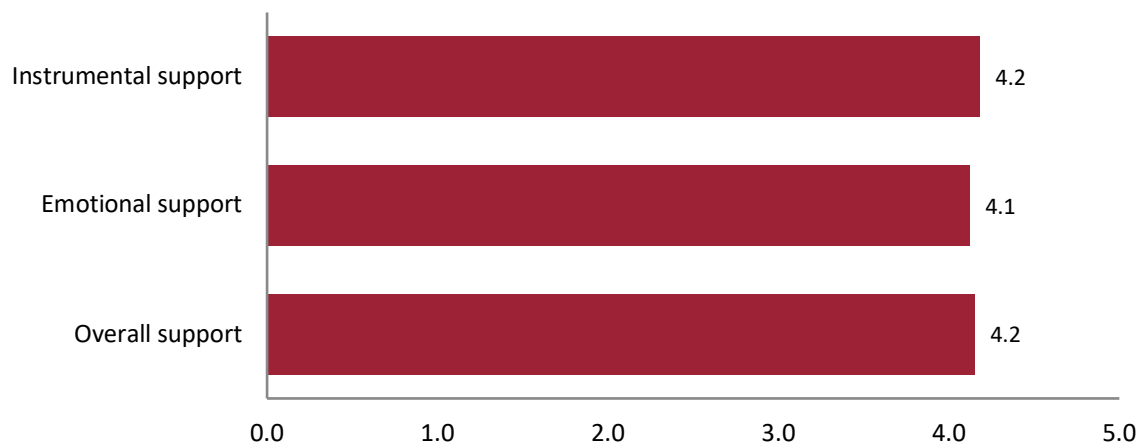
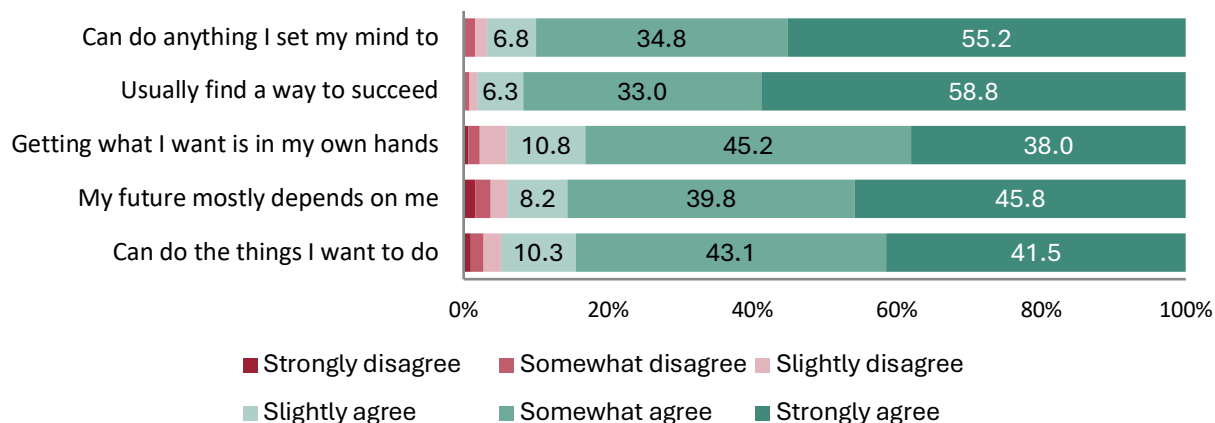


Figure 13. Social support on the modified MOS Social Support Survey, by subscale (valid responses, 616–622).
“Overall” is the composite of the instrumental and emotional subscales.

Personal mastery

Respondents also reported a strong sense of mastery — the belief that they can influence what happens in their lives (Personal Mastery scale, average 5.3 of 6, SD 0.7; among the highest-scoring measures in the survey).



Subjective social status

Respondents were asked to think about their relative position in society, and imagine a ladder with 10 steps representing social standing in the United States. They were instructed to imagine the top rung as representing those who are the best off—the most money, education, and respected jobs. Those at the bottom rung represent the worst off—the least money, education, and respected jobs.

Most respondents placed themselves in the upper-middle: the most common rung selected was step 8, and the median was step 7.

Where farmers place themselves on the social ladder

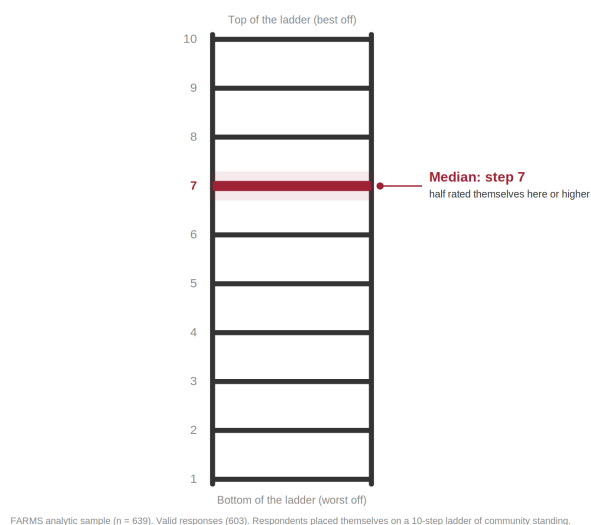


Figure 14. Subjective social status on a 10-step community-standing ladder (valid responses, 603).

Faith and religious community

Religion was a substantial source of community and meaning for many respondents. Among those asked, 94 percent considered themselves part of a faith community or congregation, and about half (50%) attended religious services every week or more often. Nearly all (87%) strongly agreed that they believe in a God who watches over them, and most strongly agreed that they find strength and comfort in their religion (67%) and try to carry their beliefs into daily life (59%). The overall religiosity composite averaged 5.5 of 6 (SD 0.9).

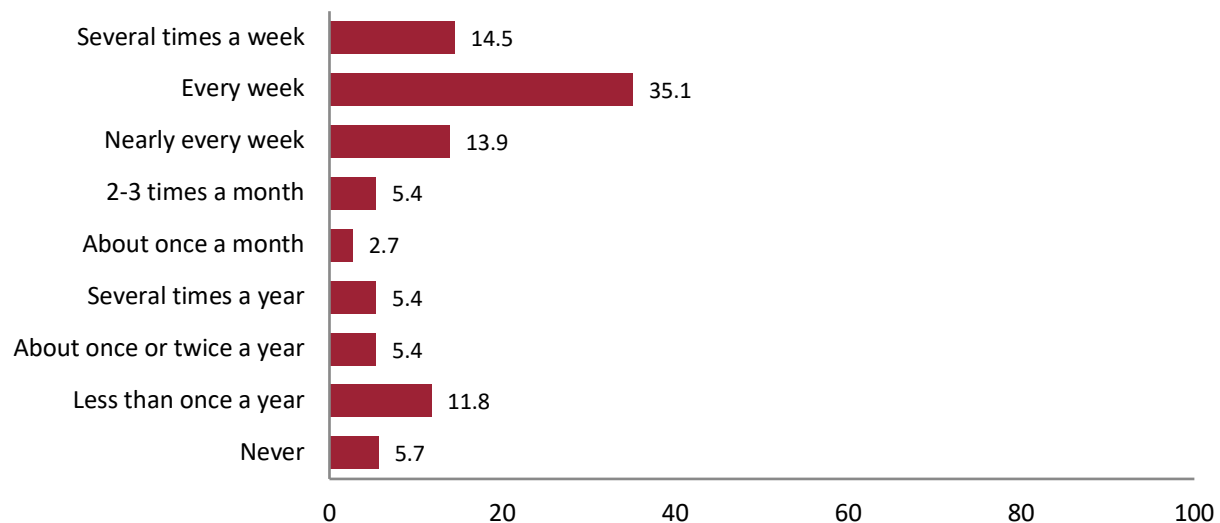


Figure 15. Religious service attendance (valid responses, 296). Adjacent small categories are combined.

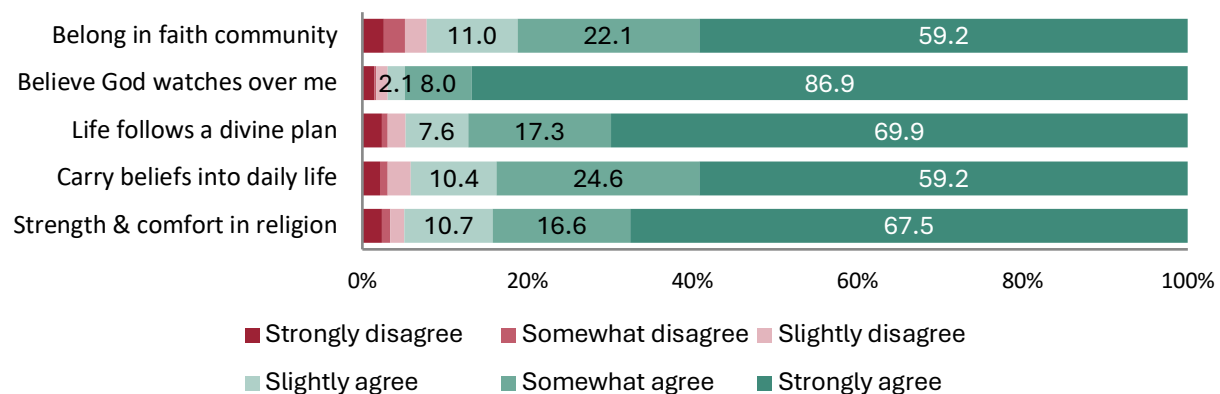


Figure 16. Religiosity scale responses, by item (valid responses per item, 272–289). Asked of mail-wave respondents who identified being part of a faith community; item labels are abbreviated.

Physical Health

General and dietary health

Most respondents rated their overall health positively: 88 percent described it as good, very good, or excellent, while 12 percent rated it fair or poor. Diet quality was rated somewhat lower — 83 percent rated their diet good or better, and 17 percent rated it fair or poor.

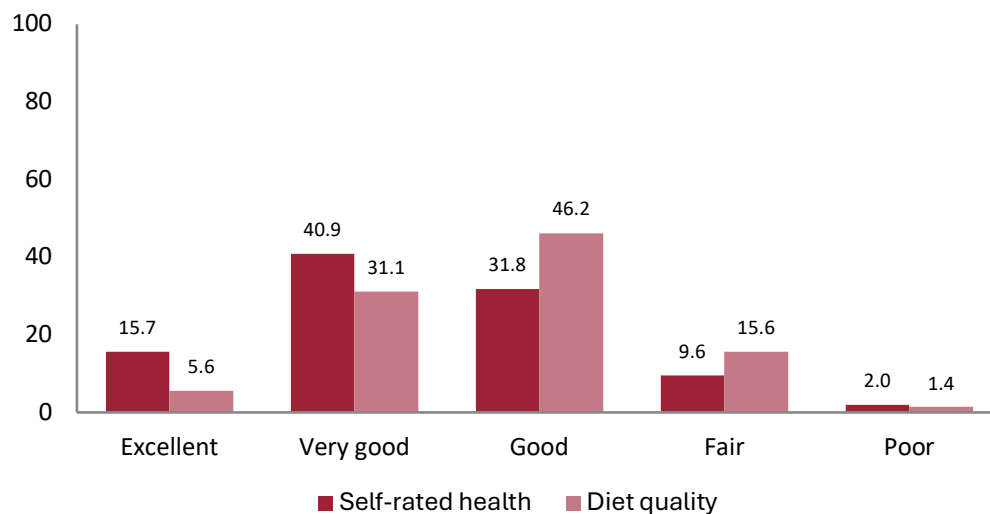


Figure 17. Self-rated overall health and diet quality (valid responses: overall health 638, diet quality 639).

Chronic conditions

Chronic conditions were nonetheless common. Arthritis was the most frequently reported (37%), followed by non-melanoma skin cancer (20%) and diabetes (16%).

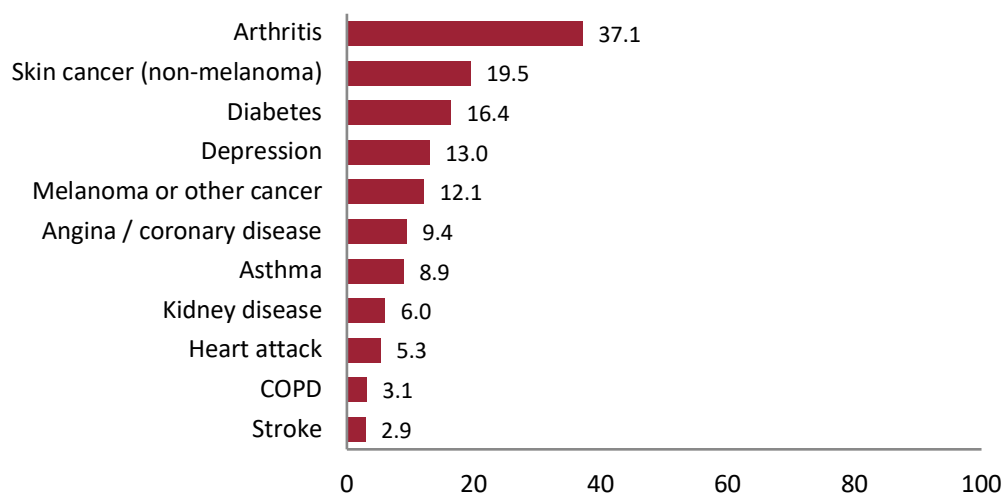


Figure 18. Chronic conditions ever diagnosed, by share of respondents (valid responses, 616–625). The two cancer items — non-melanoma skin cancer and melanoma or other cancer — were asked separately.

Health care access and use

Health-care access was generally strong: 96 percent reported having health coverage, 92 percent had at least one personal health-care provider, and 84 percent had a routine checkup within the past year. Only a small portion (5%) reported needing to see a doctor in the past year but being unable to because of cost, and 7 percent had received counseling or therapy from a mental-health professional in the past 12 months. About 1 in 5 (21%) had used telehealth in the past year, and most (72%) said they would be at least somewhat willing to use it in the future — a notable gap between willingness and use, as the figure below shows.

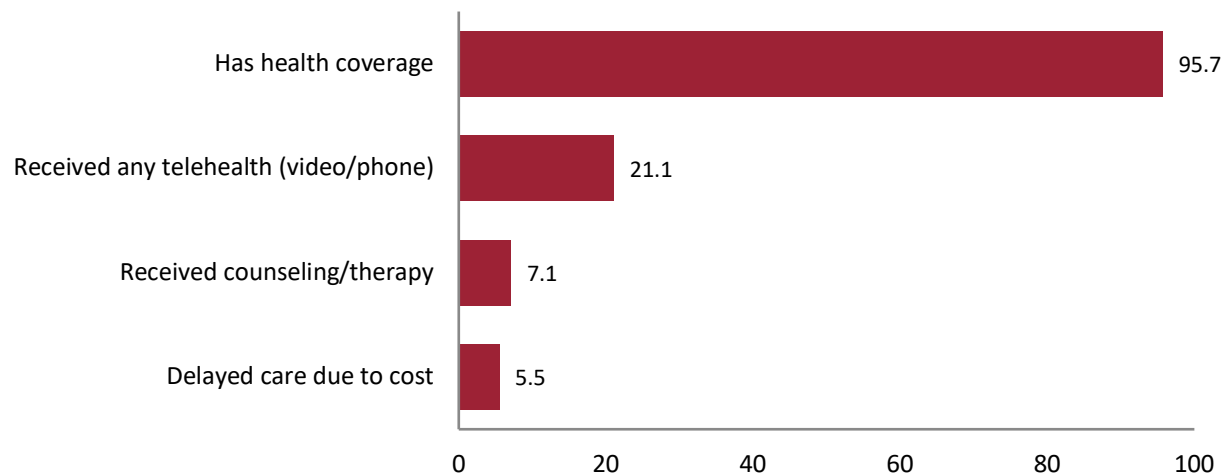


Figure 19. Health care access and use (valid responses, 602–606 per item).

Physical activity

Respondents were asked how many days per week and how many minutes per session they engage in moderate to strenuous exercise. Just under half (48.5%) reported enough leisure-time exercise to meet the national guideline of at least 150 minutes of moderate-to-vigorous activity per week; 40 percent were active but below that threshold, and 11.5 percent reported no exercise in a typical week. These survey questions (the Exercise Vital Sign) capture discretionary exercise, not total physical activity. The often-substantial physical labor of farming and ranching is not reflected here. For that reason, respondents below the guideline should not be considered sedentary — most reported some weekly exercise, and their occupational activity is not captured by this measure.

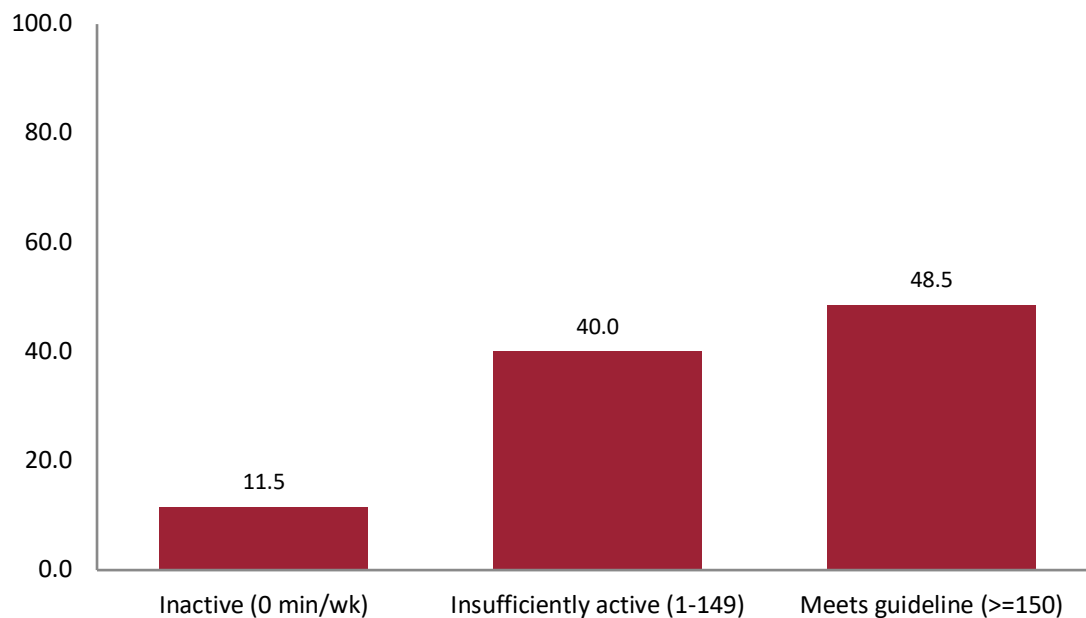


Figure 20. Leisure-time physical activity on the Exercise Vital Sign, by guideline-based category (valid responses, 598). Categories follow Coleman et al. (2012).

Smoking behavior

Among the subset of respondents asked about cigarette use (175 respondents), most (85%) did not smoke at all; 8 percent smoked every day and 7 percent smoked some days.

Stressors

Stressful events

When asked about stressful events affecting their operation in the past year, respondents pointed overwhelmingly to economic and operational pressures rather than personal or family crises. Rising input and supply prices were nearly universal (87%), followed by increased machinery costs (71%) and major equipment breakdowns (50%). By contrast, personal events such as foreclosure, divorce, or the death of a family member were reported by relatively few.

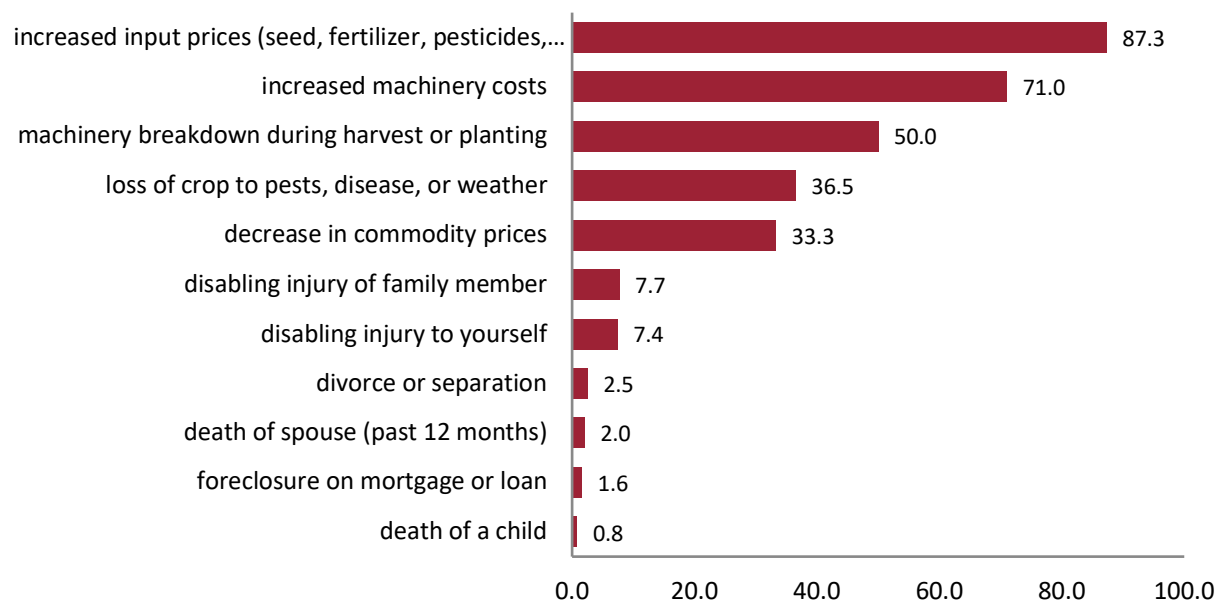


Figure 21. Stressful events in the past 12 months, by share of respondents (valid responses, 605–608). Items are independent yes/no events, not a summed count.

Financial pressure

Perceived financial threat — worry about one’s financial situation — averaged 2.1 (SD 1.0) on a 1–5 scale, toward the lower end, though responses spanned the full range. Looking back over the past few years, respondents were divided on whether their financial situation had changed. The most common single answer was “no change” (34%). Overall, more respondents reported improvement (43% improved or greatly improved) than decline (22% worsened or greatly worsened), as the figure below shows.

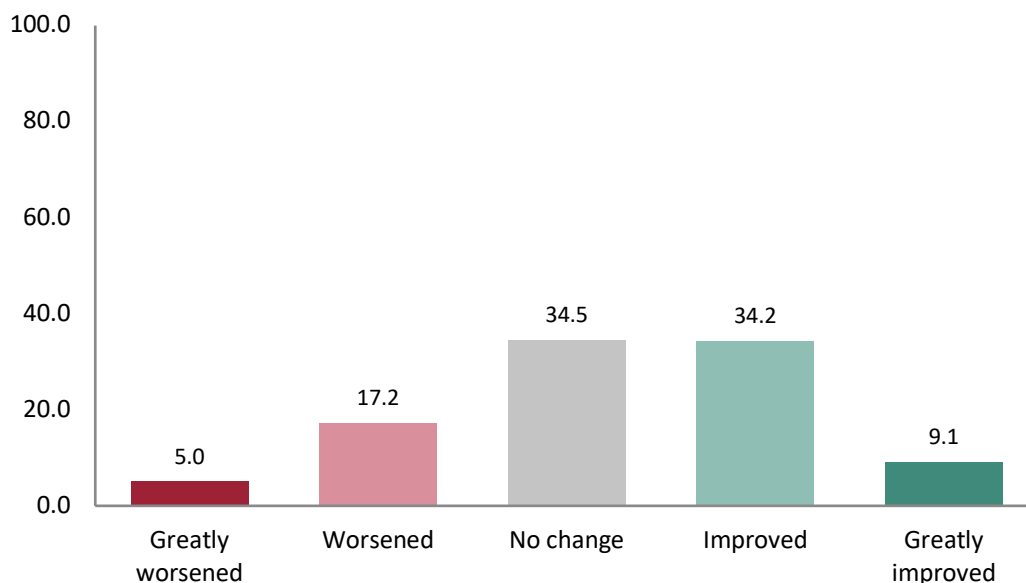


Figure 22. Perceived change in financial situation over the past few years (valid responses, 603).

Food security

Most respondents were food secure. Applying the USDA classification, 95 percent were food secure and 5 percent were food insecure. Food insecurity combines the low and very low food-security categories per the USDA reporting convention.

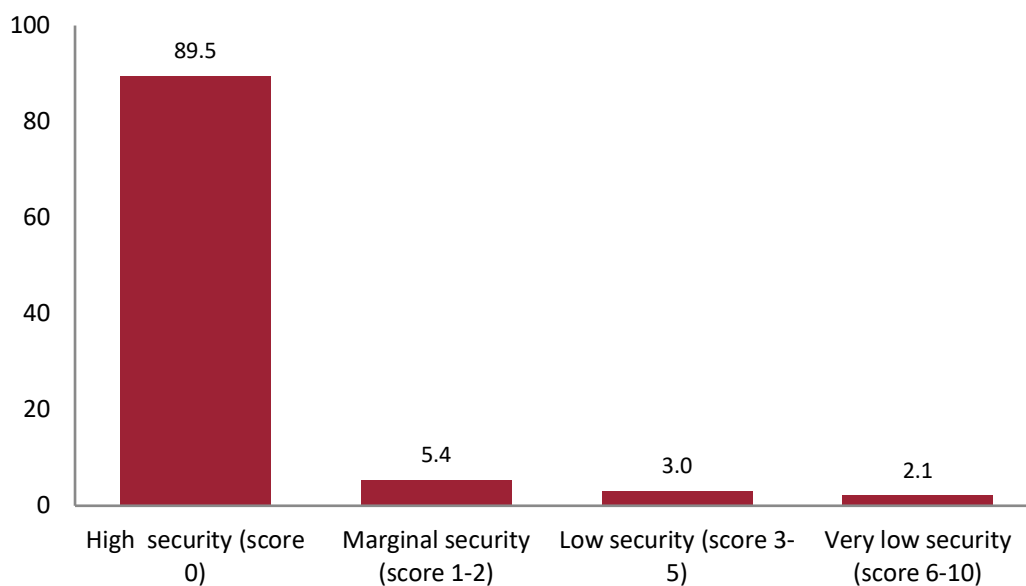


Figure 23. Food security on the USDA 10-item adult classification (valid responses, 605)

Discussion

Taken together, the FARMS responses describe a population with real strengths and real strains. Arkansas farmers and ranchers in this study reported high personal mastery, dependable social support, good access to health care, and mostly positive general health. These are resources generally considered to be positive and protective for health.

At the same time, the survey surfaced clear signals of distress. Roughly one in five respondents reported elevated depressive symptoms and about one in three reported mild to severe anxiety symptoms — levels that, while not diagnoses, point to a meaningful share of the farming population carrying a heavy burden.

The stressors respondents named were predominantly economic and operational — input and machinery costs, equipment failure — rather than personal crises. This pattern suggests that supports aimed at the financial and operational realities of farming, alongside accessible mental-health resources that fit rural life, may speak most directly to the pressures this population actually reports.

This financial pressure is not unique to the survey. According to the American Farm Bureau Federation, Arkansas led the nation in Chapter 12 farm bankruptcy filings in 2025, with 33 filings — more than double the prior year, the most in the state this century, and roughly a tenth of the national total. Agricultural economists have linked the trend to several consecutive years of declining commodity prices and rising input costs, which is consistent with what FARMS respondents reported: rising input prices were the single most common stressor (87%).

Limitations

Our findings should be read with several limitations in mind. Participation was voluntary and the response rate was low but comparable to other surveys of farming populations. The sample was drawn from Arkansas pesticide-applicator license holders, which reaches many but not all of the state's farmers and ranchers. Respondents were also predominantly older, men, and non-Hispanic White, consistent with the 2022 Census of Agriculture but limiting how far the findings extend to more diverse farming populations. The survey was a single snapshot taken in spring 2026, so it describes the health of this population at one point in time rather than how it may be changing over time. All measures were self-reported, and the screening instruments identify people whose symptoms warrant attention, not clinical diagnoses. Some items were answered by only a portion of respondents — because they were asked of only one recruitment wave or followed survey skip patterns — so some of our findings rest on smaller subgroups and are noted as such throughout.

These limitations are real, but they should be weighed against how little has been known about Arkansas farmers' health prior to this study. Before FARMS, there was no statewide portrait of farmer and rancher health in Arkansas — no baseline for how this population was faring on mental health, chronic conditions, stressors, or access to care.

From Snapshot to Sustained Monitoring

This study describes Arkansas's farmers and ranchers' health as it was during the study period, and the stressors they experienced in the 12 months prior to that. It cannot reveal whether their health and circumstances are improving or worsening over time—a limitation that can only be addressed by ongoing monitoring.

The absence of regular monitoring of farmers' health comes with serious consequences. Efforts to support the health of Arkansas's farmers and ranchers have had to be developed without a statewide picture of the health challenges this population faces, the stressors weighing on them, or the social supports and personal resources that maintain their resilience—precisely the information repetition of FARMS would provide.

There are existing models for regularly monitoring the health and well-being of populations known to face serious health challenges. For example, the state of Arkansas regularly monitors the health of women who gave birth in the past year with the established Pregnancy Risk Assessment Monitoring System (PRAMS) survey.

This first wave of FARMS has demonstrated that such monitoring is feasible: a statewide frame reached farmers and ranchers in 72 of 75 counties using validated measures and a mixed-mode design built to engage a hard-to-reach population.

Fielded once, this study offers a portrait; fielded regularly over time, it could offer early warning when conditions worsen and an accountable record of whether farmer health is improving, holding steady, or worsening.

Acknowledgements

The study team is grateful to the colleagues who contributed to the planning and conceptualization of FARMS. Their insight helped shape the study's design, measures, and approach:

Bryce Daniels, Ph.D., University of Arkansas System Division of Agriculture, Cooperative Extension Service; **Nina Rooft, Ph.D., RDN, LD**, Assistant Vice President for Family and Consumer Sciences, University of Arkansas System Division of Agriculture, Cooperative Extension Service; **Donna Graham, Ph.D.**, former Director, School of Human Environmental Sciences, University of Arkansas; **Braden Leap, Ph.D.**, Department of Sociology, Mississippi State University; **Leigh Ann Askins**, University of Arkansas System Division of Agriculture, Cooperative Extension Service; and **Bob Harper**, University of Arkansas System Division of Agriculture, Cooperative Extension Service. Responsibility for the study's design, analysis, and conclusions rests with the study team.

Funding

FARMS was made possible in part by funds from Arkansas Farm Bureau and Arkansas Farm Credit. Participant incentives and additional study costs were covered by the Principal Investigator's institutional startup funds. The study team is grateful for this support. The funders had no role in the study's design, data collection, analysis, interpretation, or in the preparation of this report; the science and writing are wholly independent, and the findings and interpretations are those of the study team alone.

Suggested citation

Willis, D. E., Fitzpatrick, K., & Bogulski, C. (2026). Farmer Adaptation, Resilience, and Mental Health Study (FARMS): Summary Report. University of Arkansas.

