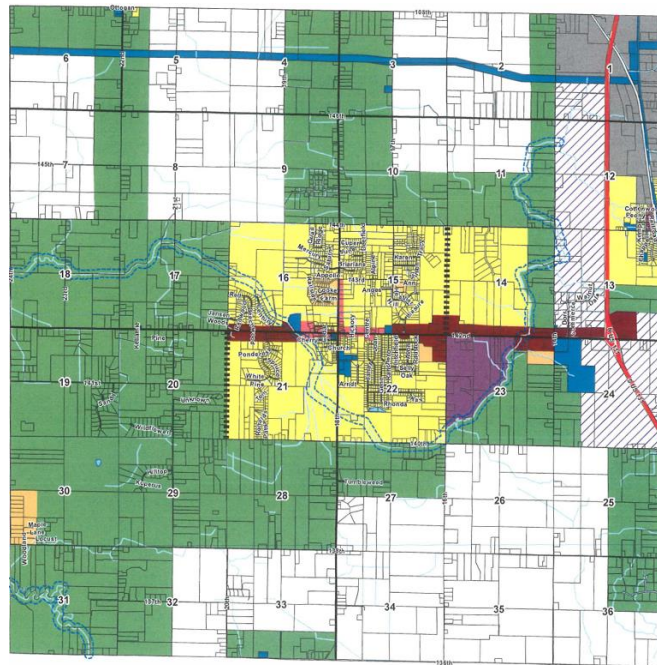




ACE Research Final Paper



Risk, Trust, and Data Centers: A Community-Based Study of Health, Environmental, and Policy Perceptions in Dorr Township, Michigan

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Master of Arts in Global Sustainability

**Risk, Trust, and Data Centers: A Community-Based Study of
Health, Environmental, and Policy Perceptions in Dorr Township,
Michigan**

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Abstract

The rapid expansion of artificial intelligence and cloud computing has accelerated interest in large-scale data-center development, raising questions about electricity demands, water use, environmental quality, public health, local governance, and the distribution of project risks and benefits. This quantitative cross-sectional study examines perceptions of a proposed artificial intelligence data center in Dorr Township, Michigan. Data collection uses an anonymous REDCap survey that measures perceived health, environmental, safety, energy-cost, and community consequences. The data also capture trust in Dorr Township officials and the proposing company, as well as preferences for local oversight. The final analytic sample includes 367 eligible, complete respondents. Multi-item constructs demonstrate acceptable to excellent internal consistency, with Cronbach's alpha values ranging from .790 to .984. Respondents report high overall perceived risk ($M = 3.69$ on a four-point scale), particularly limited community control, water-related impacts, uncertainty, and fairness concerns. Trust in township officials ($M = 1.56$) and the proposing company ($M = 1.27$) is low. Greater institutional trust is consistently associated with lower perceived risk, including a strong negative association between company trust and distributional unfairness concerns (Spearman's $\rho = -.503$, $p < .001$). Perceived proximity is weakly associated with higher risk and moderately associated with stronger policy and oversight preferences ($\rho = .345$, $p < .001$). Respondents overwhelmingly support emergency-response planning, environmental monitoring, public hearings, resident participation, information for schools and families, strict safety rules, and local authority to stop risky projects. In contrast, only 20.2% support conditional incentives such as tax breaks. The findings indicate that respondents interpret the proposed development as a sustainability, governance, and environmental-justice issue as well as a technological and economic project. Although the convenience sample is not representative of all township residents, the study provides pilot evidence that transparent communication, institutional trust, enforceable safeguards, and meaningful community participation should be central to future data-center planning.

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Table of Contents

Abstract	3
Acknowledgements	4
Table of Contents	5
List of Figures	8
List of Tables	8
List of Notations	8
Introduction	9
Background	9
Problem Statement	11
Purpose and Objectives	11
Research Questions	12
Significance and Justification	12
Scope of the Report	13
Literature Review	13
Data-Center Growth and Sustainability	13
Risk Perception, Dread, and Uncertainty	14
Institutional Trust	15
Environmental Justice and Distributional Fairness	15
Proximity and Place-Based Risk	16

Participatory Governance and Policy Preferences	166
Research Gap	177
Methodology	199
Research Design.....	199
Study Setting.....	199
Participants and Eligibility.....	199
Survey Administration and Data Collection	20
Survey Instrument.....	20
Construct Development and Measurement.....	21
Reliability Testing and Composite Scoring	22
Data Management and Quality Control	23
Statistical Analysis.....	23
Ethical Considerations	23
Results.....	24
Analytic Sample and Data Completeness	24
Participant and Community-Connection Characteristics.....	24
Scale Reliability and Composite Descriptive Statistics	26
Research Question 1: Perceived Consequences of the Proposed Data Center	27
Research Question 2: Institutional Trust and Perceived Risk.....	30
Research Question 3: Perceived Proximity, Risk, and Policy Preferences.....	32

Research Question 4: Policy and Oversight Preferences	33
Summary of Results by Research Question.....	34
Supporting Figures.....	35
Discussion and Interpretation	36
Overall Interpretation and Anticipated Findings	36
Risk, Uncertainty, and Community Control	37
Institutional Trust and Fairness.....	38
Perceived Proximity.....	38
Policy Preferences and Public Participation	39
Unexpected and New Trends	40
Limitations	40
Recommendations for Future Work.....	42
Conclusion	45
References.....	47
Appendices.....	50
Appendix A: Final Survey Instrument.....	50
Appendix B: Construct Map and Scoring Rules.....	58
Appendix C: Recruitment and Consent Materials	62
Appendix D: Supplemental Statistical Output.....	64

List of Figures

Figure 1. Spearman Associations Between Institutional Trust and Perceived-Risk Constructs

Figure 2. Response Distributions for Data-Center Policy and Oversight Preferences

List of Tables

Table 1. Participant and Community-Connection Characteristics

Table 2. Reliability and Descriptive Statistics for Retained Measures

Table 3. Item-Level Descriptive Results for Perceived Consequences

Table 4. Spearman Correlations Between Institutional Trust and Perceived Risk

Table 5. Spearman Correlations Between Perceived Proximity and Study Outcomes

Table 6. Ranked Policy and Oversight Preferences

List of Notations

Notation	Meaning
ACE	Academic Capstone Experience
AI	Artificial intelligence
M	Mean
n	Number of valid observations
p	Probability value
REDCap	Research Electronic Data Capture
SD	Standard deviation
α	Cronbach's alpha
ρ	Spearman's rank-order correlation coefficient

Introduction

Background

Data centers are physical facilities that house servers, networking equipment, storage systems, and the supporting power and cooling infrastructure required to provide digital services. Their role has expanded as cloud computing, artificial intelligence, streaming, electronic commerce, and other data-intensive services have become embedded in daily life (McLellan, 2026). Although improvements in computing efficiency moderated global electricity growth during the 2010s, rapid deployment of specialized artificial-intelligence hardware has renewed concern about the scale and pace of data-center energy demand (Masanet et al., 2020; Smith et al., 2026).

The sustainability implications of data-center development extend beyond electricity use. Facilities may require substantial cooling infrastructure and can consume water directly through cooling systems and indirectly through electricity generation (Saleh, 2026). Water demand varies by facility design, climate, power source, and cooling technology, but limited public reporting can make local impacts difficult to evaluate (Mytton, 2021). Large facilities may also affect land use, utility planning, traffic, noise, light, emergency-response capacity, and the allocation of public infrastructure costs.

These impacts are not experienced only as technical engineering questions. Local residents interpret proposed infrastructure through beliefs about uncertainty, severity, fairness, trust, control, and proximity. Risk-perception research demonstrates that hazards are often perceived as more threatening when they are unfamiliar, difficult to control, potentially catastrophic, or associated with dread (Slovic, 1987). Emotional responses such as fear and

anxiety can also shape how people evaluate uncertain risks and policy choices (Lerner & Keltner, 2001).

Institutional trust is especially important when communities must rely on governments, developers, or technical experts to identify hazards, disclose information, enforce safeguards, and respond to problems. People who trust responsible institutions may be more willing to accept uncertainty, while people who distrust those institutions may interpret the same development as less controllable and more threatening (Siegrist, 2000). Trust is therefore not separate from infrastructure planning; it influences whether technical claims, economic promises, and regulatory commitments are viewed as credible.

Environmental-justice scholarship further emphasizes that the acceptability of development depends on how risks, benefits, and decision-making power are distributed. Environmental burdens have often been concentrated in communities with fewer political and economic resources, while affected groups have not always received meaningful opportunities to shape decisions (Mohai et al., 2009). For data-center development, environmental justice may involve questions about who receives jobs or tax benefits, who experiences noise or resource pressure, who has access to information, and whose concerns are reflected in permits and development agreements.

This study focuses on Dorr Township, Michigan, where a proposed artificial-intelligence data center generates community discussion concerning environmental resources, public health, infrastructure, fairness, and local decision-making. Rather than determining whether a particular environmental impact would occur, the study examines how adults connected to the township perceive potential consequences and what forms of oversight they prefer.

Problem Statement

Public discussions of data-center development often emphasize economic investment, technological capacity, tax revenue, and employment. However, local decision-makers also need evidence about how affected communities understand the environmental, health, safety, infrastructure, and governance implications of proposed projects. Without systematic community-level data, officials and developers may underestimate concerns, rely on the most visible speakers, or treat opposition as a general rejection of technology rather than a response to specific risks, trust deficits, or procedural concerns.

Research on data-center energy and water demand has grown, but comparatively less work examines how residents in rural or semi-rural communities perceive proposed facilities. Existing risk-perception, trust, environmental-justice, and participatory-governance literature provides a theoretical foundation, yet these concepts have rarely been integrated into a single community survey that focuses on data-center development. This gap limits understanding of how proximity, institutional trust, fairness, and perceived control shape local attitudes and policy preferences.

Purpose and Objectives

The purpose of this study is to examine how adults who live, work, or spend significant time in Dorr Township perceive the potential health, environmental, safety, energy-cost, economic-distribution, and broader community consequences of the proposed data center. The study also examines institutional trust, perceived proximity, perceptions of fairness and community control, and preferences for local oversight and public participation.

1. Assess perceptions of potential health, environmental, safety, energy-cost, economic-distribution, and broader community consequences.

2. Evaluate trust in Dorr Township officials and the company proposing the data center and examine how institutional trust is associated with perceived risk.
3. How are respondents' perceived proximity to the proposed data-center site associated with perceived risk and policy preferences?
4. Identify preferences regarding environmental monitoring, safety requirements, emergency planning, public participation, and local policies governing data-center development.

Research Questions

1. How do survey respondents perceive the potential health, environmental, safety, energy-cost, economic-distribution, and broader community consequences of the proposed data center in Dorr Township?
2. What levels of trust do respondents report in Dorr Township officials and the company proposing the data center, and how is institutional trust associated with perceived risk?
3. How is perceived proximity to the proposed data-center site associated with respondents' risk perceptions and policy preferences?
4. Which environmental monitoring, safety, emergency-planning, public-participation, and oversight policies receive the greatest support among respondents?

Significance and Justification

This study contributes preliminary evidence to sustainability research by linking environmental-resource concerns with risk perception, institutional trust, fairness, proximity, and governance. It treats data-center development as a coupled human and infrastructure issue: technological facilities depend on energy, water, land, utilities, and public institutions, while

community acceptance depends on whether residents view those systems as safe, transparent, fair, and responsive.

The project provides a pilot instrument and analytic framework that can be refined and replicated in other communities that are facing the construction of large data centers. The findings may assist local governments, planners, developers, schools, emergency responders, and community organizations in identifying the concerns that require additional evidence or engagement.

Scope of the Report

The present study, a community-based quantitative pilot survey, is limited to adults who report living, working, or spending significant time in Dorr Township and who voluntarily completed the final survey instrument between April 23 and July 6, 2026. It measures perceptions rather than verified environmental exposures or project impacts. The analyses describe the survey respondents and evaluate associations among trust, perceived proximity, risk, and policy preferences. Because the study uses convenience sampling and a cross-sectional design, it is not intended to estimate population-wide support or establish causal relationships.

Literature Review

Data-Center Growth and Sustainability

Data-center sustainability research has historically focused on electricity consumption, computing efficiency, and the carbon intensity of power generation. Masanet et al. (2020) find that efficiency gains limit the growth of global data-center energy use despite rapid increases in computing activity. More recent analyses indicate that artificial-intelligence workloads and specialized hardware are changing those trends. The 2026 update to the United States Data

Center Energy Usage Report estimates substantial continued growth in electricity demand under a range of deployment and equipment-utilization scenarios (Smith et al., 2026).

Electricity demand can affect communities through generation requirements, transmission and distribution investment, reliability planning, and potential rate impacts (Smith et al., 2026). The local significance of a facility depends on its scale, power source, location, and utility arrangements. For residents, concern may be based not only on direct facility operations but also on uncertainty about who will finance grid upgrades and whether demand could affect household electricity costs.

Water is another important component of data-center sustainability. Facilities can use water directly for cooling and indirectly through the water intensity of electricity generation. Mytton (2021) emphasizes the limited transparency and inconsistent measurement of data-center water consumption, which can make local comparisons difficult. Even when national use represents a small share of total water demand, competition for local water resources can become important in communities concerned about wells, aquifers, drought, or future development.

Risk Perception, Dread, and Uncertainty

Risk perception is not determined solely by expert estimates of probability. Slovic (1987) demonstrates that perceived risk is shaped by qualitative characteristics such as dread, catastrophic potential, familiarity, voluntariness, controllability, and uncertainty. Hazards that are difficult to understand or that could produce severe consequences often generate greater concern than familiar hazards with comparable estimated probabilities.

Emotions also influence risk judgment. Lerner and Keltner (2001) find that fear and anger can produce different assessments of risk and control. In the context of a proposed data center, anxiety may reflect uncertainty about environmental pathways, emergency incidents,

long-term land-use change, or the inability to reverse decisions once infrastructure is built.

Measuring affective responses alongside specific concerns can therefore provide a fuller account of community risk perception.

Perceived control is especially relevant to infrastructure governance. Residents may evaluate a project differently when they believe local institutions can enforce requirements, correct problems, and respond to new evidence. Conversely, beliefs that decisions are dominated by external corporations or distant agencies can increase perceptions of helplessness and risk.

Institutional Trust

Institutional trust can reduce the complexity of decisions in which individuals cannot independently verify all technical claims. Siegrist (2000) shows that trust in responsible actors is associated with perceptions of risks and benefits and can influence acceptance of unfamiliar technologies. Trust may depend on perceived competence, honesty, shared values, fairness, and willingness to act in the public interest.

Local governments and private developers occupy different roles. Residents may expect companies to disclose impacts, negotiate fairly, and fulfill promises, while expecting officials to independently evaluate evidence, protect public health, and enforce conditions. Combining these institutions into a single trust measure can obscure meaningful differences. Examining them separately allows researchers to determine whether risk perceptions are related to distrust of the developer, distrust of government, or both.

Environmental Justice and Distributional Fairness

Environmental justice concerns the distribution of environmental burdens and benefits as well as the fairness of decision-making processes. Mohai et al. (2009) document longstanding

patterns in which pollution and environmental risks are unevenly distributed and emphasize the importance of both empirical measurement and community mobilization.

For data-center development, distributional questions can include whether employment and tax benefits accrue broadly, whether nearby residents experience greater noise or resource impacts, whether vulnerable groups have equal access to information, and whether schools or families near the site receive adequate protections. Procedural justice concerns whether residents can participate early enough to influence decisions rather than only respond after major commitments have been made.

Proximity and Place-Based Risk

Proximity is frequently associated with risk perception, although the direction and strength of the relationship vary across technologies and contexts. A systematic review by Balžekienė et al. (2025) find that people living closer to environmental or technological hazards often report greater concern, but proximity can interact with perceived benefits, familiarity, place attachment, and trust.

Objective distance and perceived proximity are not identical. A person may feel close to a facility because it is near a home, workplace, school, travel route, water source, or other perceived important place. Perceived proximity may also reflect whether people believe the consequences could extend beyond the facility boundary. For community-based research, perceived proximity is therefore meaningful even when precise geospatial data are unavailable.

Participatory Governance and Policy Preferences

Participatory environmental governance seeks to include stakeholders in defining problems, evaluating evidence, designing safeguards, and monitoring implementation. Reed

(2008) concludes that participation can improve the quality and legitimacy of environmental management when it is appropriately designed, representative, and connected to actual decision authority.

Public meetings alone may not be sufficient if information is inaccessible, participation occurs too late, or residents cannot see how their input affects decisions. Stronger approaches may include independent monitoring, public reporting, advisory groups, emergency planning, enforceable permit conditions, and clear procedures for addressing noncompliance. Community policy preferences can reveal whether residents favor voluntary commitments, financial incentives, mandatory safeguards, or combinations of these approaches.

Research Gap

Existing data-center scholarship provides increasingly detailed estimates of electricity demand, water consumption, carbon emissions, and infrastructure requirements. Much of this work operates at the facility, corporate, regional, or national scale and treats communities mainly as locations where resource demands occur (Zhao et al., 2026). This technical emphasis is essential, but it provides limited evidence about how residents interpret proposed projects before construction, how they evaluate competing claims about risks and benefits, or which forms of local oversight they consider legitimate (Mytton, 2021; Smith et al., 2026).

A limited but growing body of empirical research examines the social and community dimensions of data-center development. Sovacool et al. (2022) examine stakeholder and public views of existing and proposed data centers in Greenland, Iceland, and Norway, while Lehuedé (2025) analyzes community resistance to a water-intensive data-center proposal in Santiago, Chile. Rohde et al. (2026) further frame AI infrastructure through environmental, climate, and multispecies justice; the non-human entities that will face the consequences of said infrastructure

such as animals, plants, and ecosystems. Together, these studies show that local responses involve more than energy efficiency or carbon reduction; they also involve water, place, fairness, political power, and institutional credibility. However, these cases differ substantially from a proposed AI data center in a U.S. rural or semi-rural township, and they do not provide a quantitative community survey that jointly measures risk, trust, proximity, fairness, and policy preferences.

More broadly, risk-perception, environmental-justice, and participatory-governance research explains why uncertainty, dread, perceived control, trust, proximity, distributive equity, and procedural fairness can shape attitudes toward infrastructure. Yet these concepts are often studied separately, applied to other technologies, or used to predict a single outcome such as acceptance. This leaves an empirical gap in understanding how these dimensions operate together in local data-center controversies, particularly when residents distinguish between trust in the developer and trust in government and when policy preferences include concrete safeguards rather than a simple support-or-opposition choice.

This study addresses the gap through a community-based quantitative pilot survey of adults connected to Dorr Township. The instrument measures multiple dimensions of perceived risk, separate forms of institutional trust, perceived proximity, distributional unfairness, and preferences for monitoring, emergency planning, public participation, enforcement, and incentives. By examining these dimensions within one local case, the study contributes evidence about how AI infrastructure is interpreted at the intersection of sustainability, governance, and environmental justice. It also identifies questions that future representative, longitudinal, and comparative research can test.

Methodology

Research Design

This study uses a quantitative, cross-sectional survey design to examine perceptions of a proposed artificial-intelligence data center among adults connected to Dorr Township, Michigan. A cross-sectional design is appropriate because the study seeks to describe community perceptions and examine relationships among perceived risk, institutional trust, perceived proximity, and policy preferences at a specific point in time. The design is intended to generate preliminary community-level evidence that can inform local decision-making and provide a foundation for future research in other communities experiencing data-center development.

Study Setting

The study focuses on Dorr Township, Michigan, where a proposed artificial-intelligence data center generates community discussion concerning environmental resources, public health, infrastructure, economic effects, and local governance. The study is community-based in that it addresses a locally relevant sustainability issue and recruits participants through local outreach. It is not designed as a representative population survey of all Dorr Township residents.

Participants and Eligibility

Eligible participants are adults who are at least 18 years of age, live, work, or spend significant time in Dorr Township, provide informed consent, and complete the final version of the survey instrument. The inclusion criterion extends beyond current residency because people who work in the township, previously lived there, or regularly spend time there, or have close personal connections to the area may also experience or perceive consequences associated with the proposed development.

Participants are recruited using a nonprobability convenience-sampling approach. Recruitment includes community outreach, flyers, and QR codes that directed prospective participants to the electronic survey. Because recruitment relies on an open community survey link rather than a defined probability sample, a conventional survey response rate cannot be calculated.

Survey Administration and Data Collection

Data are collected electronically through REDCap between April 23 and July 6, 2026. Before beginning the substantive survey questions, participants review information about the study and confirm their age, connection to Dorr Township, and willingness to participate.

The REDCap project contains an earlier form or pilot version and a revised final survey instrument. To maintain consistency in item wording, response options, and construct measurement, the analyses are restricted to responses completed using the final survey instrument. Responses from the earlier version are not combined with final-instrument responses.

The final REDCap export contains 586 total records across the project instruments and completion statuses. Of these, 379 records are marked complete on the final survey instrument. Twelve completed records are excluded because respondents did not meet the Dorr Township connection criterion. The final analytic sample consisted of 367 eligible and complete respondents.

Survey Instrument

The survey, titled Risk, Trust, and Data Centers: A Community Survey of Health, Safety, Energy, and Economic Perceptions in Dorr Township, Michigan, includes questions concerning demographic and household characteristics; relationships to Dorr Township; awareness and

information; perceived proximity; health, environmental, safety, and economic concerns; affective responses; severity and uncertainty; community control; distributional fairness; institutional trust; and policy preferences.

Most risk, trust, fairness, and control items use a four-point response scale ranging from 1 (Strongly disagree) to 4 (Strongly agree). Proximity and policy-preference items use five-point scales ranging from 1 (Strongly disagree) to 5 (Strongly agree). Questions concerning perceived personal impacts range from 1 (Not at all) to 4 (A lot).

Construct Development and Measurement

Related survey items are evaluated as candidate multi-item constructs based on conceptual content and statistical performance. Higher scores are coded to represent more of the construct identified by the scale name. Retained constructs include perceived proximity, affective risk and dread, perceived lack of community control, catastrophic potential and uncertainty, distributional unfairness and equity concern, company trust, specific health and environmental concerns, overall perceived risk, and policy and oversight preferences.

Two positively worded fairness items are reverse-coded so that higher distributional-unfairness scores consistently represent greater concern. Township-official trust is retained as a separate single item from the company-trust composite because the institutions have different responsibilities. Confidence in township regulation and support for conditional incentives are also retained as standalone items when they do not fit conceptually or statistically within candidate scales.

A six-item understanding and transparency candidate scale is not scored because its internal consistency is insufficient (Cronbach's $\alpha = .610$) and the items represent several distinct concepts.

Reliability Testing and Composite Scoring

Cronbach's alpha is used to evaluate the internal consistency of proposed multi-item scales. Corrected item-total correlations and alpha-if-item-deleted statistics are reviewed when determining whether an item should be retained, removed, reverse-coded, or analyzed separately. An alpha value of approximately .70 or higher is treated as evidence of acceptable internal consistency, although conceptual coherence is also considered.

Composite scores are calculated by averaging valid item responses. Averaging preserves the original response scale and facilitates interpretation. A composite is calculated when at least 80% of its items are completed; three-item constructs require complete responses to all three items. Scores are left missing when the minimum completion requirement is not met, and no statistical imputation is used.

Data Management and Quality Control

The final REDCap export is reviewed for instrument version, completion status, eligibility, consent, coding consistency, out-of-range values, and missing data. The final analytic dataset preserves original variables and added reverse-coded values, standalone analysis aliases, composite scores, and counts of valid items. An exclusion log, construct map, variable labels, reliability summaries, item diagnostics, and scoring rules are retained to support transparency and reproducibility.

Item-level missingness is minimal. Descriptive analyses use available valid responses, and correlation analyses use pairwise complete observations.

Statistical Analysis

Data management and statistical analyses are conducted using Python 3.13.5, including SciPy 1.17.0. Formula-based Excel workbooks are also retained to document scoring decisions and provide an auditable analysis record. Categorical characteristics are summarized using frequencies and percentages. Continuous and composite variables are summarized using means, standard deviations, medians, quartiles, and observed ranges where appropriate.

For Research Question 1, composite and item-level descriptive statistics are used to identify commonly reported consequences. For Research Questions 2 and 3, Spearman rank-order correlations are used because the measures are ordinal or derived from ordinal items and several variables are strongly skewed. For Research Question 4, policy items are summarized and ranked by mean score and agreement percentage. The conditional-incentive item is analyzed separately.

All correlation tests are two-tailed, with statistical significance evaluated at $p < .05$. Absolute Spearman coefficients of approximately .10 to .29 are described as weak, .30 to .49 as moderate, and .50 or greater as strong. Associations are not interpreted as causal because the study uses a cross-sectional, nonprobability design.

Ethical Considerations

Participation was voluntary, respondents could discontinue the survey at any time, and results were reported in aggregate. The survey did not collect names or other direct personal identifiers. Data were stored electronically and used solely for the academic capstone project.

Results

Analytic Sample and Data Completeness

The final REDCap export contains 586 records across the project's instruments and completion statuses. A total of 379 records are marked complete on the final survey instrument. Twelve completed records are excluded because respondents do not report living, working, or spending significant time in Dorr Township. The final analytic sample therefore includes 367 eligible respondents. Item-level missingness is limited. The number of valid observations ranges from 356 to 367 for the retained composite measures and from 360 to 367 for the individual proximity and policy items. Pairwise-complete observations are used for correlation analyses.

Participant and Community-Connection Characteristics

Participant characteristics are presented in Table 1. The largest age group is 35–44 years (25.9%), followed by respondents age 65 years or older (20.4%). Most respondents identify as female (71.4%) and White (96.7%). The most frequently reported educational levels are high school graduation (31.3%), a bachelor's degree (26.4%), and an associate degree (18.8%). The largest household-income category is \$100,000–\$250,000 per year (34.1%). The mean household size is 3.25 people (SD = 1.52; range = 1–10).

Regarding community connection, 248 respondents (67.6%) currently live in Dorr Township, 78 (21.3%) work in the township, and 323 (88.0%) report that a close family member or friend lives there. Nearly all respondents (99.2%) have heard about the proposed AI data center, whereas 34.3% report receiving information about the project from township officials. Community-connection categories are not mutually exclusive.

Table 1**Participant and Community-Connection Characteristics**

Characteristic	n	%
Age range		
18–24	18	4.9
25–34	54	14.7
35–44	95	25.9
45–54	63	17.2
55–64	62	16.9
65 or older	75	20.4
Gender		
Female	262	71.4
Male	93	25.3
Prefer not to say / another term	12	3.3
Race		
African American / Black	1	0.3
American Indian / Native American / Alaska Native	2	0.5
Asian	1	0.3
Native Hawaiian / Other Pacific Islander	1	0.3
White	355	96.7
Two or more races	7	1.9
Highest level of education		
Did not complete high school	6	1.6
High school graduate	115	31.3
Licensed skilled-trade certificate	39	10.6
Associate degree	69	18.8
Bachelor's degree	97	26.4
Master's degree	34	9.3
Doctorate-level degree	7	1.9
Annual household income		
Under \$35,000	26	7.1
\$35,000–\$50,000	40	10.9
\$51,000–\$75,000	70	19.1
\$76,000–\$100,000	84	22.9
\$100,000–\$250,000	125	34.1
More than \$250,000	22	6.0
Connection, awareness, and information		
Currently lives in Dorr Township	248	67.6
Previously lived in Dorr Township	41	11.2

Characteristic	n	%
Works in Dorr Township	78	21.3
Has a close family member or friend in Dorr Township	323	88.0
Had heard about the proposed AI data center	364	99.2
Had received information from township officials	126	34.3

Note. N = 367. Percentages are based on valid responses. Community-connection categories are not mutually exclusive. Because recruitment uses a nonprobability community sample, the characteristics describe the respondents and should not be interpreted as population estimates for all Dorr Township residents.

Scale Reliability and Composite Descriptive Statistics

The retained multi-item measures demonstrate acceptable to excellent internal consistency (Table 2). Cronbach's alpha ranges from .790 for perceived lack of community control to .984 for the overall perceived-risk index. Mean scores indicate high perceived proximity, high risk and equity concerns, low company trust, and strong support for policy and oversight measures. The six-item candidate measure of understanding and transparency is not scored because its internal consistency is insufficient ($\alpha = .610$). Township-official trust, confidence in township regulation, and conditional-incentive support are retained as standalone items.

Table 2

Reliability and Descriptive Statistics for Retained Measures

Measure	Items	n	α	M	SD	Scale range
Perceived proximity	5	364	0.910	4.28	0.94	1–5
Affective risk and dread	5	367	0.943	3.65	0.69	1–4
Perceived lack of community control	3	367	0.790	3.79	0.47	1–4
Catastrophic potential and uncertainty	5	367	0.945	3.70	0.62	1–4
Distributional unfairness and equity concern	5	367	0.817	3.57	0.57	1–4
Trust in the proposing company	3	367	0.940	1.27	0.64	1–4

Measure	Items	n	α	M	SD	Scale range
Specific health and environmental concerns	8	366	0.974	3.72	0.63	1–4
Policy and oversight preferences	7	365	0.940	4.85	0.50	1–5
Overall perceived risk index	18	366	0.984	3.69	0.62	1–4

Note. Composite scores are item means; higher scores indicate more of the construct named. A score is calculated when at least 80% of the items are completed. α = Cronbach's alpha.

Research Question 1: Perceived Consequences of the Proposed Data Center

Research Question 1 examines respondents' perceptions of potential health, environmental, safety, energy-cost, economic-distribution, and broader community consequences. Composite scores are high across all measured risk domains. Perceived lack of community control has the highest mean ($M = 3.79$, $SD = 0.47$), followed by specific health and environmental concerns ($M = 3.72$, $SD = 0.63$), catastrophic potential and uncertainty ($M = 3.70$, $SD = 0.62$), and overall perceived risk ($M = 3.69$, $SD = 0.62$). Affective risk and dread also has a high mean ($M = 3.65$, $SD = 0.69$), as did distributional unfairness and equity concerns ($M = 3.57$, $SD = 0.57$).

Most respondents anticipate that the development would affect them personally and would also affect a loved one. Approximately 94.3% report that the data center would have at least some personal impact, and 92.6% report that it would have at least some impact on a loved one. Environmental worry is reported by 94.3% of respondents, 92.6% agree or strongly agree that the proposed data center makes them feel uneasy or anxious, and 90.7% report increased stress or fear about the future of Dorr Township. Concern that a serious fire, explosion, or equipment failure could occur is endorsed by 85.0% of respondents.

Perceptions of limited community control are widespread. Approximately 97.3% agree or strongly agree that residents would have little control over how the data center is operated, 96.5% believe residents would have little power to change what happens if problems arise, and 94.8% believe major decisions are likely to be made primarily by people outside the community. In contrast, only 12.5% agree or strongly agree that township officials are able to regulate the data center effectively to protect residents.

Respondents also report high perceptions of severity and uncertainty. Agreement or strong agreement is reported by 94.3% for the possibility of long-lasting effects from a major incident, 93.2% for the view that potential negative impacts are large relative to benefits, 93.2% for the possibility of severe community consequences, 92.9% for the possibility that harmful impacts might remain unknown for a long time, and 90.5% for impacts extending beyond Dorr Township.

Specific health and environmental concerns are also consistently high. Concern is reported by 94.6% of respondents for reduced water availability or effects on wells and aquifers, 94.5% for water-quality impacts, 94.3% for sound pollution, 94.0% for increased residential electricity costs, 93.7% for human-health effects, 93.4% for light pollution, and 92.0% for both air-quality effects and harm to wildlife. Distributional concerns are also common: 93.2% express concern for children and students, 90.2% believe economically or socially vulnerable residents may bear a larger share of risk. Only 9.0% believe benefits are shared fairly, and 8.2% believe the proposing company treats residents fairly.

Table 3

Item-Level Descriptive Results for Perceived Consequences

Domain	Survey item	n	M	SD	High response %
Personal impact	Potential personal impact	367	3.72	0.63	94.3

Domain	Survey item	n	M	SD	High response %
Personal impact	Potential impact on a loved one	367	3.72	0.71	92.6
Affective risk and safety	Uneasy or anxious about the proposed data center	367	3.71	0.73	92.6
Affective risk and safety	Concern that a serious incident could occur	367	3.45	0.87	85.0
Affective risk and safety	Concern about environmental impacts	367	3.80	0.64	94.3
Affective risk and safety	Stress or fear about Dorr Township's future	367	3.69	0.77	90.7
Affective risk and safety	Belief that a large data center would make Dorr feel less safe	367	3.60	0.81	89.4
Community control	Residents will have little control over operations	367	3.83	0.48	97.3
Community control	Decisions will be made mainly by people outside the community	367	3.72	0.66	94.8
Community control	Residents will have little power if problems occur	367	3.82	0.51	96.5
Community control	Township officials will regulate the data center effectively	367	1.56	0.88	12.5
Catastrophic potential	Consequences could be very severe	367	3.73	0.67	93.2
Catastrophic potential	Problems could affect people beyond Dorr Township	367	3.51	0.74	90.5
Catastrophic potential	A major incident could have long-lasting effects	367	3.76	0.65	94.3
Catastrophic potential	Negative impacts feel large compared with benefits	367	3.75	0.69	93.2
Catastrophic potential	Concern that harmful effects may not be understood for a long time	367	3.73	0.68	92.9
Fairness and equity	Benefits will be shared fairly	367	1.50	0.75	9.0
Fairness and equity	Risks will fall more heavily on some groups	367	3.49	0.80	90.2
Fairness and equity	Vulnerable residents may bear a larger share of risks	367	3.54	0.77	90.2

Domain	Survey item	n	M	SD	High response %
Fairness and equity	Company will treat residents fairly	367	1.35	0.74	8.2
Fairness and equity	Children and students may face risks	367	3.69	0.70	93.2
Specific concerns	Human health impacts	367	3.74	0.67	93.7
Specific concerns	Higher residential electricity costs	367	3.71	0.66	94.0
Specific concerns	Reduced water availability / effects on wells or aquifers	367	3.77	0.66	94.6
Specific concerns	Harm to local wildlife	363	3.65	0.71	92.0
Specific concerns	Water-quality impacts	366	3.78	0.65	94.5
Specific concerns	Air-quality impacts	361	3.67	0.73	92.0
Specific concerns	Light pollution	364	3.67	0.69	93.4
Specific concerns	Sound pollution	366	3.75	0.66	94.3

Note. For four-point agreement items, a high response is Agree or Strongly agree. For personal-impact questions, a high response is Some or A lot. The benefits-shared-fairly, company-fairness, and township-regulation items are positively worded; therefore, lower endorsement on those items reflects greater concern.

Research Question 2: Institutional Trust and Perceived Risk

Research Question 2 examines trust in Dorr Township officials and the company proposing the data center and the associations between institutional trust and perceived risk. Trust in township officials is low ($M = 1.56$, $SD = 0.83$; median = 1) on the four-point response scale. Only 11.2% agree or strongly agree that they trust township officials to make decisions that protect residents' health and safety. The three-item company-trust composite is also low ($M = 1.27$, $SD = 0.64$; median = 1). Agreement or strong agreement is reported by 7.4% for trusting the company to act in Dorr Township's best interest, 7.4% for trusting the company to communicate honestly about environmental and health impacts, and 7.9% for trusting the company to follow through on promises.

Spearman rank-order correlations show statistically significant negative associations between both trust measures and every retained risk construct (Table 4). Township-official trust is negatively associated with overall perceived risk ($\rho = -.451, p < .001$), affective risk and dread ($\rho = -.416, p < .001$), perceived lack of community control ($\rho = -.393, p < .001$), catastrophic potential and uncertainty ($\rho = -.380, p < .001$), distributional unfairness and equity concern ($\rho = -.427, p < .001$), and specific health and environmental concerns ($\rho = -.434, p < .001$).

Company trust shows a similar pattern. It is negatively associated with overall perceived risk ($\rho = -.465, p < .001$), affective risk and dread ($\rho = -.438, p < .001$), perceived lack of community control ($\rho = -.405, p < .001$), catastrophic potential and uncertainty ($\rho = -.457, p < .001$), distributional unfairness and equity concern ($\rho = -.503, p < .001$), and specific health and environmental concerns ($\rho = -.480, p < .001$). The largest observed trust-risk coefficient is between company trust and distributional unfairness. Township-official trust and company trust are positively correlated ($\rho = .555, p < .001$).

Table 4

Spearman Correlations Between Institutional Trust and Perceived Risk

Risk construct	Pairwise n	Township trust ρ	Company trust ρ
Overall perceived risk	366	-0.451	-0.465
Affective risk and dread	367	-0.416	-0.438
Perceived lack of community control	367	-0.393	-0.405
Catastrophic potential and uncertainty	367	-0.380	-0.457
Distributional unfairness and equity concern	367	-0.427	-0.503
Specific health and environmental concerns	366	-0.434	-0.480

Note. All coefficients are statistically significant at $p < .001$. Negative coefficients indicate that greater trust is associated with lower perceived risk. Spearman correlations do not establish causal direction.

Research Question 3: Perceived Proximity, Risk, and Policy Preferences

Research Question 3 examines associations between perceived proximity to the proposed site, perceived risk, and policy preferences. The five-item perceived-proximity composite has a mean of 4.28 (SD = 0.94; median = 4.60) on a five-point scale. Agreement or strong agreement is reported by 93.1% for a short travel time from home to the site, 88.1% for important places in the respondent's life being located close to the site, 85.8% for feeling located close to the site, 81.6% for distance affecting concern, and 76.7% for living within a few miles of the site.

Perceived proximity is positively associated with each retained risk construct, although the coefficients are weak in magnitude (Table 5). Proximity is associated with overall perceived risk ($\rho = .190$, $p < .001$), affective risk and dread ($\rho = .189$, $p < .001$), perceived lack of community control ($\rho = .165$, $p = .002$), catastrophic potential and uncertainty ($\rho = .165$, $p = .002$), distributional unfairness and equity concern ($\rho = .164$, $p = .002$), and specific health and environmental concerns ($\rho = .213$, $p < .001$).

A moderate positive association is observed between perceived proximity and the policy and oversight composite ($\rho = .345$, $p < .001$). Perceived proximity is not significantly associated with the standalone conditional-incentive item ($\rho = .066$, $p = .210$). The proximity measure reflects respondents' perceived closeness to the site rather than verified geographic distance.

Table 5

Spearman Correlations Between Perceived Proximity and Study Outcomes

Outcome	Pairwise n	Spearman ρ	p
Overall perceived risk	363	0.190	< .001
Affective risk and dread	364	0.189	< .001
Perceived lack of community control	364	0.165	.002
Catastrophic potential and uncertainty	364	0.165	.002

Outcome	Pairwise n	Spearman ρ	p
Distributional unfairness and equity concern	364	0.164	.002
Specific health and environmental concerns	363	0.213	< .001
Policy and oversight preferences	362	0.345	< .001
Conditional incentive support	363	0.066	.210

Note. Positive coefficients indicate that greater perceived proximity is associated with higher risk or stronger policy preferences. The conditional-incentive item is analyzed separately from the policy and oversight composite.

Research Question 4: Policy and Oversight Preferences

Research Question 4 examines support for environmental monitoring, safety, emergency planning, public participation, and local oversight policies. The seven-item policy and oversight composite indicates very high support ($M = 4.85$, $SD = 0.50$; median = 5.00) on a five-point scale. The most strongly supported policy is requiring emergency-response plans for fire, equipment failure, or environmental hazards ($M = 4.92$, $SD = 0.37$), with 98.1% who agree or strongly agree. Support is also high for providing information to local schools and families (96.7%), monitoring environmental impacts (96.4%), and requiring public meetings or hearings before approval (96.2%).

Strict local safety rules and township authority to stop projects that pose community risks each receives agreement or strong agreement from 95.9% of respondents. Resident participation in development decisions is supported by 94.8%. In contrast, the standalone item proposing incentives such as tax breaks for data centers that meet safety and environmental standards receives substantially less support ($M = 2.20$, $SD = 1.48$). Only 20.2% agree or strongly agree with the incentive approach, while 51.6% strongly disagree.

Table 6**Ranked Policy and Oversight Preferences**

Rank	Policy preference	n	M	SD	Agree / strongly agree %	Strongly agree %
1	Emergency-response plans	363	4.92	0.37	98.1	94.5
2	Information for schools and families	364	4.86	0.55	96.7	92.0
3	Environmental monitoring	365	4.85	0.57	96.4	91.8
4	Public meetings or hearings	365	4.84	0.60	96.2	91.5
5	Strict local safety rules	367	4.84	0.61	95.9	91.0
6	Township authority to stop risky projects	367	4.83	0.65	95.9	91.3
7	Resident participation in decisions	367	4.82	0.67	94.8	91.3
8	Conditional incentives tied to standards	366	2.20	1.48	20.2	14.8

Note. The seven core oversight items form the policy and oversight composite. Conditional incentives are retained as a standalone item because that question did not function consistently with the other policy items during reliability testing.

Summary of Results by Research Question

Across the four research questions, respondents report high perceived risk, low institutional trust, high perceived proximity, and strong support for direct regulatory safeguards and public oversight. Lower trust is reflected in perceptions toward township officials and the proposing company is associated with higher perceived risk. Greater perceived proximity is associated with modestly higher risk perceptions and more strongly with support for policy and oversight measures. Emergency planning, environmental monitoring, information for schools and families, public meetings, safety rules, local enforcement authority, and resident

participation all receive broad support, whereas conditional financial incentives receive substantially less support.

Supporting Figures

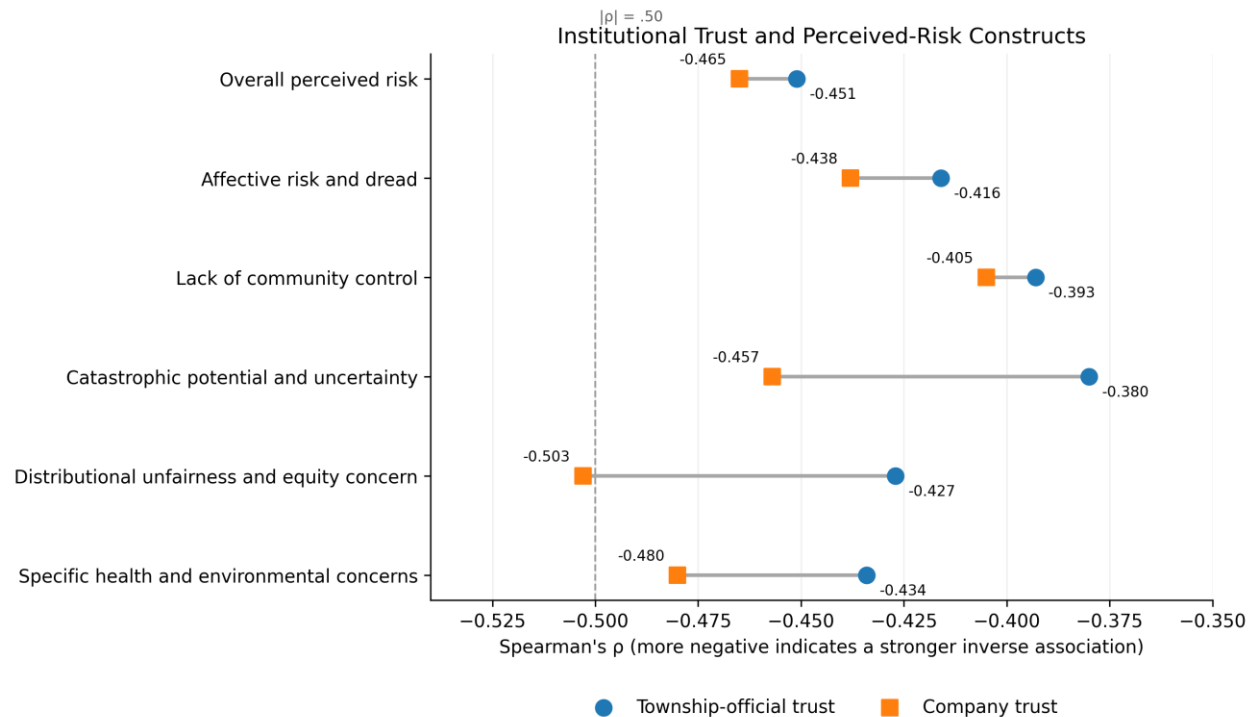


Figure 1

Figure 1. Spearman associations between institutional trust and perceived-risk constructs. Blue circles represent trust in Dorr Township officials, and orange squares represent trust in the proposing company. Values farther to the left indicate stronger negative associations, meaning that higher trust is associated with lower perceived risk. Horizontal lines connect the two institutional-trust coefficients for each risk construct. All correlations are statistically significant at $p < .001$.

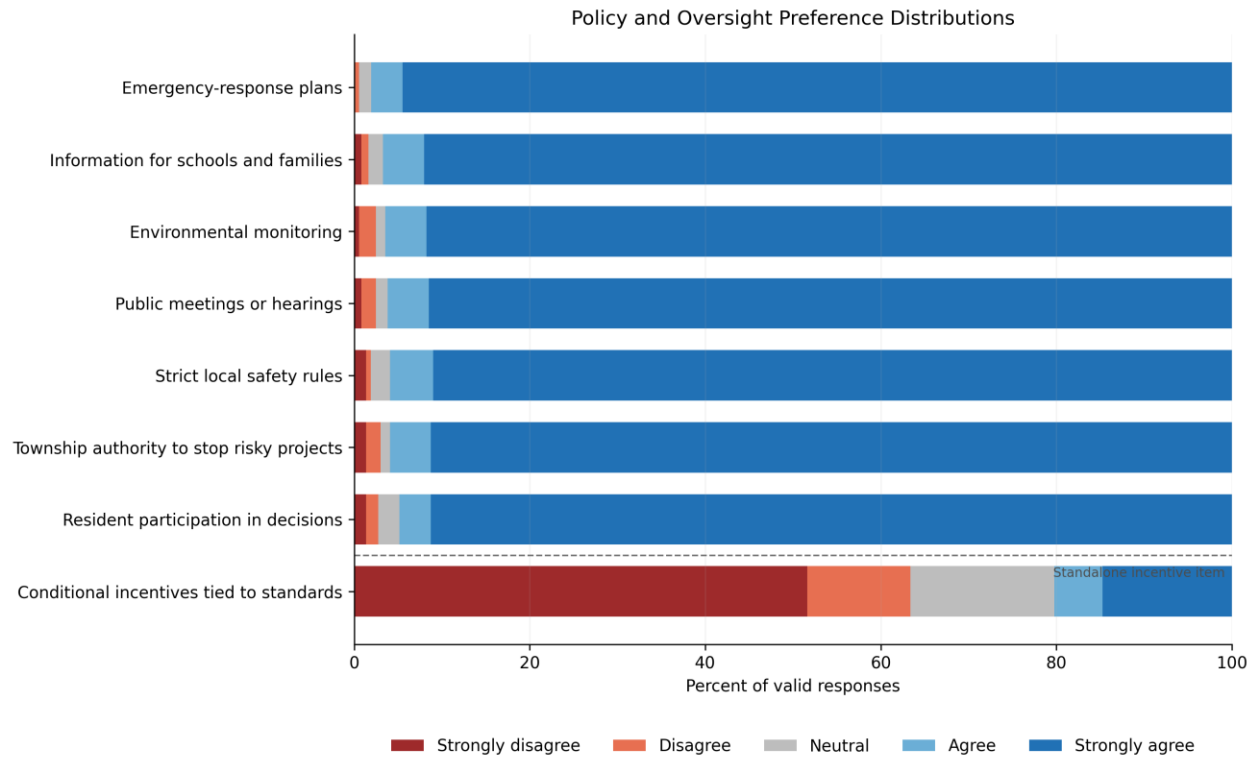


Figure 2

Response Distributions for Data-Center Policy and Oversight Preferences. Each horizontal bar shows the percentage of respondents selecting each response category, from Strongly disagree to Strongly agree, for the eight policy-preference items. Each bar totals 100%, allowing comparison of the full distribution of responses across policies. The first seven items comprise the policy and oversight composite and reflect support for emergency-response planning, information for schools and families, environmental monitoring, public meetings or hearings, strict safety requirements, township authority to stop risky projects, and resident participation in decision-making. The conditional-incentive item is presented separately because it did not demonstrate sufficient consistency with the other policy items during reliability testing. Higher concentrations in the Agree and Strongly agree categories indicate stronger support for the policy.

Discussion and Interpretation

Overall Interpretation and Anticipated Findings

The findings generally support the anticipated patterns described in the research proposal. Respondents report extensive concern about potential health, environmental, safety, economic, and community consequences. Lower trust in township officials and the proposing company is

consistently associated with higher perceived risk, and greater perceived proximity is associated with higher risk and stronger oversight preferences. However, the magnitude of the proximity-risk relationships is weaker than the trust-risk relationships. This distinction suggests that perceived closeness to the site matters, but respondents' views of institutions, fairness, and community control are more closely connected to their risk perceptions.

Risk, Uncertainty, and Community Control

The high scores for affective risk, catastrophic potential, uncertainty, and lack of community control are consistent with established risk-perception literature. Research has shown that people tend to perceive technologies and hazards as more threatening when consequences are uncertain, potentially severe, difficult to control, or associated with fear and dread (Lerner & Keltner, 2001; Slovic, 1987). In this study, respondents do not simply identify isolated concerns. They express a broader pattern that combines worry about environmental and health effects with uncertainty about long-term consequences and a belief that residents have limited ability to influence operations after approval.

The water, electricity-cost, sound, health, and air-quality concerns also reflect the broader sustainability questions associated with rapid data-center growth. National research documents increasing electricity demand from data centers and identifies energy and cooling requirements as important planning considerations (Shehabi et al., 2024). The present study does not verify that each feared effect will occur in Dorr Township. Instead, it demonstrates that respondents view these resource and quality-of-life issues as important components of local sustainability decision-making.

Institutional Trust and Fairness

The negative associations between trust and perceived risk are consistent with research showing that social and institutional trust shape how people judge uncertain technologies and evaluate their potential risks and benefits (Siegrist, 2000). The strongest association is between company trust and distributional unfairness, which suggests that respondents' concerns are not limited to technical hazards. They also question whether the company would communicate honestly, keep promises, distribute benefits fairly, and avoid shifting burdens onto residents with fewer resources.

These findings are also consistent with environmental-justice scholarship, which emphasizes both distributive fairness and meaningful participation in decisions that affect environmental health and community well-being (Mohai et al., 2009). Respondents express concern about children, students, vulnerable residents, and groups that might experience a greater share of risk. At the same time, they overwhelmingly support public hearings, resident participation, local enforcement authority, and accessible risk information. The combination of distributional and procedural concerns indicates that the data-center debate is interpreted as a governance and justice issue as well as an environmental issue.

Perceived Proximity

The positive relationship between perceived proximity and risk is broadly consistent with a recent systematic review finding that proximity is frequently associated with higher perceived risk, particularly for environmental and technological hazards (Balžekienė et al., 2025).

However, the correlations in the present study are weak. Several factors may explain this result. First, the sample already reports very high concern, leaving limited variation for proximity to explain. Second, the measure captures perceived closeness rather than verified mileage. Third,

concerns about water, electricity, traffic, governance, and regional impacts may extend beyond the immediate area surrounding the proposed site.

Proximity has a stronger association with policy and oversight preferences than with risk. This pattern suggests that feeling closer to the site may be especially relevant to the types of protections respondents want, even when concern is already widespread throughout the sample. Those who perceive themselves as closer tend to express stronger preferences for monitoring, emergency planning, public participation, and local enforcement.

Policy Preferences and Public Participation

The near-universal support for direct safeguards is consistent with literature arguing that stakeholder participation can improve the legitimacy, relevance, and durability of environmental decisions when engagement is meaningful and begins early in the process (Reed, 2008). Respondents do not identify a single preferred intervention; they support a layered governance approach that includes technical monitoring, emergency preparedness, communication with schools and families, public hearings, resident participation, and authority to stop projects that pose risks.

The low support for conditional incentives is an important contrasting finding. Respondents are not broadly opposed to all policy action; instead, they distinguish between mandatory safeguards and financial inducements. This suggests that tax breaks or similar incentives may be viewed as insufficient, inappropriate, or less legitimate than enforceable standards. Future qualitative research should explore why respondents rejected the incentive approach and whether their concerns involved public cost, distrust of voluntary compliance, or opposition to subsidizing the project.

Unexpected and New Trends

Several findings warrant additional attention. First, almost all respondents are aware of the proposed project, yet only approximately one-third report receiving information from township officials. This gap may help explain why awareness did not translate into institutional trust. It may also indicate that respondents obtained information through community organizations, social networks, news coverage, or other nonofficial sources.

Second, the policy items produce extremely high agreement and limited variation. This result demonstrates broad support within the sample, but it also means that statistical comparisons involving the policy scale may underestimate or obscure differences because most respondents selected the highest response category. Third, the understanding and transparency questions do not form a sufficiently reliable single scale. Respondents may have distinguished among their own understanding, the clarity of company communication, and the competence or communication of township officials. These concepts should be measured separately in future work.

Limitations

Several limitations should be considered when interpreting the findings. The first and most important limitation is the nonprobability convenience-sampling design. Participation is voluntary and recruitment relies on community outreach, flyers, and QR codes. People with strong opinions or concerns may be more likely to participate. The sample therefore cannot be treated as statistically representative of all Dorr Township residents or used to estimate population-wide support or opposition.

The demographic composition also limits generalizability. Most respondents identify as White and female, and some demographic groups are represented by very small numbers. These

characteristics may reflect the township, recruitment channels, differential interest in the topic, or a combination of these factors. A more systematic sampling strategy would be needed to determine whether risk and trust patterns differ across demographic groups.

The cross-sectional design measures all variables at one point in time. Although trust, proximity, and risk are statistically associated, the analysis cannot determine causal direction. Low trust may contribute to higher risk perceptions, higher perceived risk may reduce trust, or both may be influenced by prior experiences, communication, political context, or project controversy.

The study measures perceived proximity rather than verified geographic distance. Respondents' impressions of closeness are relevant to risk perception, but they may not correspond precisely to mileage, property boundaries, traffic routes, groundwater pathways, or other physical exposure measures. Under ideal circumstances, residential and workplace locations would be geocoded at a privacy-protective level and linked to verified distance and environmental pathways.

The survey does not include a direct overall support-or-opposition question. As a result, the study cannot report the percentage of respondents who support or oppose the proposed project. It also does not include enough positive economic-benefit items to create a comprehensive economic-benefit scale. Economic findings are therefore limited to electricity-cost concern, benefit-distribution fairness, and related perceptions.

Several measures show floor or ceiling effects. Trust scores are concentrated near the lowest response category, while risk and policy scores are concentrated near the highest categories. These patterns accurately describe the sample but reduce statistical variation and may

limit the ability to identify subgroup differences. The four-point agreement items also omitted a neutral response, which required respondents to select a direction.

The data-collection period is time-limited and occurs while community discussion is ongoing. The total number of people who see the survey invitation is unknown, so a conventional response rate cannot be calculated. Project details, official decisions, or public communication may also change after data collection, which could alter trust and risk perceptions over time.

Finally, the study measured perceptions rather than conducting environmental, engineering, economic, or public-health impact testing. The findings identify what respondents believe and prioritized; they do not verify that a particular environmental or health outcome will occur. A comprehensive decision-making process would combine community-perception data with independent technical assessments.

Recommendations for Future Work

Future research should build on this pilot study by using methods that improve representativeness, clarify relationships among the study variables, and connect community perceptions with independent technical evidence. A more rigorous sampling strategy would strengthen the ability to determine whether the patterns identified in this study are present across the broader Dorr Township population. Address-based, stratified, or mixed-mode sampling could reach residents who may not encounter online recruitment materials or community-distributed survey links. These approaches could also improve participation among demographic groups that are underrepresented in the present sample.

Future surveys should expand the measurement of project attitudes and perceived benefits. The current study does not include a direct measure of overall support or opposition to the proposed data center. Subsequent research should therefore include questions that distinguish unconditional support, conditional support, uncertainty, and opposition. A multi-item perceived-benefit scale could also examine anticipated employment, tax revenue, infrastructure investment, and other possible community benefits. These additions would allow future researchers to evaluate how respondents weigh potential benefits against environmental, health, safety, and governance concerns.

Perceived proximity should also be examined alongside objective geographic distance. The present study measures respondents' subjective sense of closeness to the proposed site, which is important for understanding risk perception but does not provide verified information about physical distance or exposure pathways. Future studies could use privacy-protective geospatial methods to examine distance from the site, schools, residences, wells, transportation routes, utility infrastructure, and other locations of community importance. Comparing objective and perceived proximity could help determine whether attitudes are shaped primarily by physical location, place attachment, expected exposure, or broader community-level concerns.

Longitudinal and qualitative research would provide additional insight into how perceptions develop and change. Repeated surveys conducted before and after major project decisions, public meetings, official communications, environmental reports, or construction milestones could assess whether trust, perceived risk, and policy preferences remain stable over time. Interviews, focus groups, and open-ended survey questions could further explain why respondents distrust township officials or the proposing company, why they oppose incentive-

based approaches, and why particular environmental or safety concerns are especially important to them. These methods could also clarify the meanings respondents attach to fairness, community control, and institutional accountability.

Future research should examine how residents receive and evaluate information about data-center development. Nearly all respondents in the present study report awareness of the proposed project, but substantially fewer report receiving information from township officials. Subsequent surveys should distinguish between information obtained from local government, the proposing company, news organizations, community groups, social media, and interpersonal networks. Researchers could then evaluate whether information sources are associated with trust, perceived credibility, risk perceptions, or policy preferences.

Community-perception research should also be paired with independent baseline assessments of environmental and infrastructure conditions. Relevant measures could include water availability and quality, electricity demand and potential rate effects, air quality, noise, light pollution, traffic, emergency-response capacity, and local ecosystem conditions. These data would not replace community perceptions, but they would provide an evidence base for evaluating concerns and establishing monitoring requirements. A transparent public reporting system or community dashboard could make permits, monitoring results, incidents, company commitments, and enforcement actions available in accessible language.

Participatory research and governance methods should be incorporated into future work. Residents, schools, emergency responders, technical experts, local officials, and potentially affected groups could help define monitoring priorities, acceptable safeguards, and procedures for responding to noncompliance. This approach would allow community members to participate

not only as survey respondents but also as partners in determining which questions are asked, which indicators are monitored, and how findings are communicated.

Finally, the survey should be replicated in other rural and semi-rural communities considering large data centers. Comparative research could identify which findings are specific to Dorr Township and which reflect broader patterns related to AI infrastructure development. Replication could also help refine the survey instrument and determine whether trust, fairness, perceived proximity, and community control operate similarly across different political, environmental, and economic settings.

From a practical perspective, the immediate next step is a transparent and independently supported process for communicating project details and establishing safeguards before final decisions occur. The survey results indicate that emergency planning, environmental monitoring, public hearings, resident participation, and enforceable local authority are central priorities among respondents. Future engagement should therefore move beyond one-way information delivery and provide meaningful opportunities for residents to ask questions, review evidence, shape monitoring requirements, and understand how their concerns are addressed.

Conclusion

This study examines perceived risk, institutional trust, proximity, fairness, and policy preferences among 367 adults connected to Dorr Township, Michigan. Respondents report high concern about potential environmental, health, safety, energy-cost, and community consequences, particularly water impacts, limited community control, uncertainty, and the distribution of risks and benefits. Trust in both township officials and the proposing company is low, and lower trust is consistently associated with higher perceived risk.

Greater perceived proximity is associated with somewhat higher risk perceptions and more strongly with support for local safeguards. Respondents overwhelmingly support emergency-response planning, environmental monitoring, information for schools and families, public meetings, strict safety requirements, local enforcement authority, and resident participation. In contrast, they express limited support for tax breaks or other incentives, even when those incentives are tied to safety and environmental standards.

Taken together, the findings indicate that the proposed data center is viewed not only as a technological or economic-development project, but also as a local sustainability, governance, and environmental-justice issue. The results do not represent every Dorr Township resident and do not establish that the perceived harms will occur. Nevertheless, they provide substantial pilot evidence that trust, fairness, communication, and meaningful community control should be central considerations in future planning. A decision-making process that combines independent technical evidence with transparent and participatory governance is more likely to address the concerns identified by respondents and support an equitable approach to data-center development.

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Appendices

Appendix A

Final Survey Instrument

The following instrument reproduces the final respondent-facing questions and response options used in the REDCap survey. Internal REDCap field names, system identifiers, and completion-status fields are omitted. Wording and response scales are preserved from the final survey instrument.

1. Are you at least 18 years of age? *Response options: Yes; No.*
2. Do you live, work, or spend significant time in Dorr Township, Michigan? *Response options: Yes; No.*
3. Do you agree to take this anonymous survey? *Response options: Yes; No.*

Thank you! First, please tell us a little about yourself. Reminder: We will not ask information so specific that it would allow someone to identify you.

4. What is the ZIP code of your primary residence? *Response options: Five-digit ZIP code.*
5. What is your age range? *Response options: 18-24; 25-34; 35-44; 45-54; 55-64; 65 or older.*
6. What is your gender? *Response options: Female; Male; I prefer not to say/prefer another term.*
7. What is your race? *Response options: African American/Black; American Indian/Native American/Alaskan Native; Asian; Native Hawaiian and Other Pacific Islander; White; Two or More Races.*
8. Do you identify as Hispanic or Latino? *Response options: Yes; No.*
9. What is your highest level of education? *Response options: Not yet completed high school; High School Graduate; Licensed Skilled Trade Certificate; Associate's Degree; Bachelor's Degree; Master's Degree; Doctorate Level Degree.*
10. What is your household income level? *Response options: Under \$35,000 per year; \$35,000 to \$50,000 per year; \$51,000 to \$75,000 per year; \$76,000 to \$100,000 per year; \$100,000 to \$250,000 per year; More than \$250,000 per year.*
11. How many people (including yourself) live at your residence? *Response options: Numeric response from 1 to 10.*

12. About how far is your home from the proposed or existing data center site? *Response options: Less than 1 mile; 1-3 miles; 3-5 miles; More than 5 miles; Not sure.*

Survey display note: Please reference this map for the next 2 sets of questions. The proposed data center is outlined in orange. The live REDCap survey linked to the project map; the map attachment is not reproduced in this appendix.

Next, tell us a little about your experience with Dorr Township, Michigan.

13. Do you currently live in Dorr Township, Michigan? *Response options: Yes; No.*

14. Have you previously lived in Dorr Township, Michigan, but now live somewhere else? *Response options: Yes; No.*

15. Do you work in Dorr Township, Michigan? *Response options: Yes; No.*

16. Do you have a close family member or friend that lives in Dorr Township, Michigan? *Response options: Yes; No.*

Location and Distance from the Data Center

17. I live close to the proposed or existing data center site (within a few miles). *Response options: Strongly disagree; Disagree; Neutral; Agree; Strongly agree.*

18. My home, workplace, school, or other important places in my life are located close to the data center. *Response options: Strongly disagree; Disagree; Neutral; Agree; Strongly agree.*

19. It takes only a short amount of time to travel from my home to the data center site. *Response options: Strongly disagree; Disagree; Neutral; Agree; Strongly agree.*

20. My distance from the data center affects how concerned I am about it. *Response options: Strongly disagree; Disagree; Neutral; Agree; Strongly agree.*

21. I feel that I am located close to the data center. *Response options: Strongly disagree; Disagree; Neutral; Agree; Strongly agree.*

Next, tell us about your experience with talks about an AI data center being proposed in Dorr Township.

22. Have you heard about the proposed AI data center in Dorr Township? *Response options: Yes; No.*

23. Have you seen or read any information about the data center in local news or online? *Response options: Yes; No.*

24. Have you received any information about the data center from Dorr Township officials? (i.e Public meetings, letters, and/or emails) *Response options: Yes; No.*
25. Have you received any information about the data center from the company proposing it? *Response options: Yes; No.*
26. Have you attended any public meetings or information sessions about the proposed data center? *Response options: Yes; No.*
27. Have you ever talked with friends, family, or neighbors about the proposed data center? *Response options: Yes; No.*

Please tell us a little bit about your own general thoughts about an AI data center in Dorr Township.

28. Do you feel you know what an AI data center is and what it does? *Response options: Not at all; Not much; Some; A lot.*
29. Do you feel you know how the data center might affect Dorr Township (for example, jobs, taxes, traffic, or the environment)? *Response options: Not at all; Not much; Some; A lot.*
30. Do you think that you would know if an AI center were built in Dorr Township? *Response options: Not at all; Not much; Some; A lot.*
31. Do you think that an AI data center being built in Dorr Township would impact you personally? *Response options: Not at all; Not much; Some; A lot.*
32. Do you think that an AI data center being built in Dorr Township would impact a loved one? *Response options: Not at all; Not much; Some; A lot.*

Local Government and Data Center Decisions

33. The local government should require strict safety rules for data centers in Dorr Township. *Response options: Strongly Disagree; Disagree; Neutral; Agree; Strongly Agree.*
34. The township should monitor the environmental impact of data centers (for example, water use or pollution). *Response options: Strongly Disagree; Disagree; Neutral; Agree; Strongly Agree.*
35. The township should have the power to stop a data center project if it poses risks to the community. *Response options: Strongly Disagree; Disagree; Neutral; Agree; Strongly Agree.*
36. Residents should have a say in decisions about data center development. *Response options: Strongly Disagree; Disagree; Neutral; Agree; Strongly Agree.*

37. The township should require public meetings or hearings before new data centers are approved.
Response options: Strongly Disagree; Disagree; Neutral; Agree; Strongly Agree.
38. The township should require data centers to have emergency plans in case of fire, equipment failure, or environmental hazards. *Response options: Strongly Disagree; Disagree; Neutral; Agree; Strongly Agree.*
39. Local schools and families should be informed about potential risks from nearby data centers.
Response options: Strongly Disagree; Disagree; Neutral; Agree; Strongly Agree.
40. The township should give incentives (such as tax breaks) to data centers that meet strict safety and environmental standards. *Response options: Strongly Disagree; Disagree; Neutral; Agree; Strongly Agree.*

Please rate your agreement with the following statements about potential fears and anxiety about an AI data center in Dorr Township.

41. The idea of an AI data center being built in Dorr Township makes me feel uneasy or anxious.
Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.
42. I worry that something serious could go wrong at the data center (for example, a fire, explosion, or major equipment failure). *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
43. I worry about potential environmental impacts from the data center (e.g., water contamination or resource impacts). *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
44. Thinking about the data center being built in our community increases my stress or fear about the future of Dorr Township. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
45. I feel that the presence of a large data center would make Dorr feel less safe. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

Please rate your agreement with the following statements about how much control Dorr Township might have over an AI data center.

46. I feel that residents of Dorr Township will have little control over how the data center is operated.
Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.
47. Decisions about the data center will be made mainly by people outside our community (e.g., corporate executives or distant government agencies). *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

48. If problems arise from the data center, I believe local residents will have little power to change what happens. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
49. I feel that Dorr Township officials will be able to effectively regulate the data center to protect residents. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

Please rate your agreement with the following statements about potential impacts of an AI data center in Dorr Township.

50. If something went wrong at the data center, the consequences could be very severe for our community. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
51. Problems at the data center could affect people far beyond Dorr Township (for example, regionally or statewide). *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
52. A major incident at the data center could have long-lasting effects on our environment and quality of life. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
53. The potential negative impacts of the data center feel large compared to the benefits. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
54. I worry that we may not understand all of the harmful impacts of an AI data center for a long time. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

Please rate your agreement with the following statements about fairness related to benefits and impacts of an AI data center in Dorr Township.

55. The benefits of the data center (such as jobs and tax revenue) will be shared fairly among residents of Dorr Township. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
56. The risks of the data center (such as noise, traffic, and environmental impact) will fall more heavily on some groups than others. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
57. Some people in Dorr Township may be more affected than others by risks from the data center, especially those with fewer resources or support. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
58. The company proposing the data center will treat Dorr residents fairly in negotiations and decision-making. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
59. Children and students in Dorr Township and surrounding areas, particularly those attending nearby schools, may face risks from the data center. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

Please rate your agreement with the following statements about understanding of aspects of an AI data center and the potential plans to build one in Dorr Township.

60. The technology behind AI data centers is easy for the average person to understand. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
61. I feel that the companies explain data center projects in a way that makes sense to average people. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
62. I feel that local officials have clearly explained how the data center might affect Dorr Township. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
63. I understand how the data center might affect energy use and electricity costs in our area. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
64. I feel that local officials in Dorr Township fully understand the impacts of data centers on cities and towns. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
65. I feel that AI data center companies fully understand the impacts of data centers on cities and towns. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

Please rate your agreement with the following statements related to trust in the AI data center building proposal and operation process.

66. I trust the company proposing the data center to act in the best interest of Dorr Township. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
67. I trust Dorr Township officials to make decisions about the data center that protect residents' health and safety. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
68. I trust that the company will be honest about the environmental and health impacts of the data center. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*
69. I trust that the company will follow through on any promises it makes about jobs, infrastructure, or community benefits. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

Please rate your agreement with the following statements about potential community health and resource impacts.

70. I am concerned that the data center could affect the health of people in Dorr Township (for example, through air quality, noise, or stress). *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

71. I am concerned that the data center could increase electricity costs for residents in Dorr Township.

Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.

72. I am concerned that the data center could affect local wells or the aquifer system, potentially reducing water availability. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

Please rate your agreement with the following statements about potential Environmental Impacts.

73. I am concerned that the data center could harm local wildlife. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

74. I am concerned that the data center could impact water quality in and around Dorr Township (for example, contamination from chemicals or runoff). *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

75. I am concerned that the data center could impact air quality in and around Dorr Township. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

76. I am concerned that the data center could cause light pollution in Dorr Township. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

77. I am concerned that the data center could cause sound pollution in Dorr Township. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

Please rate your agreement with the following statements about the project itself.

78. This project made me think about sustainability in new ways. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

79. This project makes a real world impact on my community. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

80. This survey took less than 15 minutes to complete. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

81. The content of this survey could cause a reasonable person to experience severe emotional distress. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

82. I feel that this project creates valuable knowledge. *Response options: Strongly Disagree; Disagree; Agree; Strongly Agree.*

83. Is there anything else not addressed in this survey that you would like to address or add? *Response options: Open-text response.*

Note. The final survey contained 83 respondent-facing questions plus a map display note. Some items were required in REDCap, while a small number of proximity and environmental items permitted missing responses. The analysis uses only the final-instrument fields.

Appendix B

Construct Map and Scoring Rules

Composite scores are calculated as the mean of the included items so that each score remains on the original response scale. A score is calculated only when at least 80% of the items in the construct are nonmissing. No missing responses are statistically imputed. Higher values represent more of the construct named in each row.

Table B1
Final Construct Scoring, Reliability, and Descriptive Summary

Construct	Items	Minimum valid	Range	α	Scored n	M	SD	Higher score indicates
Perceived proximity	5	4	1-5	0.910	364	4.28	0.94	greater perceived proximity to the proposed site
Affective risk and dread	5	4	1-4	0.943	367	3.65	0.69	greater anxiety, dread, stress, and perceived lack of safety
Perceived lack of community control	3	3	1-4	0.790	367	3.79	0.47	greater perceived lack of local resident control
Catastrophic potential and uncertainty	5	4	1-4	0.945	367	3.70	0.62	greater perceived severity, geographic reach, duration, and uncertainty of harm
Distributional unfairness and equity concern	5	4	1-4	0.817	367	3.57	0.57	greater concern about unfair distribution of risks, benefits, and decision-making
Trust in the proposing company	3	3	1-4	0.940	367	1.27	0.64	greater trust in the company proposing the data center

Construct	Items	Minimum valid	Range	α	Scored n	M	SD	Higher score indicates
Specific health and environmental concerns	8	7	1-4	0.974	366	3.72	0.63	greater concern about health, electricity, water, wildlife, air, light, and sound impacts
Policy and oversight preferences	7	6	1-5	0.940	365	4.85	0.50	stronger support for monitoring, safety, public participation, emergency planning, and local oversight
Overall perceived risk (global index)	18	15	1-4	0.984	366	3.69	0.62	greater overall perceived risk across affective, catastrophic, and issue-specific domains

Note. α = Cronbach's alpha; *M* = mean; *SD* = standard deviation. The overall perceived-risk index includes the affective-risk, catastrophic-potential, and specific-concern items but does not include community-control or distributional-unfairness items.

Table B2
Final Construct Item Membership and Minimum-Item Rules

Construct	Included survey content	Reverse-coded content	Minimum-item rule
Perceived proximity	Lives close to the site; important places are close; short travel time; distance affects concern; feels located close.	None	At least 4 of 5 items
Affective risk and dread	Uneasy or anxious; concern that a serious incident could occur; environmental worry; stress or fear about Dorr's future; belief that the facility would make Dorr less safe.	None	At least 4 of 5 items
Perceived lack of community control	Residents would have little control over operations; decisions would be made mainly by outsiders; residents would have little power if problems arose.	None	At least 3 of 3 items
Catastrophic potential and uncertainty	Potentially severe consequences; effects beyond Dorr; long-lasting effects; negative impacts large relative to benefits; harmful effects may remain unknown.	None	At least 4 of 5 items

Construct	Included survey content	Reverse-coded content	Minimum-item rule
Distributional unfairness and equity concern	Benefits shared fairly; risks distributed unevenly; vulnerable residents bear more risk; company treats residents fairly; children and students face risks.	Benefits shared fairly; company treats residents fairly.	At least 4 of 5 items
Trust in the proposing company	Company acts in Dorr's best interest; communicates honestly about health and environmental impacts; follows through on promises.	None	At least 3 of 3 items
Specific health and environmental concerns	Human health; residential electricity costs; water availability and wells; wildlife; water quality; air quality; light pollution; sound pollution.	None	At least 7 of 8 items
Policy and oversight preferences	Strict safety rules; environmental monitoring; township authority to stop risky projects; resident participation; public hearings; emergency plans; information for schools and families.	None	At least 6 of 7 items
Overall perceived risk (global index)	All 18 items from the affective-risk, catastrophic-potential and uncertainty, and specific health and environmental concern scales.	None	At least 15 of 18 items

Note. For the two positively worded fairness items, reverse-coded values are calculated as 5 minus the original four-point response. Thus, a response of 1 becomes 4, 2 becomes 3, 3 becomes 2, and 4 becomes 1. Exact REDCap variable names are retained in the scored analysis workbook rather than repeated here.

Standalone Measures and Candidate-Scale Decisions

Township-official trust remains a single item rather than being combined with company trust because local government and the private developer have different institutional responsibilities. Confidence in township regulation also remains a standalone item because it reflects confidence in government performance rather than perceived resident control. The conditional-incentive item is analyzed separately from the seven-item policy and oversight scale because it had a negative corrected item-total correlation and reduced internal consistency. The six-item understanding and transparency candidate is not scored because its internal consistency is insufficient and the items represent several distinct concepts.

Table B3*Candidate Scale Review and Final Decisions*

Candidate scale	Items	Complete-case n	α	Final decision
Initial lack-of-control candidate (4 items)	4	367	0.706	Revised: the regulation-confidence item was retained as a standalone item; removing it increased alpha from .706 to .790.
Understanding/transparency candidate (6 items)	6	367	0.610	Not scored: alpha was .610 and the items reflected multiple distinct concepts. Items remain available for descriptive analysis.
Institutional trust candidate (4 items)	4	367	0.914	Not used as the primary composite despite alpha .914. Company trust and township trust were kept distinct for conceptual alignment with RQ2.
Initial policy candidate (8 items)	8	357	0.751	Revised: the conditional-incentive item had a negative corrected item-total correlation and was retained as a standalone policy item. Alpha increased from .751 to .940.

Appendix C

Recruitment and Consent Materials

Recruitment occurs through community outreach, printed or electronic flyers, and QR codes that direct prospective participants to the anonymous REDCap survey. The original flyer artwork and QR-code image are not available in the working thesis files; therefore, this appendix documents the substantive recruitment and consent information preserved in the study materials and final survey instrument.

Substantive Recruitment Information

Study title: Risk, Trust, and Data Centers: A Community Survey of Health, Safety, Energy, and Economic Perceptions in Dorr Township, Michigan.

Purpose: To understand how adults connected to Dorr Township perceive the potential health, environmental, safety, energy-cost, fairness, and community consequences of the proposed AI data center and what forms of local oversight they prefer.

Who may participate: Adults age 18 or older who live, work, or spend significant time in Dorr Township, Michigan.

Survey format and time: An anonymous electronic survey administered through REDCap. The survey is designed to take approximately 10–15 minutes.

Privacy: The survey does not request names or other direct personal identifiers. Findings are reported in aggregate.

Voluntary participation: Participation is voluntary. Prospective participants may decline to participate or discontinue the survey.

Access: Recruitment materials provide a QR code or electronic link to the REDCap survey.

Eligibility and Consent Screen

Before viewing the substantive survey questions, prospective participants answer the following required screening items:

1. Are you at least 18 years of age? *Response options: Yes; No.*
2. Do you live, work, or spend significant time in Dorr Township, Michigan? *Response options: Yes; No.*

3. Do you agree to take this anonymous survey? *Response options: Yes; No.*

A “No” response to the age-eligibility item ends the survey. Records are included in the final analytic sample only when respondents indicate that they are age eligible, connected to Dorr Township, consent to participate, and complete the final survey instrument.

Documented Participant Protections

Participation is voluntary, and respondents may discontinue the survey. The instrument does not collect names or other direct personal identifiers. Data are stored electronically, used for the academic capstone project, and reported in aggregate form. ZIP code and demographic information are collected for descriptive and analytic purposes, but the survey reminds participants that it does not request information so specific that it would allow someone to be identified.

Appendix D

Supplemental Statistical Output

This appendix provides additional documentation of sample selection and the diagnostics used to evaluate retained and rejected multi-item measures. The primary results tables and correlations are reported in the Results section.

Table D1

Analytic Sample Selection

Stage	Records	Disposition
Total REDCap project records	586	All instruments and completion statuses
Final-instrument records marked complete	379	Eligible for connection screening
Completed records excluded	12	Did not report living, working, or spending significant time in Dorr Township
Final analytic sample	367	Eligible, consented, complete final-instrument respondents

Table D2

Item Diagnostics for Retained Multi-Item Measures

Construct	Survey item	Reverse coded	Item M	Corrected item-total r	α if deleted
Perceived proximity	I live close to the site (within a few miles).	No	4.05	0.726	0.903
Perceived proximity	My home, workplace, school, or other important places in my life are located close to t...	No	4.33	0.776	0.890
Perceived proximity	It takes only a short amount of time to travel from my home to the data center site.	No	4.51	0.821	0.884
Perceived proximity	My distance from the data center affects how concerned I am about it.	No	4.24	0.697	0.907
Perceived proximity	I feel that I am located close to the data center.	No	4.29	0.884	0.866
Affective risk and dread	The idea of an AI data center being built in Dorr makes me feel uneasy or anxious.	No	3.71	0.902	0.920
Affective risk and dread	I worry that something serious could go wrong at the data center (for example, a fire,...	No	3.45	0.776	0.946

Construct	Survey item	Reverse coded	Item M	Corrected item-total r	α if deleted
Affective risk and dread	I worry about potential environmental impacts from the data center (e.g., water contami...	No	3.80	0.848	0.933
Affective risk and dread	Thinking about the data center being built in our community increases my stress or fear...	No	3.69	0.876	0.924
Affective risk and dread	I feel that the presence of a large data center would make Dorr feel less safe.	No	3.60	0.866	0.926
Perceived lack of community control	I feel that residents of Dorr will have little control over how the data center is oper...	No	3.83	0.673	0.691
Perceived lack of community control	Decisions about the data center will be made mainly by people outside our community (e....	No	3.72	0.583	0.808
Perceived lack of community control	If problems arise from the data center, I believe local residents will have little powe...	No	3.82	0.686	0.664
Catastrophic potential and uncertainty	If something went wrong at the data center, the consequences could be very severe for o...	No	3.73	0.911	0.922
Catastrophic potential and uncertainty	Problems at the data center could affect people far beyond Dorr (for example, regionall...	No	3.51	0.751	0.952
Catastrophic potential and uncertainty	A major incident at the data center could have long-lasting effects on our environment...	No	3.76	0.890	0.926
Catastrophic potential and uncertainty	The potential negative impacts of the data center feel large compared to the benefits.	No	3.75	0.874	0.928
Catastrophic potential and uncertainty	I worry that we may not understand all of the harmful impacts of an AI data center for...	No	3.73	0.841	0.934
Distributional unfairness and equity concern	The benefits of the data center (such as jobs and tax revenue) will be shared fairly am...	Yes	3.50	0.557	0.796
Distributional unfairness and equity concern	The risks of the data center (such as noise, traffic, and environmental impact) will fa...	No	3.49	0.587	0.788
Distributional unfairness and equity concern	Some people in Dorr may be more affected than others by risks from the data center, esp...	No	3.54	0.645	0.769

Construct	Survey item	Reverse coded	Item M	Corrected item-total r	α if deleted
Distributional unfairness and equity concern	The company proposing the data center will treat Dorr residents fairly in negotiations...	Yes	3.65	0.569	0.792
Distributional unfairness and equity concern	Children and students in Dorr and surrounding areas, particularly those attending nearb...	No	3.69	0.687	0.759
Trust in the proposing company	I trust the company proposing the data center to act in the best interest of Dorr.	No	1.26	0.829	0.950
Trust in the proposing company	I trust that the company will be honest about the environmental and health impacts of t...	No	1.26	0.934	0.868
Trust in the proposing company	I trust that the company will follow through on any promises it makes about jobs, infra...	No	1.31	0.868	0.920
Specific health and environmental concerns	I am concerned that the data center could affect the health of people in Dorr (for exam...	No	3.73	0.890	0.971
Specific health and environmental concerns	I am concerned that the data center could increase electricity costs for residents in D...	No	3.70	0.845	0.974
Specific health and environmental concerns	I am concerned that the data center could affect local wells or the aquifer system, pot...	No	3.76	0.922	0.970
Specific health and environmental concerns	I am concerned that the data center could harm local wildlife.	No	3.65	0.871	0.972
Specific health and environmental concerns	I am concerned that the data center could impact water quality in and around Dorr (for...	No	3.77	0.940	0.969
Specific health and environmental concerns	I am concerned that the data center could impact air quality in and around Dorr.	No	3.67	0.893	0.971
Specific health and environmental concerns	I am concerned that the data center could cause light pollution in Dorr.	No	3.67	0.883	0.972
Specific health and environmental concerns	I am concerned that the data center could cause sound pollution in Dorr.	No	3.74	0.932	0.969
Policy and oversight preferences	The local government should require strict safety rules for data centers in Dorr.	No	4.83	0.719	0.938
Policy and oversight preferences	The township should monitor the environmental impact of data centers (for example, wate...	No	4.85	0.788	0.931

Construct	Survey item	Reverse coded	Item M	Corrected item-total r	α if deleted
Policy and oversight preferences	The township should have the power to stop a data center project if it poses risks to t...	No	4.82	0.848	0.926
Policy and oversight preferences	Residents should have a say in decisions about data center development.	No	4.82	0.833	0.928
Policy and oversight preferences	The township should require public meetings or hearings before new data centers are app...	No	4.84	0.857	0.925
Policy and oversight preferences	The township should require data centers to have emergency plans in case of fire, equip...	No	4.92	0.795	0.937
Policy and oversight preferences	Local schools and families should be informed about potential risks from nearby data ce...	No	4.86	0.865	0.925

Note. Corrected item-total correlations evaluate the relationship between each item and the remaining items in its scale. Alpha-if-deleted values are reviewed alongside conceptual fit; scale decisions are not based on alpha alone.

Table D3
Final Standalone Measures

Measure	Survey item	n	M	SD	Reason retained separately
Township-official trust	I trust Dorr Township officials to make decisions about the data center that protect residents' health and safety.	367	1.56	0.83	Distinct institution from the proposing company.
Regulation confidence	I feel that Dorr Township officials will be able to effectively regulate the data center to protect residents.	367	1.56	0.88	Reflects confidence in government performance rather than resident control.
Conditional incentive support	The township should give incentives, such as tax breaks, to data centers that meet strict safety and environmental standards.	366	2.2	1.48	Negative corrected item-total relationship with the core oversight items.

Table D4
Rejected Understanding and Transparency Candidate Items

Survey item	n	M	SD	Corrected item-total r
The technology behind AI data centers is easy for the average person to understand.	367	1.88	0.70	0.338

Survey item	n	M	SD	Corrected item-total r
I feel that the companies explain data center projects in a way that makes sense to average people.	367	1.74	0.79	0.368
I feel that local officials have clearly explained how the data center might affect Dorr.	367	1.46	0.71	0.470
I understand how the data center might affect energy use and electricity costs in our area.	367	2.86	1.06	0.168
I feel that local officials in Dorr fully understand the impacts of data centers on cities and towns.	367	1.53	0.78	0.528
I feel that AI data center companies fully understand the impacts of data centers on cities and towns.	367	2.17	1.14	0.322

Note. The six-item understanding and transparency candidate has Cronbach's $\alpha = .610$ and is not combined into a composite score. The items remain available for descriptive interpretation as separate concepts.