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COMMUNITY LEADERS' PERSPECTIVES ON SHALE DEVELOPMENT IN THE NEW ALBANY SHALE

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ABSTRACT

Shale development, which uses the controversial energy extraction technique of hydraulic fracturing, is on the rise in America, with industries recently investigating the New Albany shale play in southern Illinois and western Kentucky. We ask: what do community leaders in this region think about shale development generally, and how do they come to their decisions? To answer these questions, we interviewed eighteen community leaders, twelve of whom were proponents of shale development. We show proponents speak on shale development as a positive by claiming 1) any jobs are beneficial for the community, 2) shale development is not different from other forms of extractive industry, and 3) information that criticizes shale development or hydraulic fracturing is untrustworthy. Proponents come to these ideas by conceiving of their leadership roles strictly as economic leaders, and by pointing to their personal history in their communities to best know what development their communities need.

Shale development, which consists of extracting natural gas through hydraulic fracturing (commonly called fracking) is on the rise in America with corporations and energy companies reaching out to more parts of the country where naturally occurring gas or oil shale plays exist. Even with recent lower costs of conventional oil energy, thus reducing the monetary value of shale gas and oil itself, unconventional gas development is still a major focus of extractive industries (Jacquet 2014; Theodori et al. 2014).

While scientists undertake more evaluations of the relative safety and sustainability of hydraulic fracturing compared with more conventional energy extraction methods such as coal mining or oil drilling, companies have begun establishing shale development plants across North America in several plays like the Bakken in North Dakota and Montana, Eagle Ford and Permian Basin in Texas, and Marcellus in New York and Pennsylvania. Recently, energy companies have

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focused on extracting energy from a new shale play: the New Albany, in southern Illinois and western Kentucky.

While this development is exciting for energy companies, landowners who may gain income from leasing mineral rights to their land, and individuals concerned with a potentially more sustainable energy source in America, there have been many problems associated with shale development generally, and hydraulic fracturing particularly (Jacquet 2014; Jenner and Lamadrid 2013). Environmentally, issues include the extraction process's use of toxic chemicals possibly contaminating soil and water (Finkel, Hays, and Law 2013), improperly treated wastewater flowing into and permanently damaging existing water supplies needed for farming and drinking (Kargbo, Wilhelm and Campbell 2010), and the fact that the drilling process itself uses millions of gallons of water per fracture (Soeder and Kappel 2009), which might deplete small towns' local water supplies. Socially, communities that depend on extractive industries have higher rates of unemployment, instability, and crime (Jacquet 2014). Communities involved with shale development have reported higher rates of crime, increased road usage by semi-trucks, and lower levels of quality of life (Boudet et al. 2013). These issues indicate that there are both negative and positive consequences associated with shale development, which must be weighed by governmental community leaders.

Acknowledging these issues, we ask: what do community leaders in the New Albany shale think of shale development? Furthermore, how do community leaders come to their conclusions? In this piece, we present findings on interviews with eighteen community leaders in the New Albany shale play, with twelve self-declared proponents of shale development. We find three themes used by these proponents to back their stance: 1) any jobs are beneficial for the community, 2) shale development is not different from other forms of extractive industry they have had in the past, and, perhaps most important, 3) they cannot trust any information that criticizes shale development. More pointedly, we argue that the reason proponents come to these conclusions is that they consider their leadership role to be foremost of economic importance, and they consider themselves experts on their communities' needs because of their individual histories, and close relationships, with their communities.

SOCIAL AND ENVIRONMENTAL FACTORS ASSOCIATED WITH SHALE DEVELOPMENT

With access to new shale plays and with the advent of more efficient drilling and fracturing technology, companies have invested in new apparatuses to reach

energy sources below the ground in a process known as shale development. Shale development consists of a variety of practices that are typical of extractive energy overall, including clearing land, constructing access roads, transporting fuel and water, and bringing large populations to an area to work the shale plays (Boudet et al. 2013).

However, shale development notably differs from previous forms of extractive industry because of its use of horizontal drilling and the controversial practice of hydraulic fracturing (Brasier et al. 2013). Horizontal drilling occurs in the drilling process when a drill is first used vertically, then progressively shifted sideways until horizontal, which allows for better surface contact with a potential well (Weigle 2010). The process of hydraulic fracturing itself occurs after a hole is drilled, “when pressurized water and other materials are used to further fracture the rock formation, creating larger pore spaces within the rock which allow gas to move more freely” (Weigle 2010:3).

The effects of shale development on communities are mixed, and are often unpredictable (Brasier et al. 2013), though can be conceptualized into social and environmental consequences. Considering the social ramifications of shale development, local communities in the play might see an increase in tax revenue, and local businesses may benefit from additional consumption from workers in the industry who temporarily move to the area (Anderson and Theodori 2009). Furthermore, jobs may be created, and businesses may expand to serve workers (Boudet et al. 2013). Landowners who have property rights are often paid large amounts of money by companies using their land for shale development, often leading to the creation of substantial wealth for families who own particular parcels of land (Jacquet 2014). Much of the literature on shale development describes these practices as emblematic of a modern day “boomtown” (Anderson and Theodori 2009; Jacquet 2009).

Alternatively, communities might face more stressors on infrastructure and public services such as roads, local health care, and law enforcement with such population increases (Boudet et al. 2013). The boom that communities experience at the onset of shale development, furthermore, might turn into a *bust* once workers and crew members leave the depleted energy source (Mayda 2011). Also, although extractive industry employment such as oilfield jobs may pay well, often, “[t]here are not enough oil field workers locally, however, so the workers and their RVs arrive *en masse* to the towns near the oil fields” (Mayda 2011:156), reducing economic benefits for local communities. Furthermore, those without property or mineral rights are ineligible to receive the potentially high fees from shale

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developers, and those with less valuable property receive reduced benefits (Jacquet 2014). Communities undergoing shale development must grapple with the risks associated with the booms and busts of rapid industrialization, the uneven distribution of costs and benefits, and potential conflict in their communities, as well as increased stress for some community members, who believe that shale development will reduce their quality of life (Jacquet and Stedman 2013).

Environmentally, natural gas is sometimes called a cleaner source of energy than traditional coal and oil because it burns less carbon dioxide and nitrogen oxide than coal (Jenner and Lamadrid 2013), thus meeting stricter environmental emission standards and leading to more efficient processing (Finkel and Law 2011). Further, natural gas is easier to transport than coal and oil and requires comparatively quick construction of plants, which may lead to less strain on the environment in the construction of the actual extractors (Finkel, Hays, and Law 2013). Finally, natural gas has a high likelihood of assuaging many American energy problems, like foreign oil dependency, as well as making transitions to using renewable energy easier for the public (Jenner and Lamadrid 2013).

However, besides the drilling process emitting chemicals to the sky and ozone (Finkel and Law 2011), gas leakage during hydraulic fracturing produces higher levels of methane than other energy extraction forms (Howarth, Santoro, and Ingraffia 2011) and improperly treated wastewater may endanger water supplies (Kargbo et al. 2010). Furthermore, the fact that fracturing literally fractures rock formation under the earth has speculatively been linked to rising frequencies and intensities of earthquakes (Atkins 2013). Drilling companies are not legally required to list the chemicals they use in their drilling procedures, leading to speculation about what sorts of chemicals are released into the air (Finkel and Law 2011). Jenner and Lamadrid (2013) argue that hydraulic fracturing could be environmentally safer than coal mining. However, industries need to be regulated and transparent, or else industrial players could cause serious damage to water, land, and air.

CITIZENS' AND COMMUNITY LEADERS' PERCEPTIONS OF SHALE DEVELOPMENT

To date, most research on perceptions of shale development and extractive industry has focused on the general public's perceptions, with less focus on community leaders' perceptions (Davis and Fisk 2013). Concerning energy development overall, citizens in a shale gas play and citizens in an area undergoing "wind farming" reported that area employment was the greatest benefit of these

practices, and that a potential loss of scenic beauty and increase in traffic were the most notable negative social consequences (Jacquet and Stedman 2013). Furthermore, citizens who thought of such development in economic terms were more likely to support either industry than citizens who thought of development environmentally (Jacquet 2012; Jacquet and Stedman 2013). Citizens were much more concerned with natural gas development than with wind farming, however, displaying more polarized beliefs on the positives and negatives of such industry (Jacquet 2012).

Concerning shale development and hydraulic fracturing specifically, nationally, citizens are almost evenly divided on its use, but most citizens are in support of heightened regulations on the shale development industry (Davis and Fisk 2013). However, most Americans are unaware of many specifics behind hydraulic fracturing, including its environmental and social impacts; however, those that hold negative views on fracturing are often women, have egalitarian worldviews, be more familiar with fracturing, and be more concerned with environmental issues (Boudet et al. 2013). Finally, citizen trust in industry is associated with lower risk perceptions of shale development (Brasier et al. 2013).

While investigations into community leaders are limited, Crowe, Ceresola, and Silva, (forthcoming) find that there is reason to believe that leaders and the public hold different perceptions of the consequences of shale development, at least in the New Albany shale. Others have found different levels of support or concern from community leaders in different plays across America. Brasier et al. (2011) suggest key informants in the Marcellus shale see many positives of shale development for their communities, while still are concerned with potential changes in quality of life and environmental factors. Ladd (2013) found that a mixed group of 35 scientists, landowners, gas workers, activists, and other professionals reported the greatest economic benefit of the Haynesville Shale was an improvement in the local economy and the greatest social negatives dealt with traffic and roads, while 80% of the sample was concerned with the environmental consequences to water. Similar results were found in Texas, with the addition that community leaders reported damage to roads in the form of potholes and the omnipresence of oil-trucks as another negative of shale development (Wynveen 2011). Further, Anderson and Theodori (2009) studied two Texas counties and found that leaders in the larger county perceived more benefits of shale development, whereas leaders in the smaller one perceived mainly negative effects, and suggest this discrepancy might be due to the fact the smaller county had experienced shale development longer.

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In sum, current studies speak to community leaders' opinions about the negatives and positives of shale developments, which is indeed necessary to understand, but do not tap deeper into the way community leaders construct these viewpoints.

RESEARCH QUESTIONS

What do community leaders think about shale development, and hydraulic fracturing in particular, and how do they form their opinions? What cultural and social attributes of themselves do they point to when coming up with these ideas, thus justifying their beliefs? Like all people, community leaders can interpret the same situation in radically different ways, based on their experiences or their perceptions of their roles in a community.

Thus, the research questions herein differ from most other research because they ask not only what community leaders think, but also why community leaders might hold certain viewpoints. More specifically, we ask two main questions: What do community leaders in the New Albany shale generally think of shale development? Next, if community leaders are proponents, how do they come to their decisions to be for this type of development? Relatedly, how do proponents differ from those opposed or undecided on the issue?

METHODS

This paper stems from a much larger research project aiming to understand community leaders' perceptions of hydraulic fracturing and shale development in the New Albany Shale of southern Illinois and in western Kentucky. The overall research project consists of mixed survey, interview, and ethnographic methods. For more information, see Crowe et al. (2015).

This paper focuses solely on eighteen interviews with community leaders conducted in the fall of 2013. We identified interviewees by researching city and county websites and, in a few cases, making phone calls to city halls and county courthouses to find names and numbers of community leaders in the area. We operationalized community leaders as either a town's mayor, city planner, economic development director, county commissioner, or county board member (or equivalent). In other words, we attempted to follow other work that uses "key informants" to help answer research questions (Anderson and Theodori 2009), but with a particular focus on those in local governments. After compiling a list of all of the community leaders in the counties that were most likely to be affected by shale development, we phoned or e-mailed community leaders requesting interviews

until 1) a leader accepted the invitation, 2) a leader declined the invitation, 3) three phone calls/e-mails were left without a response.

In all, we identified forty-two community leaders in the counties under investigation with accessible information online or through county government offices. Five from this sample size rejected the invitation for an interview, and seventeen either were unreachable or did not respond to repeated requests by voicemail or to support staff. The fact that we reached only eighteen individuals, despite our repeated attempts to reach community, suggests the lack of trust that exists for many in academia: perhaps because of the research subject itself, callback rates were low. We find this concerning overall, and talk about the issue of trust for academics more in our conclusion, but have no theoretical reason to suggest community leaders who did not wish to be interviewed have radically different views than those expressed by these respondents.

Practically all of the interviews were conducted in-person at the interviewee's choice of location, usually an office or administrative building, between September and November of 2013. Interviews were audio-recorded and lasted between thirty and ninety minutes, with an average time of approximately fifty-five minutes. Of the eighteen respondents, one was a city economic development coordinator, one was a county engineer, four were city mayors, five were county commissioners, one was the vice chair of a county board, two were support staff for a Mayor (a City Clerk and an Administrator), and four were county chairs. Sixteen respondents were men, and two were women. All names and names of towns and counties in this study are pseudonyms. See Table 1 for more information.

The interview process consisted of two researchers guiding community leaders through an in-depth, semi-structured interview process, with one leading the interview and the other taking ethnographic notes. While the questionnaire consisted of more than twenty guided questions, interviewers followed through with ideas and themes that did not appear on the interview guide, but seemed especially salient throughout the interviews. Each interview was transcribed and coded for themes using NVivo 10 software. We determined codes primarily through grounded analysis, constructing a coding matrix based on themes presented during the interviews. Emerging themes included the themes presented below, as well as a wide range of others, such as "population loss" and "neoliberal ideology." We put the codes into mutually exclusive categories and continued to search for these themes in the open coding of the interviews, as well as using themes from others' in the literature on shale development and leaders. Finding a substantial amount of information in the codes about economic development, histories of extractive work,

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TABLE 1. LIST OF RESPONDENTS

NAME	OCCUPATION	POP. TOWN/ CITY/ COUNTY	ON NEW ALBANY PLAY?	POSITION	SEX
Bill	Mayor	1600	yes	For	M
Caleb	Co. Chair	5415	yes	For	M
Clark	Mayor	1150	yes	For	M
Doug	Co. Chair	14549	yes	For	M
Harry	Co. Engineer	14549	yes	For	M
Jackie	Vice Chair of Co. Board	59814	no	Against	F
Jacob	Co. Magistrate	9255	yes	Against	M
James	Co. Judge Exec.	9359	yes	Undecided	M
Jared	Co. Commissioner	4181	yes	For	M
Lawrence	Mayor	1204	yes	For	M
Mark	Co. Judge Exec.	9255	yes	For	M
Michelle	City Administrator	5205	yes	For	F
David	City Clerk	5205	yes	For	M
Bob	Mayor	5205	yes	For	M
Randy	Co. Commissioner	59814	no	Against	M
Ronald	Co. Commissioner	4312	yes	Undecided	M
Roy	Econ. Dev. Dir.	26241	no	Against	M
Tony	Co. Magistrate	9359	yes	For	M

and trust, we then re-examined the transcripts for any potential reinforcements or contradictions to the themes established.

FINDINGS

All respondents were at least familiar with the potential environmental and social consequences of shale developments, even if they did not personally report

believing such consequences were of concern. Despite knowledge of these impacts, most of the respondents favored allowing shale development and hydraulic fracturing to come to their region in the new Albany shale: twelve individuals stated they were proponents, two stated they were undecided, and four stated that they were against fracturing.¹

Three common themes emerged from these proponents. First, they stated their role as a leader is primarily economic: acquiring jobs for their community is their primary concern as a leader. Because of this role, they interpret shale development positively because it has the potential to increase employment in their area. Second, proponents spoke about their personal histories with their communities, and their communities' histories with extractive industry, and state shale development is nothing new, and nothing of concern. Finally, a third theme is that proponents point out that most information on shale development is biased. Thus, there is no reason to look to any negative information as more or less "true" than any information that supports shale development, no matter the source. However, despite this statement, proponents still point to a desire to know more about shale development's potential impacts, as long as that information comes from "unbiased" sources.

Employment as Major Benefit

All respondents interviewed, even those who were opponents or undecided, saw the major benefit of shale development as leading to an increase in employment opportunities for their community members, as was found in previous literature on shale development and community leaders. Said one town's mayor, "we just want more activity, we want growth. We want people to move here - we want more population. More businesses, of course - jobs"; A county engineer stated, "I think the majority of the people just need to see jobs here. Just seeing good, paying, sustainable jobs. That are going to last for a long amount of time;" and a county commissioner stated, "I think a lot of people here would just look for jobs," and later, "Oh yeah, we need the revenue. I mean we need jobs to come in."

¹Three of these four opponents were leaders in a community of about 26,000, with a Research University as a major employer, and were geographically the least likely to be affected by any potential shale development in their immediate area. For this piece, and to provide an interpretive framework of rationales used by proponents, we focus on the responses of the twelve individuals who were supportive of shale development, though we will use the six other respondents to provide context for these proponents' statements.

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Jobs are often seen as a panacea for a town's woes for proponents, with proponents suggesting that stimulating job growth is the major focus of their role in the community. Proponents view any potential jobs as a solution, without regard for the type or quality of jobs, as this excerpt with Doug, a county commissioner for a county of about 14,500, shows.

Doug: Well, jobs, is what, the most important things people look for. Yeah, I think, you'll probably when you, interview the mayor, [find out] that he's got some things going.

Interviewer: And would you say number of jobs or quality of jobs [is most important]?

Doug: Number.

Interviewer: And, as far as you know, is there a debate within the community at all on which types of economic development should be pursued?

Doug: I don't think so. No, I don't hear of any. I think everybody agrees with just about anything coming to Dell [laughs].

By speculating that when the interviewers speak to the mayor they will speak about jobs, Doug suggests his and the mayor's focus are both primarily economic. Further, stating that any jobs are welcome removes the need to think about negative impacts of development from the equation, because employment is the first concern. The city of Dell is not located by any major interstate or port, and community leaders often struggle with bringing industry into the community, a common theme in these interviews: for community leaders in small towns with no viable access to major manufacturers entering the employment market, any jobs are better than no jobs.

While all proponents mentioned employment, leaders in communities where population loss had recently occurred, or where populations had declined over large periods, were the most fervent in the desire and hope for shale development, especially if the reason for that population loss was that other industries had moved away. For instance, Clark, a mayor of a town of a little more than a thousand, stated:

The biggest effect [of shale development], positive side would be in bringing jobs. OK, just say for instance if they started fracking around here and stuff to bring in jobs, also to bring in people. That would make the

housing go up, you know, people buy and they fix places up. The businesses, the restaurants, the stores, filling stations – everything would pick up.

Clark's town once was a profitable coal mining town, but since the coal mines had moved away or had been closed, "there's a lot of people - and my kids - moved away from here, because to make a living, you gotta go where the work is." To Clark, the economic stimulus of bringing jobs to a community that once had jobs outweighed any potential concern. Inherently, the jobs would lead to population growth because "you gotta go where the work is," and if work existed in Clark's community, people would live in the once booming town.

Again, the reason employment is such a concern is because community leaders see themselves primarily as the drivers of their communities' economies. This role focuses how they interpret shale development to focus solely on the short-term economic boosts it may bring to their economies. For example, while Clark's take on jobs as a primary source rationale for being a proponent of fracking is illuminating, perhaps Caleb, a county board member and small business owner in a town of about 800, provides a more utilitarian account for why jobs are on so many community leaders' minds: "Of course, you know if you're on any government entity if you say you're against jobs [laughs, implying that is a negative] - which I mean being reelected is not my main purpose for being in office." For Caleb, the sole responsibility of "any government entity" is to be for growth in any sense. Community leaders think of their role as constantly seeking out economic development, especially in depressed areas, at the cost of all other factors that might be encompassed under their respective titles.

With economic development as the primary concern of community leaders, community leaders could essentially ignore negative consequences, at least at this early stage of the process, when industries are merely researching potential drill sites. In sum, proponents point to their communities' needs for jobs, speak about jobs at great length, suggest that others think about jobs as much as they do, and actively think of their roles as job creators.

Shale Development as Business as Usual

Another way that proponents saw shale development is as something that was not a problem, because of their experiences with extractive industry. Community leaders from small towns with a history of extractive industry such as coal mining reported the common method of hydraulic fracturing used in shale development was a nonissue for them and their communities. They point to the fact that some sort

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of energy extraction had occurred in their communities in the past, and claim no major damaging effects, thus arguments against such development must be overblown.

Community leaders suggest that shale development would be simply another common business enterprise, something they and their towns and counties were accustomed to. Harry, the county engineer for a county of about 14,500 pointed out that bringing hydraulic fracturing to his community would not be an issue, because of the region's history of coal mining:

But, the folks here are used to extracting products out of the ground and getting rid of it. It'd be different if there wasn't an oil industry here or there wasn't a coal industry here. People might have a different perception of it. But, uh, we're used to it and I think the majority of people will be for it.

Harry's statements such as "we're used to it" and "It'd be different if there wasn't an oil industry here," suggest that extractive industry is common in his community, and that he conceives of hydraulic fracturing to be more of the same. This idea continues later when Harry said, "It's not an untested technology - they've been fracking forever, or a number of years. Fifty-plus years, and uh, just not on the scale that they're doing at these locations." Harry claims that fracturing has been around for such a long time and with so little consequence that there is no need to fret about any development.

Others reiterated this idea, even when asked what they meant by extractive industry being around for "a number of years," as this excerpt with Caleb, the county board member, shows:

Caleb: The first thing, you know, everybody needs to keep in mind is they've been doing fracturing like this for a number of years. They've refined the process.

Interviewer: And when you say that fracturing has been going on for a while...

Caleb: Well, the oil fields in general - they've used some form of fracking. This is a much more advanced fracking.

Caleb admits that this current fracking is "much more advanced," but maintains that, essentially, this type of industry is what the industry was in the past – an industry that held employment for many and was seen as a boon to the community.

Furthermore, he states that shale development industries have “refined the process,” implying that this new type of fracking might be even better than previous extractive industry because of its refinement.

Just as proponents see fracturing as nothing new to extractive industry, they also construct a world where negative environmental impacts of industry are ignored or at least reduced in effect. Lawrence, a county commissioner and proponent, pointedly spoke against people with environmental concerns, claiming they did not understand the process, “people that don’t know a lot about it, they’re against it because they’re scared of what could happen. But, I mean we have the coal industry here so you know it’s not like – you know, they’re digging all of the time and they’ve never done anything.” Lawrence exemplifies the idea that what has not hurt in the past will not hurt in the future, which allows him to ignore the idea that hydraulic fracturing used in shale development could be damaging to the environment and to downplay the potential concerns of individuals who have problems with the technology. Doug, the county commissioner, reiterates this concept, “a lot of people are concerned that it’s going to hurt the water system, but you know we’ve had drilling and, and all that stuff around here forever, and they’ve always done a good job to keep it clean water and all that stuff, so I really don’t see it.” Shale development proponents point to past good behavior by industry to speak of future good behavior by industry.

These ideas of business as usual and past industry without problems are extremely different from how opponents or those undecided talk about past extractive industry. According to Randy, a county board member in the University town and opponent, “the biggest concern I have is that the science of the hydraulic fracturing process, I don’t think has been, truthfully espoused.” Randy sees the method of hydraulic fracturing as something that *is* qualitatively different from the type of fracturing or drilling in the past. Jackie, a county board member from the same town, points to several differences in current shale development from previous extractive industry, from first-hand knowledge as a secretary at a coal plant:

I understand why they’re excited about it, you know, they just drill this really deep – really deep and then go off to the side. But then I feel like that industry, it just spearheaded this stuff through so fast and they personally wanted to be exempt from environmental laws, from air quality, water quality, for a reason. Because it has too much chance for things to go wrong.

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Because of her personal history working for a coal mine, and her experience with all of the possible things that could “go wrong,” Jackie reported having trouble imagining that shale development, which had “wanted to be exempt from environmental laws” could be the same industry as the coal industry in which she had worked.

What makes proponents differ from opponents in how they view previous extractive industry? Importantly, proponents contextualize their answers by explaining the reason they know shale development will not be an issue for their communities is because they are so strongly and historically linked to their communities. Because of these strong links, they operate from a place where they know what is best for their communities. Often unprompted, proponents would discuss how long they had been a part of their community and how well established they were as a member of the community. For example, Bill, a mayor of a town of about sixteen hundred, talked about having graduated from his town’s high school, naming several careers of his fellow alumni, and ending a list of five such names saying, “And that’s just off the top of myself. I could go down through the list and figure out where each one of them lives. That’s part of being in a small town.” Another spoke about his last name being attached to several local businesses around town. Local businesses with longstanding histories, the changing population demographics, and discussions about local landmarks were often peppered into the conversations with proponents, including one who discussed his plans to have his town become the world record holder for having the largest all-wood baseball bat. These anecdotal stories tied proponents to their communities, and fostered an environment for them to be able to see shale development as a benefit for their community, because they *know best* for what is needed and has been needed in the past, for their citizens.

As a point of contrast, the six who were not proponents were much more likely to speak about their histories outside their local areas affecting their decision to be for or against shale development. Three out of the six explicitly detailed their histories with other towns or in other states as background into why they decided, including Jackie who worked all over Illinois. All three opponents from the town with the Research University spoke about those employed in the town commuting from different parts of the state, and some of their town’s residents working in different places the region. Thus, non-proponents were less locally tied to their community. Randy, the county commissioner, said “we’ve got a university that has brought people in from all over the world, and, you know, there been an acceptance and tolerance and integration of people from all backgrounds into the schools and

community and everything . . . that does not exist unilaterally, uniformly across Southern Illinois,” suggesting an openness to outside thought and perspectives influences these leaders.

In sum, proponents of shale development often state that shale development will not be damaging, because extractive industry has not been so in the past. By pointing out that development is roughly the same as it has been in the past, community leaders avoid considering environmental impact, which is substantially different from the views of opponents and the undecided. In a way that invokes both personal history and loyalty to one's area, proponents use their historical ties to a community to suggest they know best that shale development should enter their community, whereas opponents point to outside life experiences that affects their wariness for having shale development enter.

A Matter of Trust

Finally, community leaders explained why they were proponents because any anti-development information is biased or untrustworthy. Ten out of the twelve proponents interviewed explicitly suggested they could not trust information that points out the negative impacts of shale development. In the words of Bill, the mayor of a small town, in response to the question *where do you get your information on hydraulic fracturing and how much do you trust it?*

Bill: Oh, that's a good question. Obviously you can't trust the industry. They have a vested interest. Of course, this is Illinois - I'm not sure you could trust the governmental bodies either. Sadly, you can't trust much of anybody.

Interviewer: So what do you do?

Bill: Look it up on the internet, I guess. I don't know! Obviously there are environmental groups that would provide information, but they have an axe to grind too. When you have something like that, everybody has an axe to grind. I suppose the governmental bodies are more trustworthy than anybody else. Which isn't very trustworthy.

Bill uses the phrase “everybody has an axe to grind” to suggest that any information, from any source, contains potential biases and is inherently problematic. Living in Illinois, a state widely known for political corruption, suggested to Bill that governmental information still “isn't very trustworthy.” Bill's choice, then, is to trust no one, and choose which information to believe based on

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the themes established above, with preconceptions of economic development and business as usual.

Perhaps ironically for a group of elected leaders, several respondents reported not being able to trust the government and the data that comes from the government. Clark, a mayor and fracking proponent, said, “For one thing - the government. I don’t trust the government. That’s my opinion now.” He added:

Government would be good [for information], but the people in the government would be truthful and honest and tell you the facts, but for some reason, the government is just (laughs). I mean, you know, they’re in favor and they’re for it, and if they ain’t they’re against it.

Although Clark is a mayor, he sees governmental agencies as biased and untrustworthy. Other respondents suggested that there was no good place to access information – there was no source available to them that was unbiased: “Not that I know of there’s not,” in the words of Harry, a county engineer. With this mindset, it only makes sense to take anything opponents have to say about fracturing as only semi-believable. For Bill and Clark, it seems governmental agencies and environmental groups have an “axe to grind”

Proponents were unique in their estimation that most sources of information were not trustworthy. Those who were undecided or against shale development had no such view of information. They saw inherent bias in anything disseminated by energy industries, but did not speak to the same bias in environmental groups or what they perceived as objective science. Ronald, a county commissioner of a county of about four thousand who was undecided, elucidates this clearly when talking about who to believe:

You know, I said, follow the money trail. I said, as for those people [environmentalists] – where’s the advantage at for them? You know where the oil company’s coming from. But these environmental groups some of them – and I mean I’m wanting to be environmentally safe and stuff but I think we sometimes go a little overboard that way too – but these people, they got a cause that they believe in and that’s safe, clean air, and the water and stuff, and what it can do to their land. But they don’t have any advantage – they’re not putting money in their pockets for doing this. It’s a cause. So, I tell people just look at the money trail and you’ll see where it’s at.

Ronald suggests that, while environmentalists might “go a little overboard,” such groups are not able to benefit monetarily whether or not fracturing comes to be an industry – “they’re not putting money in their pockets for doing this.” By stating that one should “just look at the money trail,” Ronald suggests that corporations are not as trustworthy as the environmental groups, and this factor has led him to not unilaterally accept shale development’s entrance into his town.

Those who oppose shale development express even less trust for industry. Jackie, the vice chair of the county board for the county with the Research University puts it succinctly: “why would we trust an industry that brought us the gulf oil spill?” As shown above, she also explicitly spoke that her distrust of the shale development industry stemmed in part from the fact that they tried to grow rapidly in new markets and asked for exemptions from several environmental regulations, suggesting that she believes that environmental regulations could be doing something good for a community and putting her trust in those regulative bodies.

In sum, proponents of shale development suggest any anti-development literature is inherently untrustworthy, which only makes sense with their ideas that shale development is nothing new, and that they must first strive to create jobs. Alternatively, those who were not proponents were often more trusting of governmental or environmentalist information, and are wary of industry information.

The Search for Trustworthy Knowledge

While these findings suggest that proponents would not be open to learning more about shale development, several community leaders spoke to their personal lack of knowledge about some empirical ramifications of hydraulic fracturing, and specifically asked about the effects of hydraulic fracturing to the interviewers during the interview process. This complicates the above findings because it suggests some proponents have a sense that 1) hydraulic fracturing *might* be different from previous methods of extractive industry and 2) there is merit in research on shale development, if it can be viewed as trustworthy.

As mentioned above, proponents report having little trustworthy information about shale development overall and hydraulic fracturing specifically. Community leaders commonly reported turning to such sources of information as the internet, local television, and popular documentaries like *Gasland*. Finding information in the most convenient way was common, as in the words of Harry, when he investigated another town’s experience with shale development: “I just, you know, I simply went

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to the internet and went to Google it and type in Ohio County's hydraulic fracking, and my information came in." Leaders read the newspaper, browse the internet, and are swayed by popular arguments and websites; none reported reading academic articles.

Nevertheless, community leaders report a desire to access scientific information, especially if they could find the information themselves, as opposed to being told what the facts are by outsiders. Clark, a mayor of a small town of just more than one thousand, said, when asked where he would get his information on shale development and hydraulic fracturing:

I would probably go to the university if I wanted to get a real truthful and dependable knowledge. I'd probably say a professor or someone who is not tied up in politics or government. And they're knowledgeable and they took studies and stuff like that. I think that, in my opinion, would be the best place to get information.

Clark's response suggests he values unbiased research. Of course, that conflicts with ideas that all information is inherently untrustworthy. What seemed to make this work for Clark, however, was the idea that he could discuss hydraulic fracturing with a "professor or someone who is not tied up in politics or government," suggesting that if an individual had no investment in shale development one way or another, that person *could* be trusted.

Relatedly, proponents were not opposed to looking toward their peers who were more familiar with shale development to help them form their opinions. For example, Caleb, a county chair, mentioned listening quite a deal to his better-educated board member: "the guy I'm talking about he's got a Master's degree, a retired teacher, and he gets all the information. So, based on his opinion and what I've been able to find out, I feel like I'd be a proponent." Listening to his colleague, who has "got a Master's degree, a retired teacher," weighs into Caleb's decision to be a proponent. He appealed to someone who has more education on the subject, signifying that his colleague's education is a factor in his own decision to become a proponent.

Proponents were also not opposed to learning more about shale development in the interview process itself. For example, Doug, the county chair, said, speaking about recent developments in his town, "Yeah, they haven't started doing any fracturing yet, because I think, according to the state law they aren't able to get a permit yet to actually, to frack, *is that true?*" In this context, interviewers were

perceived as a potential source of trustworthy information. For example Clark, in discussing about the possible negative effects of fracturing, stated “You know, [shale development] might affect someone but, you know, uh that’s where you got their geologists and people like *you guys* who go to school and figure out that stuff.” This suggests community leaders did desire to access some unbiased information, but were simultaneously wary of outside information, preferring to not be *told* the facts, but instead to have the opportunity to *ask* about the facts.

The two community leaders who were undecided, Ronald and James, reported that unbiased sources of knowledge, specifically articles on the deleterious effects of hydraulic fracturing specifically, were crucial for them not to have formed a full opinion on the issue. Recall that Ronald mentioned that he valued “environmentalist” information over industry information, because of the industry’s vested monetary interest in shale development. Similarly, James, a County Judge Executive in Kentucky, articulated where he would go for information about shale development and hydraulic fracturing and tied in the importance of independence.

I’d want to hear more from independent scientists, with reference to it. Sort of like climate change. Like 97%, I think it is, 97% of all independent, what do you call it, global, global scientists believe that there is climate change. Well, 3% out there don’t and where am I going to fall in line there, you know? I hate to say this. Well, no I don’t: the independent scientist is more who I’m going to listen to, than those who are in, in it for the money or profit.

James states that he is more likely to trust “the independent scientist,” who also colors his opinion on things like climate change. This shows that James is at least familiar with current debates on environmental issues, and this knowledge helps him better form his opinion on shale development. Essentially, those undecided still experience mistrust of *some* forms of information (e.g., sources from industry, or James’s 3% of climate change deniers), but acknowledge that independent sources of information are valuable and desirable.

In sum, we are left with a complex relationship between community leaders and their responses to information. While many proponents report not being able to trust information they receive, these same individuals report striving to find trustworthy information through accessing educational resources provided by Universities, independent researchers, or even the interviewers themselves. If enough of this information is accessed, as suggested by the point of view of James,

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perhaps proponents would be less likely to think of shale development as business as usual, and possibly even become unsure of their positions on the issue, like James and Ronald.

CONCLUSION

Previous research has called for examinations of community leaders' perceptions of hydraulic fracturing (Anderson and Theodori 2009; Brasier et al. 2011; Ladd 2013), and this research reports the views of community leaders in the New Albany shale, while situating these views in a community leader's relationship with his or her community. We echo Jacquet and Stedman's (2013) conclusion on citizens undergoing wind and shale gas play development in that, "the meanings residents attribute to their community can influence their attitudes toward natural gas development, and to some degree the perception of energy development impacts for both energy sources." Here, community leaders situate their responses to shale development based on the meaning they find for themselves in the community. Like previous research that highlights the viewpoints of community leaders, our findings suggest shale development appeals to proponents primarily because of economic growth. Because community leaders see their roles as economic developers, above other forms of leadership, they place a high priority on any economic stimulus they can provide to their communities.

We also found that proponents speak of shale development as business as usual and unworthy of excessive attention, situating this understanding in their sense of history of their community. In a study on citizens' perceptions of shale development, Brasier et al. (2013:12) state, "[i]t is unclear the extent to which histories of extraction in particular localities might affect the development of worldviews related to natural resource extraction and economic imperatives." While this research cannot speak directly to the role of a citizen's history in his or her view of shale development, we argue that proponents use their histories within a town and experience with extractive industry to frame shale development positively. At least in the New Albany shale, we argue that proponents consider themselves tied into their communities in ways that make the only logical decision to be supportive of shale development.

We also found a complicated relationship between proponents and information on the shale industry: proponents point out that anti-fracking information is untrustworthy, because it is seldom objective. Importantly, this is in contrast to the views of citizens in shale plays overall (Theodori et al. 2014). While Theodori et al. (2014) found that most citizens remain skeptical and continue to distrust the shale

development industry, instead placing a great deal of trust in University professors and scientists, our proponents interpret *any* anti-development information as biased. Thus, it is not the source of the information that matters, but the message overall. However, these leaders also speak to being open to new ideas, and desirous of information they view as non-biased. In this way, they appear both concerned and unconcerned with information: concerned with accessing the most objective (in their minds) information possible, and unconcerned with subjective information they can denounce as biased.

These findings point to the difficulty that academics, environmentalists, or policymakers might have in disseminating information about hydraulic fracturing, either positive or negative, to leaders in small, rural, economically stagnating or declining towns. First, it bears repeating that community leaders, for the most part, attempted to inform themselves about shale development and hydraulic fracturing. However, the access offered to community leaders to information, especially in small towns, is very limited. Most information freely and commonly available online is linked to political or economic interests, as the corporate world is very successful in delivering information on hydraulic fracturing in areas with high levels of drilling activity or potential for such activities (Theodori et al. 2014). Even “objective” reports by mainstream media outlets, more often than not, attempt to provide a “balanced” view of environmental issues by providing equal time and space in a given article to both “pro” and “con” arguments for such an issue, which could lead community leaders to perceive a given environmental issue is more “up for debate” than it truly is in the scientific community (Boykoff and Boykoff 2004). Thus, the information community leaders receive and have access to might be as unbalanced and subjective as proponents suggest.

Academia has not fully realized a potential goal in providing free information to the public, especially information with environmental implications. Policy-wise, delivering findings to individuals who are not part of the scholarly community is imperative for scholars. A few respondents pointed to academics as a potential source of knowledge. However, how should academics get their points across? Theodori et al. (2014:73) advocate for “transdisciplinary research and outreach educational programs to address the vast array of issues surrounding the exploration, drilling, and production of shale gases,” and we echo that call here, emphasizing the need for academic outreach. However, reaching rural leaders is a nuanced practice – overreaching might dissuade leaders from trusting researchers because of perceptions such academics are biased.

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To counter this perceived bias, one possible suggestion might be for researchers to present themselves to community leaders in a two-step process. First, scholars might establish contact with leaders by introducing themselves, with no attempt to inform or teach unless prompted. We suggest limiting discussion on such issues at first contact because we found that leaders asked questions about hydraulic fracturing and shale development only after a comfortable amount of general conversation beforehand. Thus, the potential second step would occur when the community leader calls upon the independent researcher to ask about issues concerning shale development. This could occur later in a first-meeting conversation, or after a time when a leader uses a phone number or e-mail address to contact the researcher. In this way, community leaders could approach learning knowledge on their terms, using such academics as a resource for information. Whether proponents are more likely to trust this type of information, or even attempt to access it, is up for future examination, but attempts to contact community leaders directly with one's research agenda should be taken gingerly. In short, our findings suggest that community leaders would appreciate knowing who independent researchers are in their local area, but that they would like to initiate conversation on the issue rather than be told what to do by outsiders.

Importantly, the long-term environmental impacts of shale development are not fully known. Thus, while disseminating the facts as academics see fit is clearly important, it is also important to know that the community leaders' economic roles should be acknowledged when policy considerations are offered by researchers. If hydraulic fracturing *is* more damaging than not, simply stating that this extractive industry should not be used is likely not enough, because community leaders operate from their roles as economic leaders, citizens of their community, and discerning officials. Instead, policymakers should be prepared to advocate for *different* types of jobs for such communities. Community leaders might be more amenable to not allowing shale development if alternatives were offered that could lead to economic growth. Currently, for many of those living in the communities where shale development is being considered, their only hope for future growth, quite literally, is fracturing. Our findings suggest that imagining negative facts would inspire changing mindsets would be naive, especially if delivered heavily-handedly. Instead, academics must also offer alternative labor options, if alternatives are what is needed.

Future research might benefit from this writing, using some of these findings to further our collective understanding of shale development, community leaders, and the importance of historical and economic ties to a community. This study takes

place in a unique and beneficial time for understanding how leaders not yet exposed to the arrival of shale development in their community think about the process and construct their ideas. Would these views change with time? Longitudinal research, perhaps interviewing community leaders from the same shale play, should continue to study perceptions of shale developments, past the point that individuals are immersed in the boomtown period, as is done in many studies (Brasier et al. 2011). Seeing how people's views change over time might expose limitations in community leaders' knowledge about the potential positive or negative consequences of shale development at the beginning of the process. Therefore, more research should be done if shale development does enter the New Albany shale, providing for a comparative analysis. Finally, the themes suggested here need not be limited to shale development, and should be applied to other areas of industrial growth, especially for rural communities.

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