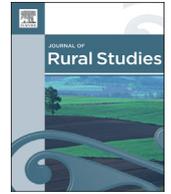




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## 'Fracking': Promoter and destroyer of 'the good life'

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### ABSTRACT

When discussing the effects of resource extraction in rural communities, academics commonly focus on specific and concrete impacts that fall nicely into the categories of environmental, economic, and social – for example, effects on water quality, jobs, and roads. A less common way of conceptualising effects of extractive industries, but more akin to the way in which rural residents discuss and experience the complex set of effects, is changes to way of life. A growing literature explores effects on 'wellbeing' and 'the good life' as important determinants of responses to development projects, and as necessary considerations for policies regulating such development. One approach to conceptualising the good life – Aristotle's ideas of eudaimonia (human flourishing) and the pursuit of eudaimonia (perfectionism) – remains underdeveloped as a means for characterising how rural residents respond to natural resource extraction. We use the example of unconventional gas development (UGD) to illustrate how definitions of human flourishing – and perfectionist pursuit of that flourishing – strongly motivate support for and opposition to a contentious extractive industry in the rural communities where development is occurring or is likely to occur. This occurs through commitments to: a rural way of life, retaining local population, beauty, peace, and/or quiet. Approximately fifty interviews across six US and three Canadian communities support this vital role for conceptions of human flourishing. The import of human flourishing to members of the public, and of them pursuing that flourishing through perfectionism, has crucial implications for communication and policy related to extractive development. Policy makers need to consider how the public's definitions for flourishing shape their support/opposition, and not just to focus on the economic and environmental impacts commonly discussed in policy discourse.

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'All we have been doing is fighting to preserve the character of our rural area, our investments, the real and intrinsic values of the land and our quality of life as protected under the existing law.'

– Sanford, New York, resident; quoted in the *Deposit Courier*, 24 April 2013

## 1. Introduction

### 1.1. Wellbeing and the good life

Over the last decade, nations such as Australia, Canada, and

myriad European countries, have engaged in a concerted effort to redefine wellbeing (Bache and Reardon, 2016; Scott, 2012). In general, the trend is to move away from (purely) economic indicators of wellbeing and/or to supplement such economic measures (e.g., GDP) with more subjective indicators. Adopting a new focus has not, however, been straightforward. Bache and Reardon (2016) explain, 'Contestation over the definition, measurement and responsibility for wellbeing are a central feature of attempts to bring wellbeing into policy: it is a "wicked problem"' (pp. 5–6).

As one example of an approach to this definitional dilemma, the UK's institutionalised efforts to reconceptualise wellbeing have concluded, 'The well-being of the nation is influenced by a broad range of factors including economic performance, quality of life, the state of the environment, sustainability, equality, as well as individual well-being' (Self et al., 2012, p. 3). This last category includes overall satisfaction with life, beliefs about whether what one is doing is worthwhile or not, and whether one was happy or anxious on the day prior to the survey data collection employed to quantify wellbeing (Self et al., 2012). The policy implications of the evolving

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definitions of wellbeing are clear – if constructs such as happiness, life satisfaction, and perceptions of doing something worthwhile are to be maximised, regulators first need to know how potential policies will affect these indicators of wellbeing and then they need to understand how to tailor policies to respond to public concerns.

Whilst wellbeing has received attention recently from national governments, discussion about how to foster wellbeing is far from new. Bache and Reardon (2016, 1) declare, 'Debates on the "good life" and how the state might contribute to this goal date back at least as far as the ancient Greeks'. Scott (2012, 10) elucidates that the 'new discourses of wellbeing make much of Aristotle's notions of "oikonomia" and "eudaimonia"'. Oikonomia traditionally refers to the management of the household to increase the value of the household to all members in the long run, or, as [Daly and Cobb \(1994\)](#) assert, it is an 'economics for community'. Eudaimonia is human flourishing or happiness, achieved through virtue and/or excellence. Modern discussions of wellbeing have thus taken up Aristotle's age-old recommendations of considering happiness and the long run.

Like 'wellbeing', however, eudaimonia poses definitional problems. In ancient times, Aristotle argued with Socrates and the Stoics over the necessary conditions for human flourishing. Whilst the Stoics viewed exercise of virtue as sufficient for eudaimonia, Aristotle maintained that external, material goods were necessary as well, even if virtue exercised was the prime constituent of happiness. Much like these disagreements of old, debates endure within nations, regions, and communities today over what constitutes human flourishing and, thus, what facilitates the good life. Our argument herein is that the struggle to define human flourishing and then the pursuit of that flourishing (i.e., 'perfectionism' – discussed below) are key underlying factors affecting reactions to development projects in rural communities. Governments and regulators that attempt to promote wellbeing without accounting for how the public defines and pursues human flourishing will likely meet with substantial resistance to their policies.

Current scholarship on wellbeing argues that governments, regulators, and policy makers need to consider broader definitions of human flourishing that are more akin to Aristotle's visions of what constitutes the range of virtuous pursuits, compared to simple neoliberal indicators of progress that have dominated in previous decades ([Scott, 2012](#)). We take no issue with such claims, but add that this idea of human flourishing is not merely a lofty philosophical concept discussed in the academy or policy circles. We maintain that human flourishing is a primary frame through which members of the public evaluate decisions affecting them. Despite the renewed effort to consider wellbeing in national policy, researchers sometimes explicitly or implicitly ignore the possibility that considerations of human flourishing might also motivate public responses to policies. Whilst accepted as a prescriptive goal for policy, human flourishing is less recognised within descriptive accounts of public reactions to policies and actions within communities. Research on development in rural communities often discusses 'impacts'. Yet, members of the public may care less about 'impacts,' *per se*, and more about the underlying conditions that prevent or promote human flourishing.

Our research on rural communities in northeast North America exposed to (or potentially exposed to) unconventional gas development (UGD) suggests that the pursuit of one's own definition of human flourishing, and perceptions of whether UGD will foster or diminish that flourishing, are important underlying influences on people's responses to extractive resource development. In this paper, we assert that the public's commitment to pursuing human flourishing proffers a strong rationale for policy makers to: (1) understand public definitions of human flourishing, and (2) account for such varied definitions in policy. We have chosen to study

human flourishing in relation to UGD because this is a highly contentious resource development issue in rural communities throughout North America, Australia, Europe, and elsewhere. The heated debate on this topic has generated much discussion about whether it is appropriate broadly, but also specifically whether it is acceptable and desired in individual communities. The content of such discourse about the appropriateness and acceptability of UGD within communities helps us understand how definitions and pursuit of human flourishing relate to support or opposition for UGD. Our research focuses on three communities each in the US states of New York (NY) and Pennsylvania (PA) and the Canadian province of New Brunswick (NB).

This paper proceeds with a theoretical treatment of 'perfectionism' (the pursuit of human flourishing), then briefly reviews the topic of UGD and the qualitative methods used for our data collection. The results tie together data from our forty-seven interviewees, identifying key ways in which presence of or potential for UGD led them to define and pursue human flourishing. We conclude with implications for policy and communication.

## 1.2. Perfectionism

The moral and political philosophy of 'perfectionism' originally stemmed from Aristotle's concept of eudaimonia or human flourishing – perfectionism was the pursuit of flourishing through 'arete' – virtue. Visions of perfectionism date back at least to Aristotle's *Nicomachean Ethics*, in which the ancient philosopher characterises the good life as one in which an individual strives for moral and intellectual virtue. Kant's *Critique of Pure Reason* advances similar overtures. Writ large, perfectionism identifies the components of a meaningful, complete, and virtuous life; living ethically is viewed as dedicating oneself to the pursuit of such an existence ([Hurka, 1993](#)). Hurka (1993, 3) states of perfectionism, 'this moral theory starts from an account of the good life, or the intrinsically desirable life'. It starts from the 'good life' or 'human flourishing' and then dictates that the best, and appropriate, way to live is through efforts to realise such flourishing.

One could pursue perfectionism in diverse areas, such as arts, music, athletics, chess, dance, chemistry, history, culinary ability, friendship, parenting, or aesthetic appreciation. Few people seek perfection in all areas ([McArdle, 2010](#); [Stoerber and Stoerber, 2009](#)), which means that pursuit of perfectionism will look different in different people. Moral perfectionism can be distinguished as one particular form, comprised of two primary components: 'one dimension capturing perfectionist personal standards regarding morality, and one dimension capturing perfectionist evaluation concerns regarding morality' ([Yang et al., 2015](#), p. 230). Therefore, moral perfectionism focuses on personally seeking to adhere to a virtuous lifestyle and avoiding actions that detract from human flourishing.

Whilst some actions that advance or detract from human flourishing are entirely personal, scholars argue that perfectionism is outward looking as well. For example, Cavell writes that perfectionism highlights 'the possibility or necessity of the transforming of oneself and of one's society' (1991, p. 3, emphasis added). [Guyer \(2014, p. 6\)](#) explains that Cavell's concept of perfectionism '[holds] ourselves up to the idea of a better world and a better existence than we currently enjoy' – again focusing on the individual and society. [Cavell \(2004, p. 14\)](#) further links perfectionism to civic obligations when he contends that the perfectionist 'imagination of justice is essential to the aspiration of a democratic society'. The high moral virtue associated with perfectionism is, thus, an essential component of a society that represents all of its citizens' interests ([Patton, 2014](#)).

Scholars further argue that two different types of perfectionism

exist: human nature perfectionism and objective goods perfectionism (Wall, 2012). The latter (objective goods perfectionism) is consistent with Rawls's (1971) and Parfit's (1986) characterisations of perfectionism, which state that the moral life—the life worth leading—is defined by achieving/realising things that are objectively good. The difficulty lies in defining what those objective goods are (and why certain goods are included whilst others are not).

Perfectionism applies to beliefs about extractive resource development to the extent that residents of rural communities explain their support for or opposition to such development in light of preserving objective goods which are important in the community or needing to bring about a new order in the community because it currently lacks certain objective goods. Unconventional gas development is viewed as right if it promotes achievement of objective goods; it is viewed as wrong if it diminishes objective goods within a community.

This approach to evaluating the rightness or wrongness of UGD may seem similar to, but is quite different from the typical cost-benefit analysis of impacts that social scientists often assume members of the public perform when deciding whether to support or oppose natural resource development in rural areas. The perfectionist approach of pursuing and promoting one's definition of human flourishing does, of course, require one to think about impacts. Nevertheless, the ultimate goal of human flourishing means that, depending on an individual's definition of flourishing, cost/benefit calculations based on the same impacts can lead to divergent conclusions about support or opposition within different individuals and/or communities.

## 2. Unconventional fossil fuel extraction

We use the social controversy over UGD as an example of how perfectionism can underlie evaluations of support for and opposition to development projects in rural communities. People's understandings of human flourishing have implications for which impacts gain salience in discourse about this issue.

Gas and oil development in shale, coal beds, and tight sands via high volume hydraulic fracturing has emerged as a topic of social, economic, environmental, and political importance in countries worldwide, including the US, Canada, the UK, France, Germany, additional European Union member states, China, Russia, South Africa, Argentina, Mexico, Algeria, Australia, and others (Mazur, 2016; Sovacool, 2014; US EIA, 2015a). In some countries (e.g., the US and Canada), considerable commercial-scale development has occurred, but others have thus far seen limited commercial development (e.g., about 100 wells in Poland) or only test wells or planning for potential development (e.g., UK, the Netherlands, China, Germany, South Africa, Denmark).

In the US, particularly in the eastern states, mineral rights are in large part individually owned by private citizens. In Canada, mineral rights are 'vested to the crown' and managed by provincial governments. Mineral right ownership could affect public perceptions of development by creating intense individual financial incentives to lease land for development where mineral rights are privately owned (Anderson and Theodori, 2009); some scholars have further speculated that such powerful financial incentives make neoliberal visions of human flourishing central in public discourse on UGD (Malin, 2014; Perry, 2012; Willow et al., 2014). Private mineral right ownership also increases the potential for disparity between who experiences the costs and benefits of development (Cotton, 2013; Fry et al., 2015; Hardy and Kelsey, 2015).

Regulation of shale gas and oil development largely occurs at the sub-national (state or provincial) level in the US and Canada; this

differs from many European countries where development is governed at the national, and international – EU, level (Fleming and Reins, 2016; Small et al., 2014). The level of regulation can in turn affect the geographic scale at which discourse about this issue occurs (Small et al., 2014; Wiseman, 2009, 2014a, 2014b). Different regulation regimes within a country can lead to more diffuse views of development across sub-national regions.

Given differences that exist both within and between countries in extent of development, regulatory approach, and mineral rights ownership, it is not surprising that perceptions of development vary across states and provinces (Borick et al., 2014, Evensen et al., 2014a; Kromer, 2015; LaChapelle and Montpetit, 2014; Stedman et al., 2012; for a review of this literature, see Thomas et al., 2016) and within states (Ivacko and Horner, 2014; Kriesky et al., 2013; Theodori, 2012). Evensen et al. (2014b) and Ashmoore et al. (2016) have identified similar variation across states in regional newspaper coverage of UGD.

Differences in public perceptions across regions, and differences in perceptions in communities affected by development versus representative national samples (Clarke et al., 2016; Evensen and Stedman, 2016), intimate that people have particular place-based concerns about and interest in UGD as it relates to their way of life (Sangaramoorthy et al., 2016). Much UGD occurs in rural areas, making it important to understand how people in rural places perceive shale gas/oil development and its effects, particularly if communication and policy are to respond to the needs of these populations (Braiser et al., 2011; Schafft et al., 2013). Nevertheless, academic research on public perceptions of UGD often explores people's thoughts about which 'impacts' of development are important without affording much attention to why these particular impacts of development matter (Jacquet and Stedman, 2013; Kriesky et al., 2013; Ladd, 2013; Theodori, 2009, 2013; Wynveen, 2011; again, see Thomas et al., 2016 for a review).

The limited research that does explore why impacts matter to the public explains how rapid industrialisation, increased intra-community conflict, an influx of outsiders, and prominent changes in the landscape can threaten place meanings and place attachment (Jacquet, 2014; Jacquet and Stedman, 2014; Perry, 2012; Schafft and Biddle, 2015; Willow, 2014; Willow et al., 2014). Whilst extant research has focused independently on place attachment, place identity, rural community character, and/or stress due to threats to these constructs, our research suggests that these constructs all contribute to an overarching drive of many rural residents to promote human flourishing in their communities. Furthermore, only one recent study to our knowledge has explored the extent to which UGD might increase place attachment (Lai et al., 2017); the remainder of the aforementioned scholarship focuses exclusively on threats to communities. Our research leads us to contend that conceptions of human flourishing can be a primary motivating factor underlying rural residents' support for or opposition to UGD. Importantly, conceptions of flourishing are not just individual sentiments (e.g., an individual's place attachment); they also contain visions of what a community should be like for the betterment of local residents in general.

We present research on public perceptions of UGD to better understand how and why conceptions of development activities in rural communities emerge. The research question guiding our analysis is: In what ways does perfectionism (i.e., pursuit of human flourishing) underlie both support for and opposition to unconventional gas development? To investigate this question, we used social representations theory to inform data collection on: (1) conceptions of what constitutes human flourishing in communities affected by UGD, and (2) how pursuit of that flourishing relates to support for or opposition to development. We next briefly describe social representations theory and how it informed our research methods.

### 3. Methods

#### 3.1. Social representations theory

Whilst identification of perfectionism – the pursuit of human flourishing – guided our data analysis, social representations theory guided our data collection. Social representations research focuses on shared understandings and discourse as forces shaping conceptions within communities. Social representations are common sense explanations of complex ideas, processes, and objects that are accessible and applicable in everyday life (Wagner and Hayes, 2005). The role of the social representations researcher, according to Clémence (2001, p. 83), 'is to study common sense knowledge about abstract objects or theories.' This aim applies well to UGD, which can be an abstract object of conversation, given its recently emergent nature and the complex set of technical processes associated with it. Such novel, unfamiliar objects are made understandable in public discourse via a process that social representation scholars term 'anchoring' (Moscovici, 2001). Through public discourse, the item is linked (anchored) to other similar concepts, processes, or objects already well understood in the community (Wagner and Hayes, 2005; Deaux and Philogène, 2001).

Investigations of social representations generally use methods that allow representations to emerge from research participants, rather than priming residents with the researchers' own representations (Deaux and Philogène, 2001). Because we sought to understand the ways in which and extent to which conceptions of human flourishing contributed to evaluations of UGD, we found value in such an exploratory research approach. Our investigation of social representations of UGD employed relatively unstructured interviews within three communities each in the US states of New York (NY) and Pennsylvania (PA) and the Canadian province of New Brunswick (NB). Perfectionism – the pursuit of human flourishing – emerged as a leading influence on representations of UGD.

#### 3.2. Study communities

The communities where we conducted interviews were all rural areas (or small towns in rural areas) in regions either experiencing substantial UGD or with potential for development in the near future. The six US communities were in the Marcellus Shale region; the three Canadian communities were in the Frederick Brook Shale region.

With an output of 12.5 billion cubic feet of natural gas per day as of November 2013, the Marcellus Shale is the largest natural gas producing region in the US (US EIA, 2015a). Ninety-two percent of gas reserves in the basin are estimated to lie under Pennsylvania and New York, with the most productive areas in southern NY and northeast PA (US EIA, 2015b). Development in NB has been much more limited to date, although several areas of the province are leased for development. Unconventional gas development began in the early 2000s in the Sussex area (one of our study communities); by 2008, 35 wells had been drilled and hydraulically fractured (New Brunswick n.d., New Brunswick Energy and Mines n.d.).

We chose NB in addition to US sites, due to shale gas attracting much public, media (mass media and social media), and policy attention in the province in the years and months preceding our research (2012–early 2013) (LaPierre, 2012). Many meetings and protests had occurred, and several groups in favour of and opposed to UGD had formed. Additionally, differences in government regulation of UGD between NY, PA, and NB presented an opportunity for comparison.

To identify communities within NY, PA, and NB for conducting interviews, we first compared communities across several physical landscape and social factors that could potentially shape social

representations. We also reviewed mass media coverage in these areas and examined secondary data (e.g., data from national Censuses and websites with shale gas-related data). From each of NY, PA, and NB, we then selected three communities (Fig. 1). Community selection variables included: partisanship on the issue (i.e., is the community generally pro-development, anti-development, or mixed), presence of active UGD-related groups, whether meetings or protests on UGD occurred there, whether legislation on the topic had been passed in the community, political leaning of the community, population density, migration rate, percent unemployed, median household income, percent of families below the poverty line, median education level, percent of homeowners (versus renters), number of gas wells in the community and county, number of violations by the natural gas industry, money received from shale gas impact fees, and percent of the community leased to gas development. We also used geologists' and engineers' predictions of where the most productive areas for shale gas development exist to prioritise communities in areas with high development potential. Finally, we spoke by telephone with government officials who had worked on issues related to shale gas development to gain an understanding of conversations about development in various communities. Across all of these variables, we sought a diverse range of values.

Through this process, we identified an initial sample of ten candidate communities each in NY and PA and five communities in NB. In NY and PA, we drove to each potential study community, informally interviewed local residents we met, and collected data from local newspapers, yard signs, and town hall records. For the NB communities, we read several government publications available online, spoke with government officials and non-profit organisation leaders via telephone, and conferred with university academics in NB to supplement our initial data collection. We eventually selected three communities each from NY, PA, and NB for conducting interviews. These nine communities presented myriad physical, political, cultural, and social contexts that could affect definitions of human flourishing and ideas about how to pursue it.

The extensive background research helped us develop a list of potential interviewees in each community. We sought to meet with people who had been outspoken on UGD and who had sought to direct the discourse in one way or another; these were typically proponents or opponents of UGD. We also identified people who worked behind the scenes to ensure their views were heard on this issue. To capture the full spectrum of social representations, including more nuanced representations that may not be evident at the poles on this issue, we further selected potential interviewees (often government officials) who did not have strong personal beliefs about UGD, but who were responsible for facilitating public discourse on this issue (e.g., at town hall meetings). All individuals had knowledge of community discourse on the topic and the goals towards which supporters and/or opponents were working.

During spring 2013, we conducted interviews with eleven people in NY, ten people in PA, and 26 people in NB who were heavily involved in the discourse on UGD (Table 1).

We digitally recorded and took notes during interviews, which proceeded as natural conversations flowing from the interviewees' responses to an initial question about what first comes to mind for them upon hearing 'shale gas development via hydraulic fracturing'. Interviews lasted between 30 and 100 min, with median length around 50 min. Whilst listening to recordings and reviewing notes, we recorded patterns and themes relating to our research question: In what ways does perfectionism (i.e., pursuit of human flourishing) underlie both support for and opposition to unconventional gas development? We next present themes and patterns evident in the data that address this question.

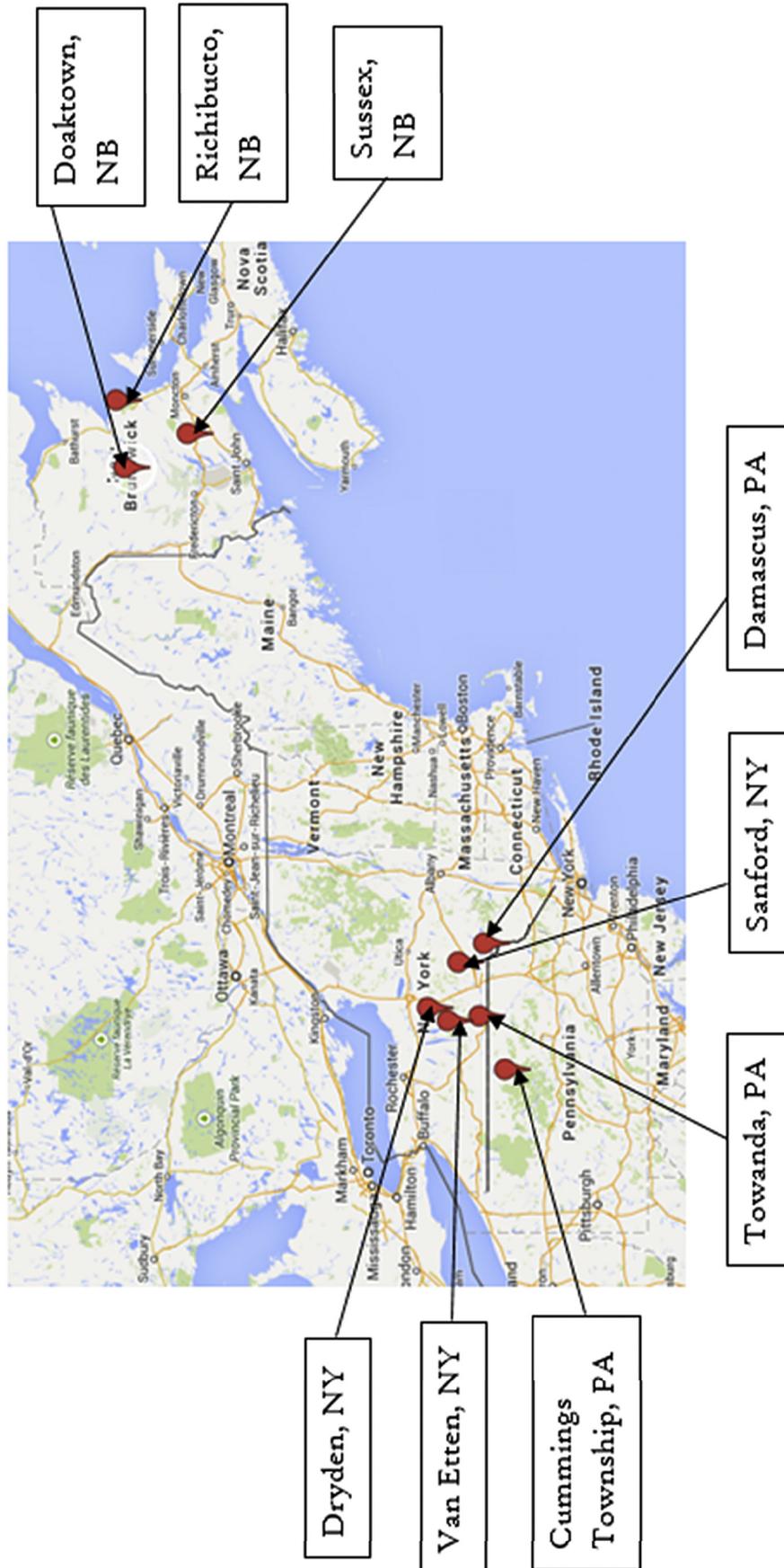


Fig. 1. Location of NY, PA, and NB study communities.

## 4. Results

Earlier we described perfectionism as a strong commitment to pursue one's own definition of human flourishing; this flourishing can be for the self or for one's larger society. Perfectionism is a way of living that identifies actions as right, and thus necessary to pursue, if they foster flourishing. Actions are wrong to the extent that they risk damaging opportunity for flourishing; there is, therefore, a moral imperative to both avoid and oppose such threats. Whilst no interviewee used the words 'human flourishing' or 'perfectionism' explicitly, research participants often described their reactions to UGD (and reactions of others in their communities to UGD) as indicative of perfectionism; their support for or opposition to UGD was intended to protect or promote human flourishing. Below, we organize our analysis to: (1) highlight how some research participants represented UGD as a way to live into and foster human flourishing and (2) show how others characterised UGD as a threat to human flourishing, and therefore something to avoid and oppose.

### 4.1. Promoting human flourishing

#### 4.1.1. Retaining population and services

Several interviewees discussed their perception that a major threat to human flourishing in their communities was population decline. Almost universally, these individuals viewed UGD as having the potential to stem this decline by retaining local youth in the community with the promise of good-paying employment, bolstering the tax base, and maintaining sufficient population to warrant the presence of necessary community services (e.g., health care). An interviewee from Damascus, PA, who writes blog posts for 'Energy In Depth' (an industry group), cited job creation in Bradford County, PA, as a way to keep local youth in the area by offering solid jobs and diversifying the economic base. A graduate student from NB who conducted his master's research on public reactions to UGD in Acadian (eastern, French-speaking) NB chronicled high unemployment rates and a desire to stem migration from the community as rationales he repeatedly heard for supporting UGD.

A Doaktown, NB, village councillor voiced his concerns about population decline in that area (the village had lost two thirds of its population in the previous four decades); stressing the current need for good jobs in the area, he exclaimed, 'We are losing our youth to jobs out west; the tax base and the volunteers are going away ... if we do not do something in the next ten to fifteen years [Doaktown] will just be a wide spot on the road.' Although Doaktown once had as many as 60 lumber mills, at the time of this research, only two remained, providing about one-third of the local tax base. The mayor of Doaktown further cited the ability of the gas industry to create jobs in other industries locally (i.e., the multiplier effect). Given Doaktown's approximately 30% unemployment rate in the early 2010s, job creation was a salient consideration. Whilst employment is a basic necessity for survival for an individual, the interviewees in Pennsylvania and New Brunswick, who themselves all had jobs, discussed increased and desirable employment not so much as an individual need, but as a component of broader flourishing. They saw communities with UGD as being more socially

vibrant through their ability to draw in and retain population. They also saw potential future gas industry employees (often envisioned as local youth) contributing to the community through volunteering and engagement in civic life.

The mayor of Blackville, the New Brunswick village just north of Doaktown, also highlighted the potential for UGD to create jobs in industries beyond the natural gas industry. He explained that jobs related to UGD would be year-round, whereas many of the jobs related to tourism associated with the Miramichi River were seasonal. The economic themes so salient in Doaktown also resonated with two pro-development individuals interviewed in Sussex, New Brunswick (one of whom worked for the gas industry). These men identified a lack of good local jobs (which could come directly from the shale gas industry and via the multiplier effect) and the need for increased taxes to fund such services as local health care as rationales for supporting development. Again, whilst health services might seem to be a necessity, these interviewees did not reveal any concern that they themselves might forego access to health care if population decline continued. Instead they emphasized connections between retaining local population and the ability to keep highly desirable services close to home, so that community members would not need to travel far for good health care. The availability of key services locally was, for them, a component of human flourishing.

Beyond curtailing population decline, some interviewees saw UGD as a general opportunity to improve the financial circumstances of current residents. An interviewee from Dryden, NY, who was heavily involved in a pro-development group mentioned a relatively high poverty rate in his county and asserted that 'good paying jobs' from UGD could help alleviate this situation. Most interviewees' statements about jobs simply underscored the common view that good-paying employment was badly needed in order to foster human flourishing locally (e.g., to keep youth in the area, retain health services nearby, maintain the tax base, and retain a critical mass of people to engage in volunteerism) and did not touch on the likely longevity of those jobs within the community. Nevertheless, two pro-development interviewees explicitly acknowledged the likelihood that jobs created by shale gas would be temporary, but still declared support for the industry. Divulging that she was formerly a schoolteacher, the leader of a landowner coalition in Damascus, PA, said she knew that some 50 percent of students in the local public school received reduced lunch rates due to their family's economic status. She reflected that temporary jobs, too, provide employment. The village councillor in Doaktown put it similarly, '[UGD] may only bring a limited number of years of prosperity, but if so, then so what? It's still something.'

In viewing UGD as an opportunity to expand economic development and local employment, all of the foregoing interviewees supported UGD for the perfectionist reason that it would foster human flourishing in their communities. Notably, most of these individuals themselves held good paying jobs, or were already retired. They were therefore not immediately or obviously interested in personal economic benefits they could derive (if any) from UGD. They tended to envision economic development as a way to advance human flourishing in their communities, by keeping parents near their children, increasing the vibrancy of communities

**Table 1**  
Number of interviews by key informant type in NY, PA, and NB.

State/province	Government official	Activist – support	Activist – oppose	Environ-mental leader	Business leader	Academic	Other resident
NY	3	1	4	0	0	0	3
PA	3	1	2	0	1	0	3
NB	6	2	8	1	1	2	6
Total	12	4	14	1	2	2	12

with more people and solid services, or providing financial resources to those not well off. It is evident that by focusing only on the importance of economic impacts, rather than exploring how that importance is rooted in the pursuit of human flourishing, one could easily misunderstand or simplify the central motivations of these interviewees.

#### 4.1.2. Rural way of life

Preserving a rural way of life, one centered on farming, in these small communities was another aspect of human flourishing important to several interviewees. They tended to perceive rural life as under threat, and also saw UGD as capable of helping the situation. Some interviewees saw the potential for UGD, through lease and royalty payments (in the US), to allow farms to stay in business and avoid being sold off in pieces. Differences in regulation and governance of UGD in the US and Canada explain why this pattern was limited to the US. A county planner near Van Etten, NY, offered this as a major factor shaping discourse in her county. An anti-development interviewee from Van Etten concurred that some people in her community long for the good life of the past when agriculture was more vibrant and when the main street in the village had several shops; some residents think UGD can herald a return of that age. In this sense, the character and feel of the community (does this place feel like a farming community?) constituted human flourishing; supporting UGD was a perfectionist response to foster flourishing.

The town supervisor of Sanford, NY, explained how over the last several decades, the number of farms in his town had plummeted from 150 to just two active farms. He saw the money that came to about 500 local landowners from a major gas lease deal as a blessing that could sustain the remaining agricultural land and retain other open space. An anti-development interviewee from near Cummings Township, PA, echoed the representation of shale gas saving farms when he expressed his dismay that local residents will often say they are against development, but they will lease anyway with the expressed purpose of needing the money to save their own farms and retain farming as a local way of life. Likewise, a couple living in Sanford recounted their conversations with locals when they explained that residents are apprehensive about the environmental problems, but still seek leases for the badly needed lease (and potential royalty) payments to maintain their rural way of life – by preventing sub-division of large properties and keeping the landscape open and in viable agricultural production.

These findings reveal that whether responding to economic concerns or seeking to preserve agricultural landscapes, these interviewees saw UGD as having the potential to remedy deficiencies in their communities that were preventing human flourishing. A precondition for representation of UGD as positive was the perception that some essential aspect of human flourishing was not currently available. Of the two main aspects of perfectionism – (1) seeking to improve one's (or society's) condition and (2) avoiding/opposing threats to human flourishing – these representations of UGD are clearly in line with the former.

#### 4.2. Destroying human flourishing

In contrast to interviewees who saw UGD as helping them realise important facets of human flourishing, individuals we spoke with who opposed UGD frequently perceived their current lifestyle and physical surroundings as already excellently facilitating flourishing for both themselves and their communities. These interviewees mentioned several prominent impacts associated with UGD, which they saw as potentially damaging their way of life and the cherished community character. Researchers who report on UGD's effects on way of life have almost exclusively framed UGD in

this way – as destroyer of human flourishing (see Thomas et al., 2016 for a review). For example, Lloyd and colleagues (2013, 151) explain how UGD for coalbed methane in Australia was opposed: 'For isolated rural communities (and city dwellers that identified with them), coal seam gas appeared to provide a rallying standard in the minds of rural constituents, *to protect the rural idyll and their way of life*' (emphasis added). We discuss below major components of human flourishing that our New York, Pennsylvania, and New Brunswick interviewees repeatedly maintained could be harmed by UGD.

#### 4.2.1. Beauty, peace, and quiet

Many interviewees offered that people lived in their community because of the 'beauty' characterising that place. A Dryden, NY, resident began her interview by stating, 'I live where I do because I love this life; peace and quiet is the essence of living here. ... Heavy industry would destroy all that is important in life.' She lamented potential air pollution, trucks, traffic, and noise, because she loved smelling the fresh air and hearing the sounds of nature. Her characteristic representation of rurality (Halfacree, 1995) was echoed by numerous other interviewees.

Many people who cited natural beauty (whether visual, auditory, or olfactory) as reason for concern or opposition to UGD explained that they had moved to their communities attracted by beauty, peace, and quiet, which were central to what they valued most in life. A resident of Damascus, PA, whose front yard touched the south bank of the Delaware River disclosed that he had vacationed in this area his whole life, cherished its peace, quiet, and beauty, and had saved enough to move there about 15 years prior. The interplay of such aesthetic sentiments and positions on gas development is evident elsewhere, including in Australia, where a community exposed to potential coal seam gas development and including many environmentally-minded transplants, was profoundly opposed to development because the community 'has aesthetic, as well as functional, natural landscape values strongly integrated in its place identity' (Luke et al. in press, 21).

A resident of Sanford, NY, also living adjacent to the Delaware River, asserted that natural beauty was essential in life; she was less concerned about water quality, *per se*, than about what might happen to 'my little piece of the world'. Two interviewees in Cummings Township, PA, similarly emphasized that people lived there due to the peace, quiet, and beauty. Offering that 'I came here for a healthy outdoor life, for an idyllic atmosphere; [UGD] would change all of that,' one of them likened well pad construction aesthetically to 'hell'. He also noted that he values the clean air he breathes, the sounds he hears, and the verdure surrounding him on a local bike path more than he values 'consumption'. Taken together, these people described human flourishing remarkably differently from those individuals who emphasized stemming population decline and retaining services. However, they were equally committed to the perfectionist aim of living 'virtuously' by seeking to promote their visions of flourishing.

In Doaktown, NB, one resident contended that his community was 'about clean air, water, and peace and quiet' and followed that that the social ills commonly associated with UGD (e.g., crime, drugs, prostitution) do not characterise (in his words) 'the good life'. Another Doaktown resident asserted that 'people come here for the quiet life, the slow pace, and the sense of community', all of which he saw as threatened by development. These residents not only described what they love about their community, but also characterised what they see as the essence of their community. In this, they are following the perfectionist approach of opposing threats to anything that promotes or facilitates flourishing.

One Doaktown resident tied community character back to the major river passing through the village: 'Clean air and water are the

lifeblood of the region ... one spill destroys the heart, soul, and identity of the Miramichi [River]. Without the river, the environment, we are nothing.' A second Doaktown resident supported this view: 'We still have our salmon, but with shale gas, we could lose them.' This individual depicted development as transforming a pristine area into an aesthetic 'moonscape'. Explaining that people have come to Doaktown to retire, he was sceptical that anyone would want to retire in an industrial area. This resident and a Richibucto, NB, resident both mentioned that many local youth go out to the western Canadian provinces to find work in the oil and gas industries. Both questioned whether those youth would want to come home to industrial landscapes like those they work in Alberta and Saskatchewan. This last reflection contrasts with the views of other interviewees who saw UGD as positive for offering employment for local youth. One perspective associates human flourishing strongly with being able to live and work near one's family, whilst the other views residence in quiet, beautiful, and peaceful surroundings as central to human flourishing. These nuances and underlying motivations for supporting or opposing development can be lost if one only focuses on residents' views about environmental and economic impacts of UGD.

A Richibucto resident aptly tied discussion of beauty, peace, and quiet to conceptions of human flourishing: 'It's about what's important to you; we didn't really talk about values. Here, money's important; everyone likes money. But our lifestyle is really, really important. ... I think a lot of people would say no to money because they don't want to lose what they have.' This woman observed that a large percentage of New Brunswick's population is linked to nature and the land, either through living in rural areas, having a second dwelling in the woods, or working in agriculture. For her, economic development was not a conduit to human flourishing; her perfectionism involved defending a beautiful and cherished landscape.

Heavy industry was, therefore, seen as incompatible with some residents' visions of what life in their community should entail. Perfectionism is often connected to virtuous pursuit of the finer, more elevated things in life. For many in this research, industrial activity and an increasingly industrialized landscape were neither elevated nor even suitable ends for pursuit. A Richibucto resident confirmed, 'People here are deeply connected to the woods and the river; they value the natural environment.' A Doaktown resident reinforced this stance, noting that 'the loss of values is the most disturbing thing' in the prevailing discourse on development, with traditional care and respect for the natural world dwindling. One Sussex, NB, resident summarised sentiments about how UGD could destroy human flourishing in rural communities, commenting that 'the rural beauty feeds our souls. An industrial landscape is a grievous insult to the people who live in the rural areas here – to the community'.

#### 4.2.2. *The status quo*

For many interviewees who cherished their present community and its way of life, change was anathema. A Van Etten (NY) resident emphasised that several people in her community who value the peace, quiet, and natural beauty desire for the community to remain 'as is'. This sentiment underlies many interviewee quotes above concerning the importance of beauty, peace, and quiet. Desire for change and acceptance of change within one's community distinguished between interviewees with more pro-as opposed to anti-UGD positions.

It would be inaccurate, nevertheless, to characterise anti-development individuals as merely averse to change; instead, many of them simply did not see any added value coming from the particular change presented by UGD. They tended to see their community as a current site of human flourishing, or something

acceptably close to it. They were happy with the status quo in their communities. Many had moved to those communities because that status quo corresponded to their conceptions of the good life. The industrial presence entailed by UGD could potentially cause water and air pollution, social disruption, and possible negative health effects; yet, it would certainly engender a more industrial community character (at least temporarily). Above all, this certain effect of UGD on the community conflicted with several interviewees' conceptions of human flourishing and prompted their objections to UGD.

Whilst desiring to maintain the status quo (without UGD) at first appears to be the polar opposite of supporting UGD based on perceived need for change, some similarities link these stances. Both supporters and opponents saw UGD as fundamentally altering their ability and their community's ability to flourish. At issue was whether UGD would improve or diminish the opportunities for flourishing. Even several supporters of UGD showed evidence of being averse to change, but their referent point was in the past, rather than the present; they wanted to make their community great again. In Van Etten and Sanford, NY, some residents sought a return to a more agricultural feel to the community, whilst in Doaktown, NB, residents longed for the days of the productive lumber and timber industries. In these cases, the change desired by residents was recovery of a coveted, nostalgically-remembered past. In contrast, those who described the status quo as providing for human flourishing saw UGD, an agent of unwelcome change, as a destroyer of the flourishing they, and their communities, already enjoyed.

## 5. Discussion and implications

Our interview data with rural residents in New York, Pennsylvania, and New Brunswick suggest that beliefs about what constitutes human flourishing are relevant for understanding community responses to UGD. Two dominant perspectives on human flourishing emerged in our research: (1) that human flourishing is currently lacking or diminished in one's community, or (2) that human flourishing currently thrives in and characterises one's community. For those individuals subscribing to the former representation, supporting UGD aligned with the perfectionist goal of taking actions to promote flourishing for oneself and one's community. For people adhering to the latter, opposing UGD aligned with their perfectionist responsibility to oppose threats to flourishing. Again, we are not claiming that our research participants cognitively framed their decisions or actions as consistent with 'perfectionism' or 'human flourishing', but rather that understanding public definitions of human flourishing and moral commitments to perfectionist goals can be useful when interpreting public perspectives and actions.

Social scientific research on UGD has overwhelmingly focused on public perceptions of 'impacts' of development to explain why people support or oppose development (Thomas et al., 2016). Discussion of impacts also pervades literature, including on boomtowns, that explores social effects of natural resource extraction in rural communities (Smith et al., 2001). Perfectionism adds interpretive power to evaluating public perceptions of UGD, and perhaps of natural resource development more broadly. Understanding residents' perfectionist goals adds nuance to why certain effects of UGD matter. Also, perfectionism is not only about improving or protecting human flourishing for oneself; the moral commitments associated with this philosophy also require human flourishing to be fostered for the community (Cavell, 1991, 2004). This further clarifies why some effects of UGD matter to residents. Several participants in this research spoke to this community-level concern.

The simultaneous individual and communal focus of perfectionist commitments associated with UGD is consistent with conceptions of human flourishing being social representations. If these representations are formed through communal discourse, then by people protecting or fostering this shared vision of human flourishing, they protect or foster it for others in their society. In future research, the concepts of human flourishing and its pursuit (i.e., perfectionism) could help make sense of a broader range of impacts related to UGD or other natural resource development that may matter to rural residents. A lens combining human flourishing and perfectionism reveals that reactions to UGD involve more than assessments of environmental versus economic impacts. To ignore logics and concerns underlying support or opposition could lead to the failure of well-intended policy to address stakeholder concerns.

Our research participants repeatedly characterised human flourishing as depending on experiences within their communities, including the ability to experience aesthetic beauty (visual, auditory, and olfactory), maintenance of vibrancy by retaining population, rural community character tied to farming, and a quiet and peaceful rural aesthetic. For individuals living in the rural communities in our study, UGD had the ability either to further or disrupt such aspects of human flourishing. Importantly, each of these potential impacts of UGD on the good life could be considered 'social' impacts, as opposed to the 'environmental' and 'economic' impacts that often receive attention in social science research on UGD (Anderson and Theodori, 2009; Borick et al., 2014; Jacquet, 2012; Jacquet and Stedman, 2013; Kriesky et al., 2013; Ladd, 2013; Schafft et al., 2013; Small et al., 2014; Sovacool, 2014; Theodori, 2009, 2012, 2013; Wiseman, 2014a; Wynveen, 2011). Even though some of these 'social' impacts relate to the environment (e.g., natural beauty) or economy (e.g., jobs stemming population decline), the social character of such transformations was seen as crucial for human flourishing. *Human flourishing* is, after all, a social phenomenon.

### 5.1. Implications for policy

A fundamental factor shaping support versus opposition to UGD is whether rural residents view their community as currently permitting human flourishing, or whether they see change as required for their community to provide (for the first time, or once again) opportunities for such flourishing.

We recommend that policy makers recognise more explicitly how rural residents use conceptions of human flourishing and perfectionism in evaluating development projects in their communities. To respond more fully to resident interests, policy makers need to recognise the importance of less straightforward and more subjective impacts (e.g., preservation of rural character, diminished aesthetic beauty). This accords with recent calls to promote non-neoliberal forms of wellbeing (Scott, 2012). To ignore a reduced or heightened quality of life simply because it may be subjectively defined is bad policy. Countries such as the UK have already accepted this premise (Bache and Reardon, 2016; Self et al., 2012). Giving attention to common conceptions of human flourishing and the good life would show that policy makers are attuned to their constituents' concerns. Of course, it is worth noting that such 'common conceptions' might be difficult to capture. Whilst calls for local governance seem en vogue as a way to promote wellbeing (e.g., Cotton, 2016), eight of our nine study communities (all save Richibucto) revealed a wide range of resident representations of human flourishing. This implies that even local governance could result in a large portion of the population – up to half – being overruled in their vision of human flourishing and how best to promote it.

We have yet to find a governmental jurisdiction in which focus

on impacts – of the type related to perfectionist pursuit of human flourishing – has been more than minimal. Pennsylvania has given some attention to such impacts, but primarily through discussion of an impact fee that could be used to address 'community impacts', irrespective of what those impacts are. Whilst it makes sense that additional funds could help address effects on road quality, throwing money at vaguely defined 'community impacts' seems to misunderstand the characterisations of human flourishing discussed by our interviewees. For example, if rural residents are concerned about emergence of an industrialised landscape (and the attendant sights and sounds), impact fee funds will not meaningfully mitigate that aesthetic change.

New York's 'Revised Draft Supplemental Generic Environmental Impact Statement (SGEIS) on the Oil, Gas, and Solution Mining Regulatory Program' includes specific sections on visual impacts (26 pages), noise (11 pages), transportation (16 pages), and community character (3 pages) (NY DEC, 2011). Brief sub-sections in other sections are dedicated to housing availability and environmental justice. Whilst acknowledging community character impacts represents a step forward, three pages of rather broad musings on possible changes within a community as part of a 346-page section on impacts indicates that community character impacts (the least quantifiable of all the impacts in the NY SGEIS) are little more than an afterthought.

In contrast, at the federal level, Canada has appropriately acknowledged the social impacts of UGD. A 2014 report from the Council of Canadian Academies states,

Psychosocial impacts on individuals and on the communities have been reported related to physical stressors, such as noise, and perceived lack of trustworthiness of the industry and government. If shale gas development expands, risks to quality of life and well-being in some communities may become significant due to the combination of diverse factors related to land use, water quality, air quality, and loss of rural serenity, among others (p. xv).

This level of recognition of effects on conceptions of human flourishing is the best that we could find in any government-sanctioned impact assessment. Furthermore, the document goes on to discuss 'public acceptability', where it includes the assertion,

The potential impacts of shale gas development, as well as strategies to manage these impacts, need to be considered in the context of local concerns and values (p. xvi).

Nevertheless, these considerations are included almost as parenthetical comments in a report whose primary purpose is to highlight environmental impacts. Like the NY DEC SGEIS, which was written by an environmental agency, this document was commissioned by the federal Minister of the Environment. The Canadian report contains 37 pages on water quality impacts, 36 on air quality impacts, and 13 pages on human health impacts. The report specifies that human health does include 'cultural [factors] (e.g., attachment to specific geographical locations)'; yet, the types of factors our interviewees identified as relevant to human flourishing comprise only three pages within the health impacts section. The report also includes explicit attention to 'ethical issues', but this section of the report is limited to three sentences.

In some jurisdictions, almost no attention is afforded to resident conceptions of human flourishing and their perfectionist pursuit of such goals. The 2014 Impact Statement on UGD issued by the European Commission includes a section on 'social impacts', but that section begins with the statement, 'The main social impacts

stemming from the policy initiative [on UGD] are likely to be linked to jobs opportunities (in the shale gas sectors and in related sectors), to health issues (for the workers and the general population) and to the price of energy for final consumers' (p. 64). Whilst jobs were important to our interviewees, this was primarily because of their ability to stem population decline – an issue not discussed in the Commission's Impact Statement. Neither of the other two cited social impacts relate to the aspects of human flourishing highlighted as important in our interviews. As a final example, in the UK, *The Royal Society*, 2012 report, 'Shale gas extraction in the UK: A review of hydraulic fracturing' includes no reference to effects on way of life or community character and well-being.

We recommend that impacts on beauty, peace, and quiet – clearly relevant to many rural residents' conceptions of human flourishing and their attendant perfectionist commitments – be afforded greater attention in the policy process. These aspects of 'the good life' dominated representations of UGD in our interviews. Furthermore, when accounting for economic and environmental impacts, *it must be recognised that the impact itself is not the main issue; rather, the primary issue of importance is what type of flourishing that impact allows or prevents*. If human flourishing is understood locally as keeping youth in the community and having local volunteerism, there could be many ways to achieve those goals independent of UGD; the base level flourishing goals should be the topic of conversation. Likewise, if aesthetic beauty constitutes flourishing, there might be ways to limit pace and scale of development to maintain such beauty whilst still supporting a viable industry; talking solely about environmental contamination could distract from the perfectionist pursuit of human flourishing that matters most.

## 5.2. Implications for communication

Communication (whether academic, mass media, or political) about UGD frequently ignores the definitions of human flourishing and attendant social impacts of UGD we have highlighted here (Ashmoore et al., 2016; Evensen et al., 2014a). This omission presents an opportunity for policy makers, journalists, and partisans on all sides of this issue. To the extent that in relation to UGD, local rural residents really care about effects on beauty, peace and quiet, returning a community to a previous state of vitality, and/or preserving or fostering 'the good life', communication may reach audiences more effectively by speaking to these issues (rather than to the economic and environmental impacts that, themselves, seem to matter less to rural residents in areas exposed to [potential] UGD).

Targeted messaging would require knowing more about what features of human flourishing are most important to different communities and audiences. Across nine US and Canadian communities with divergent regulatory and cultural backgrounds, our research revealed several consistent conceptions of human flourishing and attendant perfectionist pursuits that drove representations of UGD. These conceptions were: (1) beauty, peace, and quiet, (2) a vibrant, thriving community, and (3) rural community character. Further research in other rural communities in new and emerging unconventional gas regions could expand knowledge of the importance of human flourishing to potential development by exploring similarities and differences in these conceptions.

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