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**Community Responses to Environmental Threat: Place Cognition, Attachment and Social Action**

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Abstract

Place attachment is an important motivation to spend time in one’s neighborhood, talking to neighbors sociably or about local issues, and rather than flee, to stay and fight—i.e., to create social capital and participate in collective efforts to preserve or improve the community. Those efforts are often in response to some perceived threat to residents’ health, safety, property, and/or quality of life, and to the very place attachments that led to residents’ community engagement. This chapter reviews, analyzes, and builds upon theory and research across multiple disciplines on residential community PA and its relationship to psychological and collective responses to environmental threats, with particular attention to energy exploration and extraction. We explore ways in which PA is shaped, nurtured, and experienced within the context of community, and what other community-focused cognitions and behaviors PA influences. The first half of this chapter is organized around the theoretical model of community PA and responses to environmental threats proposed in the prior edition. The current chapter emphasizes applications of community PA via two case studies of the role of PA, place cognition, and social action in response to “fracking” (hydraulic fracturing) for shale oil and gas in Bulgaria and the United States.

Place attachment (PA) is a multi-faceted, multi-disciplinary concept. People’s emotional bonding with meaningful spaces fulfills fundamental human needs (Relph, 1976). Community attachment is an important motivation to spend time in one’s neighborhood, talking to neighbors sociably or about local problems and ideas for solutions, and rather than flee, to stay and fight—i.e., to create social capital and participate in collective efforts to preserve, protect, or improve the community (Manzo & Perkins, 2006; Mihaylov & Perkins, 2014). Those efforts are often in response to some perceived threat to residents’ health, safety, property, and/or quality of life, which may also disrupt the very place attachments that led to residents’ community commitment and engagement (Brown & Perkins, 1992).

This chapter reviews, analyzes, and builds upon theory and research across multiple disciplines on residential community PA and its relationship to both psychological and collective responses to environmental threats, such as disasters or land development, with particular attention to energy exploration and extraction. We will explore the ways in which PA is shaped, nurtured, and experienced within the context of community, and what other community-focused cognitions and behaviors PA influences. In doing so we ask, How does community PA differ from other forms, focuses, and levels of PA? To what extent is community PA shared (i.e., it is community-focused, but is it also a *communal* phenomenon?) and in what ways does *community-level* PA manifest itself? How does community PA differ from related concepts such as community place identity and sense of community? How does community PA relate to social and place development or disruption? The first half of this chapter is organized around the theoretical model of community PA and other responses to environmental threats proposed in the prior edition of this chapter (Mihaylov & Perkins, 2014). This chapter expands on that emphasizing applications of community PA via two brief case studies of the role of PA, place cognition, and social action in response to hydraulic fracturing (“fracking”) for oil and gas in Bulgaria and the United States.

**Community Place Attachment**

We accept others’ definitions of PA as consisting of person, place, and psychological or process dimensions (Scannell & Gifford, 2010), and address all three dimensions, but regarding the person dimension, we are more concerned with *collective/group* than individual aspects of PA. In terms of the process dimension, we see *emotional* bonds to home/community and *cognitive* aspects of place memory, knowledge, understanding, and meaning as important, but emphasize collective *behaviors* to protect, preserve and defend one’s community. Our focus on the place dimension includes attachment to *residential community environments as well as* the *proximal natural environment*, which is often overlooked by community researchers, but may strongly influence community PA.

Researchers identify different scales of PA, including home, neighborhood, and city levels (Kasarda & Janowitz, 1974), but suggest one’s residence and city tend to elicit stronger PA than does the neighborhood or district level (Lewicka, 2010). We argue that the concept of “community” represents a broader, more flexible scale, however, ranging from one’s streetblock (Brown et al., 2003; Perkins et al. 1996) to the neighborhood/village, or city and environs. Greater variance in PA exists at mid-level community scales than at the site (e.g., home) or city levels, and greater variance can be explained at the community level (Lewicka, 2010).

We focus particularly on place-based communities. One’s locality may be inhabited by multiple social networks or communities of interest or identity, but those can exist apart from place. While PA is very relevant to communities of place, social networks determine how much PA is a shared, communal, rather than individual, phenomenon and how agreement among community members regarding PA is created.

Community PA differs from other forms of PA in four main ways: *location, level, focus*, and *behavioral response*. The *location* of community PA is the local area surrounding one’s home (including second homes, which can be strong loci of community-based attachment [Stedman, 2006]). Community-*level* PA implies some agreement among community members regarding their bonds to place. Consensus is greater in some communities than in others, and in most places, residents vary greatly in their attachment to the same community. The *focus* of community PA is more holistic than a particular favorite object, building, or natural space; it relates to one’s residential and public environs and surrounding landscape as a whole place. What makes community PA truly unique, however, are the complex place and social cognitions, emotions, and behaviors, in response to environmental disruptions or threats, that inform an interpretive process at both the individual and community level and that lead to *collective, community-level actions, adaptations, or acceptance* of the disruption (Stedman, 2016).

**Place attachment and community-focused social cognitions and behaviors**

PA is closely tied to various other community perceptions, emotions, and behaviors. A study of adolescents found that PA is significantly related to social capital and feelings of safety in all 13 European countries studied (Dallago et al., 2009). Another study measured community-level PA differently than individual PA in two ways: by asking about pride and attachment to streetblock and neighborhood separately from home interior, exterior and yard; and by aggregating to the block/community level and using multilevel analysis (Brown et al., 2003; 2004). Community PA was associated with fewer perceived incivilities (e.g., gang activity), criminal victimization, and fear and more physical revitalization on one’s block. PA is generally assumed to develop slowly over time, but studies have found that it can develop quickly in well-designed new communities (Brown et al., 2004) and among second-home owners (Stedman, 2006). Geographic Information System mapping of block-level PA over time shows that new developments can actually depress the PA of existing nearby residents, however, due to the better condition of new housing and/or the influx of strangers (Perkins et al., 2009).

While those effects confirm the importance of PA for residents’ quality of life, we are particularly interested in how community PA relates to other community-focused cognitions, emotions and behaviors. We present an ecological model integrating individual and community levels of analysis for understanding the psychological dimensions of people’s responses to community environmental threats. We start with Manzo and Perkins’ (2006) framework distinguishing physical (place) and social dimensions of community and three psychological dimensions: 1. affective (emotional) bonds to places (PA) and/or to people (sense of community); 2. place and community identity, which are related, but a separate cognitive dimension; 3. a behavioral dimension including organized community participation and informal neighboring.

**Overview of the framework[[1]](#footnote-1)**

We use a disruption-response framework for presenting PA and related constructs and articulating their relations to community action. This model is based on studies of local reactions to place disruption, which unfold “in a series of stages involving identification, interpretation, evaluation and forms of coping response” (Devine-Wright & Howes, 2010, p. 277). The model builds on Devine-Wright’s stages of psychological response to place change (2009), but focuses on the stages of place disruption, interpretation, and response at both the individual and community levels (see Figure X.1). A disruption framework highlights place-related individual and community-level psycho-social processes, because disruption triggers and illuminates otherwise latent or taken-for-granted states and attitudes, such as the meanings places hold for inhabitants (Seamon, 2018; Stedman, 2002).

**[INSERT FIG. X.1 ABOUT HERE]**

**Environmental Disruption**

The first component of the disruption model is any disruptive community-level environmental stimulus--a natural or human-made disaster, a planning decision, building or other infrastructure construction or demolition, or just the possibility or threat of some significant environmental change.

**Interpretive Processes**

PA scholars study not only the physical aspects of disruption, but also the social psychological processes of its interpretation in the community (Devine-Wright, 2009; Jacquet & Stedman, 2014; Scannell & Gifford, 2010). Interpretation of environmental disruption occurs on the individual and community level by identifying the change, framing it in terms of the physical and symbolic aspects of place, and evaluating it with regard to the centrality of the place and its disrupted features (Devine-Wright, 2009). Community interpretive processes occur in a context of place-based social networks.

***Place definition/place meanings*.** Consistent with Lewicka’s (2011a) recommendation, the first component of the model focuses not on the person, but on place definition--the socially constructed and negotiated boundaries of the place, and the features and attributes that give it a distinctive meaning and identity in the minds of dwellers (Stedman, 2002): what belongs in the place, what makes it unique. Place boundaries are socially constructed and defined differently by different groups. For example, residents living in a protected area defined the place more narrowly than did people living close to, but outside, the parks (Bonaiuto et al., 2002). The acceptance of change depends on the compatibility of the change with place symbolic, cultural, historic or functional meanings. In the energy context, attitudes toward construction of a new nuclear reactor depend on perceived contributions of the existing power station to sense of place, a broader concept including both PA and place identity (Venables et al., 2012). Communities may respond in opposition to a wind farm (Devine-Wright & Howes, 2010) or in support of a tidal energy converter (Devine-Wright, 2011), depending not only on the different renewable energy sources and disruptions they represent, but also the meaning of different places to the local community. Within the interpretive processes of the framework, environmental disruption is translated into the degree of disruption of the defined place: Is the change inside or outside of the place? Is it compatible with the place, historically and currently?

***Place dependence*** indicates how well a setting serves an intended use over a range of alternatives (Jorgensen & Stedman, 2001; Raymond et al., 2010). Communities depend on places for desired activities and experiences. In our model, an environmental change is evaluated cognitively according to its disturbance of one’s place dependence: Will the change enhance or impede the way the place is used and the types of uses/affordances it facilitates? What alternative places can be accessed for this use? Place dependence is not one-directional. Communities influence place based on residents’ sense of community, ownership and investment, not just in their own properties but in the entire neighborhood or town and environs.

***Place identity*** is “a cognitive mechanism, a component of self-concept and/or of personal identity in relation to the place one belongs” (Hernández et al., 2010, p. 281). It is critical to understanding how environmental meanings symbolize or situate, and thus can threaten, individual and community identity (Bonaiuto et al., 1996). Place identity affects the positive or negative valence of one’s attitudes to environmental change after it has been defined in terms of the place and its use. It is threatened when local environmental change is viewed negatively as place disturbance (Devine-Wright & Howes, 2010).

***Place bonding,*** or PA, refers to people’s emotional ties to a geographic location. We conceptualize place bonding as the affective link to *both* natural and constructed physical environments, rather than frame it as nature bonding only (Raymond et al., 2010). Definitions of PA vary. To some, PA is a higher-order construct comprising place identity, bonding and dependence; we equate PA with place bonding, part of a higher-order concept: sense of place (Hernández et al., 2014; Jorgensen & Stedman, 2001). Place bonding usually causes opposition to, and rejection of, place disruption (Devine-Wright & Howes, 2010). PA may lead some communities to accept development, however (Devine-Wright, 2011; Venables et al., 2012). It is worth exploring in those cases whether those attached to a place see development as adding value and reducing other threats while preserving what they like about the place or the unattached may simply be apathetic or oppose development for other, personal reasons (Bailey et al. 2016).

**Social Capital**

The right half of the model in Figure X.1 emphasizes the concept of social capital, and people’s behavioral response, individually and collectively, to the whole disruption-interpretation process. Social capital consists of “the norms, networks, and mutual trust of ‘civil society’ facilitating cooperative action among citizens and institutions” (Perkins & Long, 2002, p. 291). Perkins and Long (2002) proposed a two-by-two social capital framework: one dimension distinguishes intrapsychic (cognitive/affective) from behavioral responses; the other contrasts informal/spontaneous versus formally organized responses. This yields four components of psycho-behavioral social capital: the informal, affective component is social bonding (or sense of community); the informal behavior is neighboring; the organized, cognitive component is collective efficacy (or empowerment); the organized behavior is citizen participation in community voluntary organizations.

***Sense of community (Social bonding).*** Riger and Lavrakas (1981) identified two dimensions of PA that are inherently communal: a feeling of physical *rootedness* in the community, which is related to place identity and interdependence, and a sense of social *bondedness* with one’s neighborhood. These are core elements of sense of community (Pretty et al., 2003), the informal affective part of social capital, defined as feelings of membership or belongingness to a group, including an emotional connection based on shared history, values, interests or concerns (Perkins & Long 2002). Sense of community also involves neighbors’ trust in each other. It is the affective attachment to the social aspects of community or place and is called positive “social bonding” in Raymond and colleagues’ (2010) four-poles model of PA. This emotional component of both place bonding and social bonding motivates community members to mobilize for collective environmental protection (or change) efforts. Sense of community has been linked to PA and other positive individual and community outcomes at both the individual and community scale (Perkins et al., 1996; Perkins & Long, 2002).

***Neighboring*** is the help we informally provide, and receive from, neighbors. Unger and Wandersman (1985) identified three components of neighboring behavior: (1) *social* support and network ties (community-level bonding); (2) *cognitive* mapping of the physical environment and symbolic communication (captured in our model by place definition, interdependence, and identity); (3) *affective* attachment to neighbors and to place (sense of community and place bonding). Analysis of neighboring at the individual and community levels finds it closely linked to place attachment (Brown et al., 2003) and citizen participation at both levels (Perkins et al., 1996). Those who participate most in formally organized groups are also more likely to help their neighbors informally-- one does not replace the other.

***Collective efficacy*[[2]](#footnote-2) *(or empowerment)*** can be thought of as people’s confidence in the efficacy of organized community action (Perkins & Long, 2002). Empowerment has been defined as a multi-level process by which people gain control over their lives, democratic participation in the life of their community, and a critical understanding of their environment (Perkins et al., 1996) or more simply as “voice and choice.” Environmental hazards can be disempowering, as people often have little control over them, unless they collectively mobilize (Rich et al., 1995). Thus, empowerment is critical to both community development and environmental protection (O'Sullivan et al., 1984). Collectively constructed and shared definitions and interpretations of place disruption enable collective action around a common purpose (Benford & Snow, 2000; Hajer, 1995).

***Citizen participation*** in grassroots voluntary associations (e.g., civic and faith-based organizations, local environmental groups) and other mediating structures is determined by both residents’ capacity to respond collectively to environmental hazards and local institutions’ capacity for responding to those affected and involving them in making decisions (Rich et al., 1995). Person-environment transactions of place, social bonding and identity are also important factors in residents’ community participation (Perkins et al., 1996).

***Place-based social interactions (networks, bonding social capital)*.** Social capital is also defined in terms of strong “bonding” ties and weak “bridging” ties (Granovetter, 1973). Bonding social capital is based on social interactions within the place, including neighboring and networks of trust as a community-level norm. These influence interpretive processes and are relevant to PA because social interactions are shaped by settings and spaces. Community attachment is related to social interaction and neighbors watching after each other (Brown et al., 2003). In our model, place-based social interactions have several functions. First, place meanings are mediated through social interaction (Raymond et al., 2010). The community-level interpretation of disruption takes place in the network of interactions between residents (in the top-right, community-behavioral component of the model). Second, social interactions are important disrupted routines of a place. Third, networks drive mobilization, as mobilization builds on existing networks (Granovetter, 1973).

***Bridging social capital*.** Bridging ties are the social connections people have that are based, not on emotional bonds, but on utility, with neighbors, merchants, and influential people outside one’s community. Bridging capital is important for its literal connections to power and because bonding ties can inhibit dealing with conflict or controversial issues (Granovetter, 1973). Although social capital is usually considered at the community level, we locate bridging ties on the individual level (lower right side of Figure X.1) because they only apply to certain individuals, usually with more mobility, alternatives and relationships outside the local community.

**Community Response**

The response of the community may occur in many forms: mobilization, action, adaptation and/or acceptance (see far right side of Figure X.1). Responses to place disruption transpire on both individual and community levels. Individuals may cope with the threat with denial or emotional or physical detachment from the place; or they can engage in individual or collective action in opposition to change or restoration of the disrupted place. On the collective level, communities may adapt to the disruption and redefine the place to accommodate the changes, or embark on oppositional or restorative collective action (Devine-Wright, 2009).

We now turn to brief analyses of two cases of community response to environmental disruption, each illustrating different parts of the model.

**Two Case Studies**

**Case 1: The Threat of Fracking in Bulgaria**

**Environmental disruption.** On 16 June 2011, the Bulgarian government announced that Chevron, a U.S. based multinational energy company, had been granted a license to explore for shale gas in Bulgaria. Shale gas was to be extracted via hydraulic fracturing (or “fracking”), which involves horizontal drilling of shale formations and high pressure pumping of vast amounts of water mixed with chemicals into the rocks. Fracking is an epitome of an environmental disruption: it carries risks for damaging the air, soil, water, and biodiversity of local communities. There are possible consequences for community cohesion, safety and traditional way of life due to the individual negotiations of royalties between landowners and companies, the influx of outside workers and the industrial development of a rural area (Colborn et al., 2011; Jacquet, 2014). Between June 2011 and January 2012, local communities in prospective drilling areas in Bulgaria organized protests, petitions, and other forms of non-violent action to compel the National Parliament to impose a ban on fracking. Local organizing efforts grew into a national movement, with over 10,000 people marching in 12 Bulgarian cities on January 14th, 2012. Four days later, the Parliament passed a moratorium on fracking by an overwhelming majority (Mihaylov, 2020).

**Place definition.** The socially defined boundaries of the place under threat expanded quickly via interpretive activities. Opposition against the cabinet’s decision started in the town closest to the planned first drilling operation, with a town council vote against it and a protest by local residents. Large-scale opposition developed next in the big cities in the threatened region and the capital, Sofia, which was 300 kilometers away. Activists expanded the boundaries of the protest by asserting that the threat to underground waters affected a aquifer stretching under the whole Bulgarian North-East. Furthermore, this area historically and symbolically is “the Granary of Bulgaria” – feeding the nation and contributing to Bulgaria’s fame for agriculture – which gave legitimacy to groups outside the region to join the protests. The place’s most emphasized feature was its instrumental value, but it was also framed as a symbol of the natural endowments of Bulgaria.

**Place dependence.** Activists talked about fracking operations as competing with “agriculture and tourism, and everything nature-related;” activists “wanted clean nature, so [they] could use it as it is, to present it [to tourists] as it is.” Such use would be “sustainable” and “planned,” whereas fracking was “quick profit, and after us, the deluge.” The proponents of fracking, conversely, attempted to underscore other uses of the area, pointing to previous oil extraction there.

The confidence that fracking was a wrong use of natural resources was grounded in the common conviction that clean nature was “the most important asset Bulgaria has,” and that “the future of Bulgaria is in agriculture and sustainable tourism because these are the endowments of the climate, nature, all conditions.” These natural endowments were seen as “basic values that Bulgaria should protect.” The local place became a battleground in the conflict around the independence of the larger space: whereas the pro-fracking claim was that the discovery of gas would secure energy independence for Bulgaria, the activists countered that food and water are more important ”because you can do with or without energy independence – many countries are just fine without it; but if you are water- and food-dependent – there is no fixing that.”

**Place identity and bonding.** Place identity and place bonding were also manifested locally and nationally. For example, one of the participants talked about how her land was passed through generations in her family, how she felt the calling to take care of that land, and how important it was for her personal identity. As the place definition was expanded to the national level, so was the identity referent. Many participants outside the threatened area talked about its importance to their national identity. Others, focused on the threat to nature, talked about their self-image and lifestyles as nature-lovers, people for whom nature had intrinsic and not resource value, as a symbol of a simpler, “natural” life “away from it all.” Place bonding was amalgamated with patriotism or the love of nature.

The proposed development was incompatible with the place meanings and place attachment as interpreted by activists. Fracking operations were incongruent with people’s sense of place; fracking chemicals were incongruent with local life. Gas extraction was incongruent with the regional and national economies and livelihood. Concerned citizens argued that fracking would turn “the Granary of Bulgaria” into a “moon valley” and “industrial site.” In sum, it was an “abruptly imposed model from outside, a model that has nothing to do with the endowments of the country.”

Within place-related interpretive processes different local groups started from different perspectives about their place attachment and developed different explanations about the disruption: some used an environmental health discourse, some focused on the value of local nature, some on local use, some saw Bulgaria as the place at stake. However, with interaction in collectives the different interpretations came into discursive closure (Hajer, 1995) bridging (Benford & Snow, 2000) toward a shared narrative, which enabled a diverse national movement.

**Collective efficacy/empowerment.** Collective efficacy among activists was reported as a set of cognitions and feelings. For first-time activists there was an overwhelming sense of freedom to act on a public issue as a member of informal, voluntary, and idealistic groups in contrast to political action as an interest-driven, hierarchical and controlled structure. Activists also saw themselves as protectors of the common good: nature, Bulgaria, and “the people,” in contrast to treasonous and corrupt government; this group identity gave them a sense of historic force. Another very important element of empowerment was local knowledge. Based on their place experiences and interactions, activists were able to understand and highlight issues of application of the technology, for example local environmental conditions, local geological and landscape peculiarities, local authorities’ (in)capacities– all very different from what the proponents described in abstract terms.

**Place-based social interactions, sense of community, participation, bridging social capital.** The anti-fracking movement demonstrated the greater importance of relationships and networks emerging in mobilization compared to pre-existing sense of community or neighboring relationships. While the protests started in the threatened local community, the mobilization and effective action unfolded in bigger cities where more people and bridging social capital could be mustered. Bonding ties and sense of community were created among first-time activists gradually by staunch preference for informal relationships in local groups. The only pre-existing formal networks of citizen participation were the environmental organizations in Sofia. Bonding and bridging ties within the movement were consistently developed via dedicated Facebook groups. Through intensive personal local interaction and online national connectedness feelings of trust and respect developed among activists, which facilitated inclusive interpretive processes and the emergence of national leaders and representatives. Key for success were bridging ties with experts, international organizations, and even government officials and politicians.

**Case 2: Marcellus Shale region of the Northeastern United States**

**Environmental disruption.** The Marcellus shale region in the northeastern United States has seen rapid growth in hydraulic fracturing. The Marcellus deposit underlies multiple states, each with its own trajectory of engagement (Jacquet et al., 2018). Although the Marcellus represents a single gas formation, the overlay of different states, with different governance systems and outcomes, - represents a ‘natural experiment’ of sorts. We contrast the experience of two neighboring states—Pennsylvania and New York in response to fracking development (Brasier et al., 2013; Stedman et al., 2012).

The rapid pace and scale of shale gas development in Pennsylvania represents the initial disruption. The environmental, social, and economic impacts extended beyond Pennsylvania to include New York. Beyond direct impacts to the landscape and communities of Pennsylvania, fracking engendered a great deal of public debate, capacity building, research, and reflections about place and the role of energy development in rural environments. We consider these in turn.

Jacquet and colleagues (2018) label Pennsylvania “the heart of the Marcellus Shale.” As of 2018, over 11,000 unconventional gas wells had been drilled in Pennsylvania. Numerous studies have explored impacts on environmental quality, agriculture, and community well-being (Jacquet et al., 2018). These studies frame the effects of development as mostly negative but Bugden and Stedman (2019) present a dissenting view that suggests that development has not been as transformative—positively or negatively—as is commonly considered.

New York had the opportunity to observe the impacts of shale gas drilling in Pennsylvania and passed a moratorium halting development in 2010. A controversial public debate about the future of the industry ensued, protests were held, and public comment solicited. Over 350 municipalities eventually passed ordinances opposing, restricting, or banning development (Dokshin, 2016). In 2014, shale development was banned statewide. The *debate* around shale gas (in part based on experience of PA) became a disruption of its own: it is important that ‘fracking’ be examined as a multi-faceted process (Evensen et al., 2014) rather than simply the extraction phase. There were direct effects in New York of gas extraction in Pennsylvania, including regional economic impacts (many of the midsized urban centers where much of the money was spent(Cosgrove et al., 2015).

**Place Definition and Place Change.** It is important to emphasize our deliberate use of the term “changes” rather than “impacts.” While much of the research around Marcellus shale development emphasizes negative outcomes, we assert that some of the changes have more nuance. We emphasize three areas: place dependence; place meanings/identities, or effects on the landscape/local community as symbol; and effects on collective efficacy/empowerment.

The onset of fracking produced impacts (and perhaps more importantly, a lively *discussion* of effects, both positive and negative) to the region, thus bringing place concerns to the fore—concerns that transcended the specifics of shale gas development. Place attachment and related concepts ‘fly below the radar screen;’ often they are made salient by disrupting events that force reflection. There were direct effects both where development happened and spillover effects on regional communities even where there was no development. There were also indirect/anticipatory effects such as discussions about what *might* happen, and potential community response.

**Place dependence** addresses how gas development affects how the landscape fulfills key functions. The region (both Pennsylvania and the nearby “southern tier” region of New York) is a landscape of rolling hills, small farms, woodlots, tourism/second homes and small rural communities. Prior to the gas boom, the region was seen as economically stagnant, characterized (like so many rural areas) by the outmigration of young people and general economic decline (Thomas & Smith, 2009).

Rapid gas development in the region—using the “boomtown” frame (Jacquet, 2014) which emphasizes social disruption --has challenged conventional uses of the landscape. Some argue that shale gas development will undercut agriculture in the region: as lessees gain alternative sources of income, they will abandon agriculture. Others assert that leasing revenues may be used to pay off debt, allowing farmers to continue farming into the future. The reality is that each of these scenarios is likely to be true, for different farmers (Paredes et al., 2015). The effects on place dependence for rural communities has been less subtle: the social disruption and in-migration of gas workers has posed a challenge to social relations, employment, and has contributed to increased inequality, homelessness, and strained community services such as schools and health care (Jacquet, 2014).

**Place identity and meanings**. Engaging more at the level of symbol, people identify with a given landscape/community as embodying certain meanings. The loss of, changes to, or reinforcement of key meanings affects how people identify with place. Rapid energy development has challenged the viability of key symbols such as the region as a ‘farming place,’ amenity values and unspoiled nature, and tight knit, egalitarian communities. We should be careful not to overstate this, however, as an extensive history of resource extraction, especially in Pennsylvania, lends some continuity here as well (Bugden et al., 2017): this has been an ‘energy landscape’ for a long time.

**Collective efficacy/empowerment**. Shale gas development has fostered individual and collective engagement with the community/region as a locus of attachment. Brought to the fore are ideas of place and community, and discussions of visions for the future—both those that embrace shale gas development and those that reject it. In particular, the rapid emergence of shale gas exploration in Pennsylvania afforded New York residents and policy makers this opportunity; divergent community responses speak to the plurality of these visions. Further, the prospects of shale gas development gave New York landowners the opportunity to engage in collective action—as the fate of drilling was being decided, many landowners formed coalitions to engage in collective bargaining. While some negotiations predictably focused on price, others took a broader collective place-based view, engaging terms focused on environmental protection, for example (Jacquet & Stedman, 2011). Finally, although some have asserted (e.g., Mayer et al., 2018) that many rural communities were disadvantaged in their of capacity to engage sophisticated and well-financed energy companies, shale gas development also represented an opportunity for community leaders, residents, and local environmental groups to build leadership.

**Conclusions**

This chapter explored the meaning and significance of community-located and community-level PA, particularly through two cases of community response to environmental threats. The importance of community-level PA is partly psychological, in the same way that other forms of PA foster and support individuals’ personal sense of identity, stability, power, and development. However, community attachment differs from other forms of PA by connecting individuals to their neighbors and places throughout their neighborhood, town or city, thereby fostering and supporting a collective sense of *community* identity, stability, power, and development. However, what makes community PA unique is its integration in a complex and dynamic interpretive process linking both individual and community-level place and social cognitions, emotions, and behaviors, and we see this emerge in response to community-level environmental disruptions or threats which lead to collective actions, adaptations, or acceptance.

Incipient disruption enters an existing community context with community PA. The latter shapes the community response but is also shaped by the disruption in an interactive process. As was evident in the two cases, a disruption makes explicit the latent, taken-for-granted place-related meanings, identities, bonds and relationships. PA shifts from passive to active and self-conscious forms (Lewicka, 2011b) as some aspects of the place and the community become more salient. There is consolidation against the threat but there is also a multitude of new and diverse interpretations, or discourses of the threat as related to place; some discourses even favor the proposed change. In the case of the anti-fracking movement in Bulgaria nature-, community-, health- and resource-focused discourses were bridged by key concepts like “incongruity” and a common narrative to provide coherence and consolidation on a new level of place meanings. Attachments to place became more salient, and new place identities developed –oppositional, activist, protective, and sometimes solidarity, as in the case of environmental justice organizing. New local knowledge (or new appreciation of it) and a sense of empowerment emerge with regard to the new issue. New interactions – informal and organized – solidify as people discuss and act on the threat. The disruption also redefines the place: in the US case, state and county boundaries were mapped on the space of the Marcellus shale; in Bulgaria, the threatened area was expanded in different ways to regional and national levels, through the framing of the symbolic and material effects of the development. The expansion begot a new scale of community, of interpretive networks and forums, new diversity of interpretations, new levels of coherence, and new bridging connections. The expansion also allowed for a more powerful response – at a national (Bulgaria) or state (US) level, with a new legitimacy and a political sensitivity.

Like spatial awareness in general, place attachments are usually taken for granted. Yet they are powerful motivators for action to preserve and improve our communities for ourselves, our neighbors, and future generations. A disruption, paradoxically, can activate and collectivize in new ways existing PAs and translate them to social capital and action at the community level so that the full benefits of attachments to cherished places and people are realized.

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*Figure X.1.* A framework of individual and community place attachment influences on interpretations of environmental disruption and behavioral outcomes.

Community level variables

Place-based social interactions (networks, bonding social capital)

Place definition

Environmental disruption

Interpretive processes

Community response

(mobilization & action, adaptation, or acceptance)

Place (inter)dependence

Place bonding

Place identity

Bridging social capital

Neighboring &

citizen participation

Sense of community

(social bonding)

Collective efficacy

Individual level variables: Cognition Affect/Emotion Behaviors

1. See Mihaylov and Perkins (2014) for more details. [↑](#footnote-ref-1)
2. Not to be confused with sociologists’ use of “collective efficacy” as informal social control, neighboring, and sense of community. [↑](#footnote-ref-2)