The interactional approach to adaptive capacity: Researching adaptation in socially diverse, wildfire prone communities

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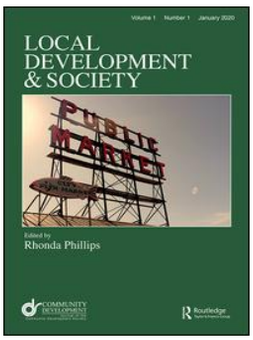

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ABSTRACT

This article outlines an approach for understanding the ways that local social context influences differential community adaptation to wildfire risk. I explain how my approach drew from Wilkinson's interactional theory of community during various stages of its evolution and describe a series of advancements developed while extending the theory to promote collective action for wildfire. Extensions of Wilkinson's work include organizing a range of adaptive capacity characteristics that help document differential community capacity for wildfire adaptation, introduction of "community archetypes" that reflect patterns of key adaptive capacity characteristics across cases, and development of fire adaptation "pathways" – combinations of policies, actions, and programs tailored to a range of community conditions. Throughout the article, I illustrate the utility of Wilkinson's conceptions about community and make the case for its continued guidance in promoting practically oriented research and extension efforts that contribute to tailored community development.

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Kenneth Wilkinson's writings on the interactional theory of community helped catalyze my ongoing scientific exploration of community adaptation to wildfire across the U.S. West. That work, which uses the interactional theory of community as a lens to synthesize wildfire-specific scholarship and advance theoretical understandings about collective action surrounding wildfire through empirical case studies, focuses on the ways that peoples' relationships with their landscapes, each other, and broader societal forces inform community development (for significant waypoints, see Paveglio et al., 2018; Paveglio, Carroll et al., 2012; Paveglio, Edgeley et al., 2019; Paveglio, Jakes et al., 2009; Paveglio, Moseley et al., 2015; Paveglio, 2021). My collaborators (many of whom are cited throughout this article) and I work to uncover, illuminate, and systematically document a corpus of social characteristics and subsequent interactions among human actors whose efforts help promote wildfire adaptations of various types (e.g. coordinated fuels reduction efforts, shared evacuation planning, consistent responsibility for personal property mitigations, and development of local organizations for fire response).

The purpose of this article is to discuss how ideas central to the interactional theory of community help frame and provide structure to my empirical and theoretical work on the ways that human populations adapt to wildfire, including emerging risk and management strategies or changing policy innovations surrounding associated resource management. I also outline how the in-depth work I conduct with collaborators across the U.S. West

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continues to extend Wilkinson's theorizing by advancing systematic means for documenting, characterizing, and tailoring efforts surrounding wildfire adaptation across a continuum of rural to urban communities whose adaptation efforts often vary greatly (for examples of applications or lessons from specific cases, see Paveglio, Abrams et al., 2016; Paveglio, Carroll et al., 2019; Paveglio & Edgeley, 2017; Paveglio & Kelly, 2018 and Paveglio et al., 2022). Ultimately, my goal is to outline how we came to view wildfire adaptation as a collective action issue that requires systematic inquiry about diverse community conditions and to illuminate how such inquiry helps reveal a range of practices, policies, programs, and messages that community members or professionals can use to tailor the engagement of diverse communities in fire adaptation that fits their local culture. Examples of specific tactics that emerge from our full approach begin in the later section titled "The interactional approach to adaptive capacity," while site specific examples can be found in citations throughout the article (as a starting point, see Paveglio, Carroll et al., 2019 or Paveglio et al., 2022). Systematic inquiry about variable wildfire adaptation, when it is humble and rigorous, can provide valuable insights for broader community or policy development that must be informed and sustained by the people who perpetuate the legacy of community in the shared environments that they continue to imbue with meaning.

Finding a theoretical lens

Some of my earliest research experiences were funded explorations of distinct wildfire adaptations being considered or promoted across the American West. For instance, I explored efforts to implement fire-resistant building, landscaping, and community fuel breaks (e.g. golf courses, green spaces) in large residential subdivisions near Rancho Santa Fe, California (north of San Diego). Such efforts were designed so that residents might passively shelter in their homes during fires or prevent significant property losses in their absence (see Paveglio, Carroll et al., 2008, 2010a). At the time, Rancho Santa Fe was one of the wealthiest municipalities in the US, with regal homes organized into neat, well-maintained neighborhoods complete with gated entrances, high walls, golf courses, and paid services. These subdivisions nearly constituted what Wilkinson (1991) might call their own local societies, embedded in, but also distinctly separate from, the sprawling chaparral and sagebrush-steppe hills north of San Diego. Interviews with residents in Rancho Santa Fe could be difficult, but I gained access within gated walls by making friends with key members of local social organizations (e.g. golf clubs, homeowners' associations), engaging gardeners who maintained the ornate (and somewhat fireproof) landscaping.

Experiences studying evacuation planning in Wilderness Ranch, Idaho, and work exploring awareness of fire risk among rural populations north of Spokane, Washington, were decidedly different than Rancho Santa Fe (see Paveglio, Carroll, et al., 2010b; Paveglio, Carroll et al., 2009; Paveglio, Carroll et al., 2011). They differed in terms of research approach and the ways that unique local social circumstances influenced the views, perspectives, and ultimate form of adaptations that emerged from the local interactions of people in their local environment. For instance, in Wilderness Ranch, a strong sense of shared purpose and willingness to organize had led to the development and perpetuation of an active local volunteer fire department, which became a vector for a wildfire plan featuring key sheltering points (i.e. easily defensible homes) where smaller

groups of neighbors could congregate to protect each other during a fire event (Paveglio, Carroll, et al., 2010b). Wilderness Ranch contained approximately 25 miles of narrow gravel or dirt roads in mountainous, heavily forested terrain characterized by "pockets" of homes, and where snow road maintenance was one basis for shared action among landowners.

It quickly became apparent through my work that the form and function of any discrete wildfire adaptation (e.g. the best channels for communicating mitigations to homeowners, agreement about suppression priorities, mandates for fire-resistant building materials) was not just about individual perspectives or choices of landowners. Instead, any collective action surrounding fire was about the ways that interaction among individuals – the local cultures or communities they had built – heavily influenced and reinforced the adaptation choices that local people were willing to make (for early influences, see Carroll et al., 2007; Jakes et al., 2007; Sturtevant & Jakes, 2008). Importantly, these interactions also included a broader array of professionals (e.g. firefighters, land managers, politicians) and organizations (e.g. representatives of environmental groups, timber industry officials, cattlemen's associations, farmer's co-ops) whose shared meaning about wildfire – what role it should play in the environment, what was at risk, or how best to address it – was necessary to advance any shared development. Though somewhat undefined, a key distinction for my collaborators and me revolved around whether and how individuals in smaller groupings developed, perpetuated, and marshaled their shared resources in the pursuit of varied collective action that perpetuated different relationships with fire in their particular landscape. The ultimate outcome of those efforts could differ dramatically across cases. Like Wilkinson, we came to consider adaptation as an ongoing, contextually relevant *process*, not a "one-size-fits-all" set of planning tools or mitigations that so often was the outcome of current science.

Early recognition of the above results led my collaborators and me to a search for an existing theoretical perspective that could help provide the foundation for expressing how collective action was the product of shared experiences, interactions, and meaning among human populations. Our growing body of results and the work of others also stressed the importance of place-based understandings, shared values about a local "way of life," influential norms about personal responsibility or contribution to agreed-upon standards, and differential trust of managers or use of science among populations (see Jakes et al., 2007; Kemmis, 1990; Luloff & Krannich, 2002; Rodriquez Mendes et al., 2003). Conceptual perspectives focusing on universal "predictors," individual choice, or generalizable strategies for promoting wildfire mitigations failed, in our humble opinion, to *tell the story* of how populations interacted to produce local capacity to adapt. Efforts focused on producing generalizable strategies were less helpful in explaining how outcomes of collective action came to be, and how future interaction – the actual or potential emergence of community – would invariably help influence what people in those areas would help organize, implement, or sustain as fire adaptation in their shared locality.

It was during this search for a theoretical perspective that a mentor, and one who had personally interacted with Wilkinson, introduced me to "the little green book" (Wilkinson, 1991). Wilkinson's writings about community and collective action provided a welcome departure from the static or sterile notions of interpersonal influences among rural populations. Community was not a given in Wilkinson's conception, and it was more than geographic delineations or the functions of local government. Community was a

dynamic property created by the interaction between people – it constructed shared resources, ways of life, and relationships with a place that reverberated across individual perceptions and actions (see also Wilkinson, 1970, 1972, 1986). Uncovering, characterizing, and articulating the consequences of such interactions among people with regards to wildfire – invisible filaments that helped weave the relationship between people and place into a powerful web of community – had the capacity to reconstruct the past, explain the present, or help build the future of local action. Instead of trying to "predict" individual action or patterns across arbitrary *locations*, Wilkinson's articulation seemed to invite an exploration of the ways that community *might* occur in irregular patterns, and to tell the story of its emergence as a means to promote positive change.

Extending a bridge

Needless to say, my collaborators and I found Wilkinson's work to be a valuable theoretical foundation in conceiving of the ways that human populations might respond to the evolving challenge of wildfire in their localities and in the ways they might respond to site-specific mitigations being promoted at larger policy scales (e.g. pursuit of Firewise communities, support for fuels treatments on nearby public lands, codes and ordinances for reducing fire risk to private property). While each of these aspects were influenced by individual perspectives, experiences and knowledge, they were more importantly patterned, in many localities, by the interaction among people who had forged local cultures or community through the development of what Wilkinson (1991) called community fields – interrelated processes of social interaction that create, sustain, and mobilize resources across disparate interests and in the service of some common interest or challenge (for wildfire-related examples, see Carroll et al., 2011; Paveglio & Edgeley, 2017; Paveglio, Abrams, et al., 2016; Paveglio, Carroll, et al. 2012). The day-to-day interactions of individuals, both directly and through "weak ties," had built a network of shared perspectives about the ways that local people might respond to increasing wildfire risk (their shared challenge), integrate agency professionals or local officials into their efforts, and engage with state- or national-level programs designed to help them "better live with fire." Yet it also became apparent that we would need to expand and extend notions from the interactional theory of community given our particular topic, broad geographical focus, and interest in explaining a variety of community forms.

Applying and extending the interactional theory of community to wildfire adaptation posed a number of questions, as does extension of any existing theory. Outlining how these questions came to be, and what they might mean for applying the theory, requires a brief bit of backstory. Historic approaches to wildfire management in the US have tended to treat residential populations and private interests (e.g. timber companies, grazing lessees, recreationists) utilizing or in close proximity to wildland vegetation as passive observers or receivers of negative wildfire outcomes (e.g. damages to structures, loss of crop, smoke impacts). Those historical approaches led to the development of highly organized institutions that suppressed negative wildfire events and allowed various public land management agencies the broad authority to manage fire-prone environments (Pyne, 2015). The hubris of that perspective became apparent as wildfire risk to residential populations and associated values (e.g. timber, recreational areas, infrastructure, clean air) increased exponentially, but by then, a broader array of residents were

living in and among fire-prone vegetation, including near public lands. The focus shifted toward promoting shared responsibility among at-risk residential populations, agencies, governments, and organizations that contributed to the challenges of "co-existing" with fire as a natural process. Everyone needed to do his/her/their part in this larger endeavor, but the diversity of populations living in the broad geographical delineation that distinguished those most at risk (the Wildland Urban Interface [WUI]) made that a challenging and multifaceted endeavor (for supporting discussions, see Brenkert-Smith et al., 2017; Jakes et al., 2007; Jakes et al., 2011; Paveglio & Edgeley, 2020; Paveglio, Edgeley et al., 2019; Williams et al., 2012).

Much of the WUI is rural. Residents can be dispersed across vast tracts of land or highly concentrated near population centers of varying sizes. The WUI also features residents who value and utilize the land in a myriad of ways (e.g. agriculture, recreation, ranching, hunting, timber, spiritual values). My ongoing work (and that of others) had begun to demonstrate that it was important to understand the WUI not only in terms of its biophysical and geographic elements (which were helpful, but incomplete) but as a collection of diverse populations who might promote and sustain collective action at various scales and in diverse forms by mobilizing their resources in the promotion of community fields that address wildfire as a shared issue (see Carroll et al., 2011; Paveglio et al., 2014; Paveglio, 2021; Paveglio, Carroll et al., 2015; Paveglio, Jakes et al., 2009; Paveglio, Nielsen-Pincus et al., 2017). Each landscape could contain different mosaics of local human populations with different features and/or interactions. The overlap or overlay of those diverse human populations across the landscape, and their interactions with the broader environment (e.g. resource extraction, interest in privacy, desire to be near public lands, development patterns), influenced potential variants in the way that local populations might enact or inhibit policy suggestions about wildfire mitigation strategies for individual landowners or groups (Paveglio & Edgeley, 2017; Paveglio, Carroll, et al., 2019; Paveglio, Moseley, et al., 2015).

Existing jurisdictions, landownership boundaries, or other geographic divisions (e.g. fire district boundaries, county lines, municipalities, public land borders) might help indicate where interaction between human populations led to differential actions surrounding wildfire adaptation. However, those geographic delineations also seemed insufficient in explaining collective action across a range of social conditions. Hence, my collaborators and I posed the following questions: Could WUI areas support "community," create community fields with regard to fire, or celebrate their shared way of life (what Wilkinson (1991, p. 16) called "communion") in ways that promoted positive relationships with a fire-prone environment? And how could we find ways to more quickly recognize similarities between human populations who might share similar trajectories of fire adaptation across landscapes so that they might derive common lessons? We felt these were worthy questions for advancing the science of wildfire management, and ones that an extension of Wilkinson's interactional theory could help us answer.

Operationalizing the interactional theory of community for wildfire

My collaborators and I concluded that a first step for understanding an unknown range of local and extra local interactions that might influence differential fire adaptation was to articulate a broad set of conceptual realms that could systematically organize antecedents to collective action. We wanted our inquiry to promote an inductive process of collecting

and using case study evidence to achieve two linked goals: (1) informing flexible local-, state-, or national-level policies that would support diverse means for achieving fire adaptation across varied social/biophysical contexts and (2) a social assessment process local people might use to promote community development that worked with the local culture they wanted to create/sustain. These goals are similar to, and flowed from, Wilkinson's conclusions about needs for broader rural community development. Yet, they required empirical contextualization for wildfire and across conditions if they were to become practical, useful research findings.

Wilkinson's writings had not focused on our particular topic or settings, but they had provided a starting point for inquiry using his notion of "social fields" – unbounded, emergent structures that defined how the elements of social life, and subsequent interactions among people, created a more coherent whole (Wilkinson, 1970, 1991). As such, we designed our conceptual realms to organize the features, relationships, values, or ties to external social systems that could tell the story of how interaction among people *might* explain unique outcomes or the emergence of a specialized "community field" relative to wildfire in a particular setting. We reasoned that identifying categories of interactions that could influence local social fields, and which could be used to identify how community fields might cut across them in promoting collective action, provided a systematic means by which to generate theory that others could use. Our initial efforts to develop conceptual realms used research results that my collaborators and me had generated, but it also built from significant community-related work that had already been conducted in the wildfire field (for examples see Carroll et al., 2005, 2007; Jakes et al., 2007; Jakes et al., 2011; Lee, 1991; Rodriquez Mendes et al., 2003). Importantly, our particular research focus needed to capture a broad corpus of *potential* characteristics that helped explain interaction among actors spanning cases or communities. Thus, we wanted to more comprehensively articulate characteristics that might differ across locations, and the form of those differences, so as to capture the diversity of ways in which local characteristics *could* intersect to produce differential community fields, spur community development or facilitate associated collective action (for early examples, see Paveglio, Jakes et al., 2009 Paveglio, Carroll, et al., 2010b).

My collaborators and I used existing literature and lessons from our own work to propose four broad "realms" of characteristics: (1) place-based knowledge and wildfire experience; (2) interactions/relationships among residents; (3) demographic/structural characteristics; and (4) access to scientific/technical knowledge networks (see Figure 1 and Paveglio, Jakes et al., 2009). These realms captured a range of both tangible and intangible characteristics of social life (what we collectively termed local context) that might intersect to promote the collective will, resources, and collaborative efforts that allow human populations to reduce their exposure or impact from wildfire while promoting it as a natural process (what we call adaptive capacity). Importantly, the conception argued for consideration of the informal interactions among members of a shared place (e.g. what Wilkinson associated with the "strength of weak ties"), varied connections between people and their landscape, relationships with outside entities (e.g. firefighters, land management agencies, local government), and ways of generating or understanding scientific information (e.g. formal science, outreach, traditional knowledge). Many of these lessons were apparent across literatures on natural resource management and social

functioning, but they were often excluded for their complexity when attempting to generalize across populations.

My collaborators and I contended that a broader accounting of characteristics within each of the above realms could help better tell the story of any possible adaptation among populations. That accounting also included the distinct form or influence that specific characteristics exerted on emergent social interactions that might create community fields. We hoped that a more systematic documentation of characteristics influencing such interaction might lead to strategic approaches to produce positive change that local people would take responsibility for maintaining. Likewise, the development or activation of adaptive capacity – that is, the ability of interacting individuals to work together in the pursuit of common goals and celebrate the bonds it created (i.e. communion) – seemed to leverage Wilkinson's notions of community fields while acknowledging that community might be a matter of degree across populations. Our use of adaptive capacity also linked notions about community fields to research from hazards and climate change that implicated the potential for collective action in response to shared challenges or changing conditions (see Norris et al., 2008; Wall & Marzall, 2006).

My collaborators and I used our early organization scheme for local social context to help explain cases of adaptation across different locations, including applications to neighborhood-level residential mitigations, evacuation actions, positive or negative interactions between residents and firefighters during fire events, and varied support for organized programs to improve fire response (e.g. Firewise, volunteer fire departments). Yet we also collected lessons from associated wildfire work to progressively contextualize our ideas and explore their utility as a larger theoretical perspective (see Carroll et al., 2011; Jakes & Langer, 2012; Jakes et al., 2010; Paveglio, Boyd et al., 2012; Paveglio, Norton et al., 2011; Paveglio, Brenkert-Smith et al., 2015 for specific examples). It soon became clear that we would need to systematically document a more detailed set of characteristics that researchers or practitioners might use to help understand the range of forms that emergent collective action surrounding wildfire might take and the ways that community might influence that action. That effort, we reasoned, could make the *process* of understanding, harnessing, or influencing the interactions among community members more tangible as the field moved increasingly toward positivistic or deterministic notions of action.

Providing plot points for an unfolding narrative

Ongoing empirical work and experiences with stakeholders grappling with fire adaptation continued to guide my process, and reflect what my collaborators and I saw as Wilkinson's notions of inductive inquiry. For instance, my work with collaborators in Flathead County, Montana, focused on developing and simulating alternative futures for landscape-level fire management given varied scenarios for land-use management, forest management, climate change, and the potential behaviors of private landowners (for examples of that work, see Paveglio, et al., 2013; Paveglio, Prato, et al. 2016; Prato & Paveglio, 2014, 2018).

Working with diverse populations in Flathead County, and comparing those efforts to other case studies across the U.S. West, provided unique opportunities to explore how very different communities might emerge across broader landscapes. It also deepened recognitions that community did not always adhere to tidy (or existing) boundaries, especially in rural locations. My collaborators and I used our research among a cross-

section of populations in Flathead County as an opportunity to co-develop characteristics with variable expressions across populations (for effort, see Paveglio, Carroll et al., 2012; for an example of variability, see Paveglio et al., 2014). Unique combinations of those characteristics, we agreed, helped better explain or posit differential support, enaction, or planning for wildfire risk adaptation efforts (e.g. establishment of residential fuel breaks or focus on vegetation management around individual properties; development of shared fire response capabilities or self-reliance; restricted development in fire-prone areas) (Paveglio, Carroll et al., 2012). We found that the resultant characteristics could be nested within each of the "realms" in Figure 1 (see numbered inserts) as a further means to help more quickly make sense of social diversity in a given place. Similarly, the tangible recognition of that diversity in local context helped implicate an important need to tailor fire adaptation to the unique communities that might emerge across the WUI.

A slightly modernized form of the adaptive capacity characteristics is provided in Table 1. Each characteristic provides additional specificity and examples of population characteristics, perceptions, experiences, or linkages to broader society that help define the types of interactions that might influence adaptive capacity and resultant action (see Figure 1 for relationship). For instance, residents' perceptions and actions related to forest health or aesthetics might differ across populations as a result of varied local champions spearheading tailored efforts to leverage the unique place-based knowledge and wildfire experience among populations in the locality. Any interaction among social actors in this

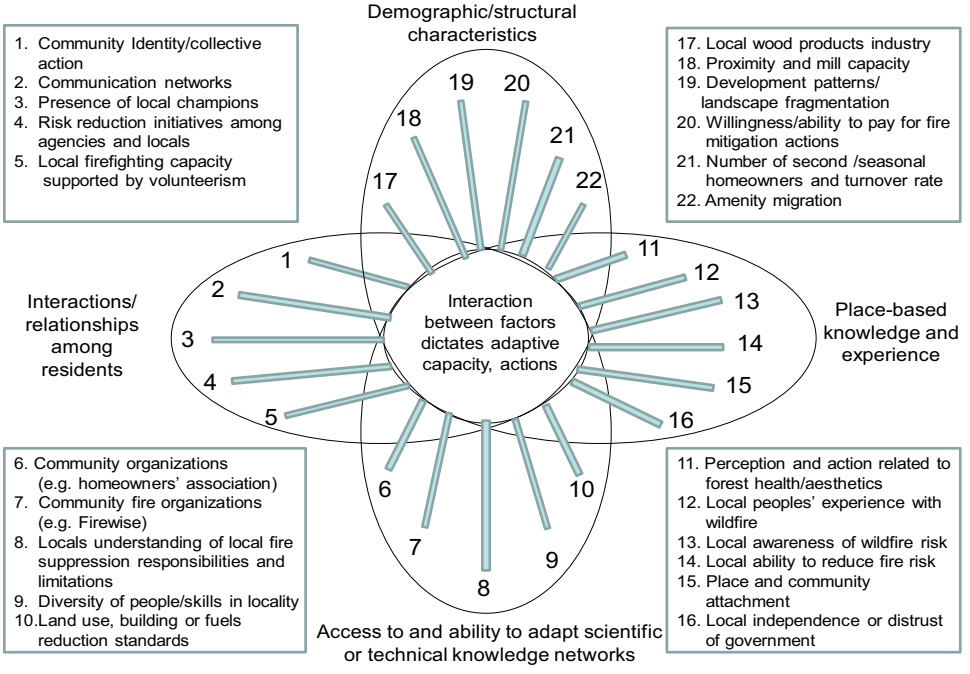

Figure 1. Characteristics influencing differential adaptation to wildfire among diverse communities (adapted from Paveglio, Carroll, et al., 2012).Each numbered characteristic in Figure 1 is represented as a linear bar in order to reflect that different communities may possess varying degrees or levels of each characteristic. The length of these bars does not necessarily reflect the magnitude of characteristics.

Table 1. Adaptive Capacity Characteristics for Wildfire Prone Communities (adapted from Paveglio, Carroll et al., 2012a, Paveglio & Edgeley, 2017; Paveglio, Moseley et al. 2015; Paveglio et al. 2018).

Conceptual category of adaptive capacity framework	Adaptive capacity characteristic	Sub themes or examples
Access to and ability to adapt scientific or technical knowledge	Community organizations	Local homeowners associations; land preservation or conservation groups; community-based development organizations, resource conservation districts, citizens' groups
	Land use, building or fuels reduction standards	County requirements for Firewise landscaping on new properties, homeowners association codes and covenants for fire-resistant building materials; requirements for residential fire sprinklers
	Community fire organizations	Firewise community groups; FireSafe Councils; subcommittees of community organizations dedicated to fire preparedness
	Diversity of people/skills in a locality	Residents have previous experience with: logging, grant writing, project management, law enforcement, emergency management, firefighting, or land management. Residents have influential ties to government officials
	Locals understanding of fire suppression responsibilities and limitations	Personal responsibility for fire mitigation vs. high expectations of firefighting service; Understanding of limited resources for fire response
Place-based knowledge and wildfire experience	Perception and action related to forest health/aesthetics	Forest health as a motivation for vegetation management vs. privacy as barrier to forest treatments; preference for no active management
	Local peoples' experience with wildfire	The frequency of and impacts previous fire events have had on community members
	Place and community attachment	Strong bonds with physical landscape; Strong bonds to community, human relationships in place
	Local independence or distrust of government	Opposition to standards and codes; ability to manage vegetation and/or fire risk without outside help; distrust of government officials
	Local awareness of wildfire risk	Understanding of area fire regimes, fire risk; Understanding of forest/range health and whether the area needs fuels management, fire
	Local ability to reduce wildfire risk	Capability to perform fuel reduction, modifications to structures (e.g. home retrofitting) or infrastructure (e.g. ingress/egress, power transmission) to reduce wildfire risk
Demographic and structural characteristics	Development patterns/landscape fragmentation	Size of average parcels, continuity of fuels across management or property types; housing patterns; average housing price; proximity to wildlands
	Local wood products or industry capacity	Local and regional demand for logs or biomass; price paid for logs or biomass; local employment in forest products industry; proximity and capacity of other industries for resource use (e.g. grazing, haying); trends in number of contractors or workforce over time
	Proximity and capacity of mill or other natural resource facilities/resources	Hauling distance of material from fuel reduction sites; presence of local mills; proximity of grazers interested in leases
	Willingness/ability to pay for fire mitigation actions	Perceived cost effectiveness of mitigations; available capital (income or savings) to invest in mitigations
	Amenity migration	Number of residents moving to area based on natural or cultural amenities; conversion of economies due to in-migration/tourism
	Number of second/seasonal homeowners and turnover rate	Average residency time; proportion of residents that do not live in the area full-time; number of second homes

(*Continued*)

Table 1. (Continued).

Conceptual category of adaptive capacity framework	Adaptive capacity characteristic	Sub themes or examples
Interactions and relationships among residents/ stakeholders	Community identity/collective action	Common hardships; shared values or norms; experience mobilizing collective resources; willingness/ability to mobilize collective resources (e.g. work together)
	Communication networks (e.g. formal and informal)	Primary means of information sharing among locals (e.g. formal and informal); sharing of information among agencies and/or locals about wildfire or natural resource management
	Presence of local champions	Firewise leaders; active local fire chiefs; agency outreach specialists; community-based organization leaders, knowledgeable longtime residents; county supervisors or commissioners; influence of local champions on community members
	Risk reduction initiatives among agencies and locals	Trust between agencies/organizations and among local residents; CWPPs; community fuel breaks; codes and standards for fire mitigations; cost-share programs
	Local firefighting capacity supported by community volunteerism	Resources, training and number of firefighters; community support or participation in fire departments

context (e.g. deciding who might lead wildfire planning, structure of messages to initiate action, implementation or monitoring of specific mitigations) was likely to intersect with other characteristics such as the presence of existing fire organizations in the area, locals' willingness or distrust of land management agency representatives, and whether significant amenity migration or residential turnover in the region might make those collective efforts short-lived.

The ultimate utility of the characteristics is a means for working with local people to document the combination and expression of characteristics that help tell the story of who they are, and who they might want to be, through capacity building relative to fire. The characteristics provide a set of clues or indicators that help make the story of a place and any associated community easier to tell. They also provide a means for members of those local populations to take stock of their capacities before making careful choices about the sequence of actions that might help build or reignite community fields promoting wildfire adaptation (for argument, Paveglio, Moseley et al., 2015; Paveglio, Abrams, et al., 2016; Paveglio et al. 2018; Paveglio, 2021). Importantly, my collaborators and I found that characteristics subsumed under our realm of "Interactions and Relationships Among Residents" often played a central role in stakeholders' attempts to generate and innovate site-specific wildfire adaptation approaches. Participants in our research readily distinguished shared interactions, values, communication networks, or willingness to work with broader entities of the local society (e.g. state agency foresters, firefighters, NRCS officials, community planners, etc.) that dictated the variable scale at which collective action could occur. Each set of research populations defined these distinct populations – existing across a rural–urban continuum in the WUI and often transecting existing jurisdictional boundaries (e.g. fire districts, portions of municipalities) – as *communities* (for larger argument, see Paveglio, Boyd et al., 2017; for examples, see Paveglio & Edgeley, 2017 or Paveglio & Kelly, 2018). We felt these outcomes matched Wilkinson's (1991) notions of community as a boundless and specialized form of a social field, while also corroborating subsequent lessons about the ways that community could exist at small scales through linkages to a broader (i.e. regional) local society (Flint et al., 2010). Community *still* mattered, but tracing the patterned combinations of its invisible filaments across landscapes was an important empirical question that could only be uncovered by reflecting the experience of local people.

The interactional approach to adaptive capacity

My collaborators and I began calling our longitudinal effort to characterize social diversity and wildfire the Interactional Approach to Adaptive Capacity as a partial homage to the tradition outlined by Wilkinson. However, we also reasoned that subsequent steps were necessary to make the conceptual approach more relevant and usable among policy-makers, residents, and professionals working to develop community capacity to address wildfire risk. This was particularly important in the promotion of more specific actions that residents could contribute to broader wildfire management efforts, and which require some form of shared support, agreement, or contribution of resources that require interaction among populations (e.g. implementation of fire district taxes, creation of collaborative fuels breaks across private and public land boundaries, implementation of fire ban restrictions, establishment or priorities for community fire councils, etc.). The

logical next step in our efforts seemed to be one of verification – could we meaningfully characterize the social diversity of populations (and communities, where they existed) across the WUI using our conceptual characteristics? And could those characteristics be linked to consistent outcomes in the efforts local people were willing to adopt or innovate to improve their adaptation to wildfire? The result might provide another interim step toward designing and facilitating specific community development efforts that helped better account for the unique local context of an area.

My collaborators and I engaged a broader set of wildfire researchers to systematically revisit 18 past wildfire case studies across diverse locations in the U.S. West. The purpose was to document the form and expression of the adaptive capacity characteristics in our model across each case (if such characteristics were present). We looked for common patterns or expressions of local context among populations or communities, and the types of mitigations or planning actions they had undertaken. The result was a proposed continuum of what we called "community archetypes" – somewhat idealized combinations of characteristics (local context) that helped distinguish variable populations that might exist across the broad policy designation of the WUI (Paveglio, Moseley et al., 2015).

Populations that approximated different community archetypes often contained similar combinations of local social characteristics and associated relationships with their landscape that combined to produce very different outcomes in the mitigation effort or adaptation strategies they chose to undertake (see Carroll & Paveglio, 2016; Paveglio & Edgeley, 2017; Paveglio, Abrams, et al., 2016; Paveglio, Nielsen-Pincus et al., 2017). For instance, select characteristics distinguishing archetypes are provided in Table 2. Perhaps more importantly, the archetypes served as a heuristic for more quickly recognizing the key characteristics, and expression of those characteristics, that combined (through interaction) to dictate how populations in those areas developed adaptive capacity. Not all residents, land management professionals, or emergency managers could see the immediate utility in systematically documenting the story of a place and its associated communities. However, we found that they could use descriptions of other places and quickly identify that they might be dealing with similar social conditions. Such connections could serve as a valuable step for adapting lessons from other locations, or in stimulating dialogue about ways to strategically tailor wildfire-related community development to specific local conditions.

The archetypes can be used by segments of outreach professionals, fire managers, and residents hoping to promote change. Likewise, researchers like my collaborators and I could use the archetypes as footholds in a broader process of engaging local people about the shared resources they might strategically engage in community development leading to specific wildfire adaptation. For instance, we might use our accounting of local social context characteristics in a location to suggest key next steps for promotion of specific wildfire risk initiatives (e.g. coordinated use of farming/ranching equipment or operator capacity to augment fire suppression efforts) while explaining how such efforts were structured in other "working landscape/resource dependent" communities (i.e. one archetype) we had studied (see Paveglio, Carroll et al., 2015; Stasiewicz & Paveglio, 2017, 2018). The challenge to any new group of stakeholders concerned how best to adapt or reimagine such ideas given the site-specific conditions in that community or population. Examples of those site-specific conditions included existing relationships between residents, local government or agencies, and how policies enabled or constrained the design

Table 2. Distinguishing Adaptive Capacity Characteristics among WUI archetypes (adapted from Paveglio, Moseley, et al., 2015).

Adaptive capacity characteristic	Formal suburban WUI communities	High amenity, high resource WUI communities	Rural lifestyle communities	Working landscape/resource dependent WUI communities
Place attachment	Tied primarily to social networks, exclusivity	Tied primarily to outstanding outdoor amenities	Primarily tied to rural nature, wildlands	Tied primarily to "working the land" intergenerational ties
Local independence or distrust of government	High trust in government; less local independence	Relatively high trust in government; relatively low independence	Not distrustful of government but more likely to work on their own	Highly independent and distrustful of government
Perception and action related to forest health or aesthetics	Wildfire problem framed as fuels reduction	Mitigations linked to ecosystem health and aesthetics	Mitigations linked to forest health, fuels reduction, wildlife habitat	Mitigations linked to forest health, fuels reduction, wildlife habitat
Local ability to reduce wildfire risk	Little to no local ability to reduce fuel loads	Less local ability to reduce fuel loads	Higher local ecological knowledge and ability to reduce fuels	Residents have highest local ecological knowledge/ability to reduce fuels
Land use, building or fuels reduction standards	Local restrictions and strict enforcement	State or county restrictions and push for local; no enforcement	State or county restrictions and push for local; no enforcement	No restrictions
Amenity migration	"Gentrified" amenity migration already occurred and stabilized	Significant and ongoing amenity migration	Slower amenity migration to "rural" settings	Little to no amenity migration
Diversity of people/skills in a locality	Predominantly professional skills	Predominantly professional; some resource management, emergency services skills	Near equal amounts of professional, resource management and emergency service skills	Primarily resource management, local ecological knowledge, less professional skills
Communication networks	Mostly formal (e.g. programs, news, outreach)	Combination of formal and informal communication (e.g. social networks, friends)	Primarily informal with formal networks as a compliment	Predominantly informal, little to no formal networks
Collective identity	At small scales and tied to exclusivity, amenities of area	At community or drainage scales; primarily tied to natural amenities and recreation	At community or drainage scale; tied to rural lifestyle, challenges	At drainage or county scale; tied to working the land, intergenerational ties
Development patterns/ landscape fragmentation	High-end subdivisions or gated communities	Relatively high density, low sprawl	Lower density rural, more difficult ingress and egress	Development limited by landscape features; low density rural
Personal responsibility for fire protections	Personal responsibility required through formal programs	Mixed opinion with leaders spearheading programs	Lack of professional capacity prompts grassroots efforts	Residents take primary responsibility due to lack of services
Number of second or seasonal homeowners	Primarily high end primary homes; second homes elsewhere	Higher proportion of second homes	Mixed second homes and primary residences	Mostly primary homes; few second homes
Collective action	Collective action centered on social issues (e.g. clubs, common areas); can include fire	Collective action centered around environmental management and fire	Collective action centered around rural challenges (e.g. road conditions, water use, fire)	Less collective action (mostly individual); agreement about resource use
Presence of local champions	Multiple champions representing professionals and locals	Multiple champions representing professionals and locals	Local resident Firewise "spark plugs" lead the charge	Local champions come primarily from NGOs or agencies

of any program implementation. Reengaging or challenging stakeholders to dispute our conclusions about the expression of local context could prompt them to innovate new ideas. In those efforts, we could see glimmers of our approach becoming a process for community development.

Despite interest in the archetypes, outstanding cautions and considerations remained. To begin, there is a tendency for other researchers, professionals, practitioners, and community members to reify the archetypes as definitive or mutually exclusive categories rather than a continuum of local social conditions that are likely in a dynamic state of change. I would suggest that communities do not always fit neatly into defined categories, but their similarity to archetype patterns articulated in data can help populations find others with similar context and engage in a broader dialogue about the processes and tactics they could take to build adaptive capacity in the pursuit of tailored outcomes. Likewise, the archetypes and the adaptive capacity characteristics they are based on are not necessarily comprehensive. The process of documenting local social context, characterizing the resultant patterns, and matching them up with a range of acceptable community development objectives is, at least to me, the most important and practical outcome emerging from the work (for a related argument, see Paveglio et al., 2018; Williams, 2017 or Paveglio, 2021). The process of systematically documenting local context implicates both the wildfire-specific resources and broader influences on community that might facilitate directed action. My continued work in particular places, and with an eye toward uncovering new or understudied combinations of local social context (e.g. for instance, what my collaborators and I call "off the grid/back to the land" or "commercial and highly developed WUI" communities), indicates that there are likely other community archetypes that could help expand our conception of variable fire adaptation (see Paveglio, Carroll et al., 2019; Paveglio, Edgeley et al., 2019; Paveglio et al., 2022). This is especially true given that the relationships between people and their environment continue to change. As a result, our challenge to participants in each case is to help us expand the potential corpus of adaptive capacity characteristics or examples of their expression. Such efforts help us provide tangible meaning to the important interactions that are the true core of the perspective and essential to community development.

Finally, there is the enduring challenge of treating "community" as an emergent and dynamic *process* given the multitude of definitions that scholars, policymakers, and practitioners continue to ascribe to the broader concept. The conception of community used by my collaborators and me is one guided by Wilkinson's (1991) articulation, subsequent articulations of that tradition (Flint & Luloff, 2005; Flint et al., 2010; Theodori, 2005; Theodori & Kyle, 2013), and our own empirical experience. Community occurs when diverse individuals come together to act collectively – to mobilize their resources, capacities, and shared passions to address common issues like wildfire. The daily interactions and extraordinary circumstances among such people build relationships, imbue places with shared meaning, and create the social systems that sustain their collective way of life through the development of community fields (see Paveglio, Carroll et al., 2010b; Stasiewicz & Paveglio, 2017; Paveglio, Carroll et al., 2019 for examples). The legacy of those interactions influences potential for community to emerge in the form of positive collective action (for extension to broader risk research, see Paveglio, Boyd et al., 2017). Such dynamics can be difficult to neatly map in a Geographic Information System, display in a flow diagram, or apply to arbitrary units such as Census tracts, but it seems

much contemporary research or community development suffers when its organizers avoid the challenge of understanding those more intangible truths.

It is for the above reasons that my collaborators and I believe it is important to never assume that community exists when choosing initial participants and boundaries for a study or before beginning efforts to work with populations about wildfire and broader resource management. Instead, we use our case study selection or initial assessment of a place as an opportunity to explore with key informants the scales at which existing collective action of various types might be possible or have occurred in a place. We ask questions about the existing relationships among residents and with outside agencies, shared values, connections with or uses of landscapes, and broader societal requirements (e.g. emergency services, groceries, gathering places, etc.) that might indicate the presence of communities across a landscape. That is, we look for a combination of adaptive capacity characteristics that indicate abilities, willingness, or past shared actions that indicate the presence of past community fields, and the potential for them to emerge given the right challenge or catalyst. The ultimate assignment of community is not up to my collaborators and me, nor it is it a binary choice. At best, our research can reflect or illuminate the interactions that allow community to emerge, describe the degree to which associated community fields might help promote positive change, and engage people with suggestions about how they might influence those interactions to build capacity. Community is a matter of degree, and it may not be present among every population. Those results can be challenging for researchers, policymakers or managers looking for comprehensive, aggregated data that leads to generalizable answers. However, it is an enduring lesson that our experience and existing ideas built from Wilkinson's work seem to corroborate as the best way to avoid prescriptive, context-absent solutions. It is a more humble way to engage local people in the co-creation of their own development.

Fire adaptation pathways and the promise of process

My collaborators and I could use the Interactional Approach to Adaptive Capacity to help suggest or co-develop tailored suggestions for advancing context-relevant wildfire adaptation in the various locations we visited for research. However, we lacked the capacity to make those isolated insights relevant to a broader audience of diverse communities at risk from wildfire or policymakers faced with the task of creating flexible policy that could promote local change. We reasoned that a subsequent advancement in our approach would need to systematically document a range of more detailed actions that various communities might be able to consider when charting their own "path" toward a fire adapted future that had to fit their local culture. We began by conceiving of varied "fire adaptation pathways" as combinations of policies, programs, incentives or capacity building actions that diverse archetype communities might use to promote locally tailored community development for specific fire adaptation outcomes (Paveglio, Abrams et al., 2016; Paveglio et al., 2018).

My collaborators and I used our ongoing case study work, broader research on wildfire management, and practitioner experience to outline two linked schema for systematically uncovering, documenting and testing the components of potential "pathways" across a range of socially diverse conditions. Again, the purpose was not to presume or assert that such considerations were the only way to conceive of capacity development. Rather, it

Table 3. Considerations for Proposing Diverse Wildfire Adaptation "Pathways" (adapted from Paveglio et al., 2018).

Broad considerations for adaptation or collective action	Example considerations
Ways to promote property-level residential adaptation	• Voluntary incentives (e.g. insurance premium reduction) vs. formal regulations (e.g. building codes). • Density of homes, development potential or political will to enact regulations • Collective mitigation programs (e.g. Firewise) • Resident perceptions or values about wildfire risk
Governance model/structure of collaborative processes	• Top-down (e.g. government policy or law) vs. grassroots organization (e.g. normative rules) • Formal planning programs (e.g. Community Wildfire Protection Plans) • Roles of local institutions (e.g. Rural Fire Protection Districts) and agencies (e.g. state lands, U.S. Forest Service)
Fuels mitigation foci	• The scale and type of fuels reduction treatments (e.g. fuel breaks, home ignition zone treatments, prescribed fire) • The goals of fuels reduction (e.g. risk reduction, landscape health, net return on timber) • Policy/planning impetus or guide (e.g. Collaborative Forest Landscape Restoration Program, state fuels reduction plan)
Adaptation leadership and relationships	• Agency leadership vs. local citizens (e.g. Bureau of Land Management vs. local homeowners association) • Level of representative involvement from various entities (e.g. emergency services, extension agents, local politicians, etc.) • Form of agency or institution input (e.g. consultation, organization, sponsorship)
Wildfire response/interaction with Incident Command (i.e. firefighting) teams	• Evacuation preferences or stay and defend • Prioritizing values-at-risk (e.g. structures vs. forage vs. sensitive species) • Local contributions to firefighting • Conflict or support for firefighting tactics
Wildfire impacts/short or longer-term recovery	• Impacts to locals (e.g. "loss of landscape" vs. "loss of livelihood" vs. loss of infrastructure) • Post-fire landscape rehabilitation needs • Post-fire assistance needs (e.g. housing assistance vs. slope stabilization) • Structure of recovery networks (e.g. volunteer efforts, FEMA)
Structure of mitigation aid or grants	• Most effective means to allocate resources (e.g. state cost-matching grants vs. community development organizations) • Type of mitigation aid (e.g. education, consulting or monetary) • Role of scientists or extension agents (e.g. technical assistance vs. project lead)
Resource management foci	• Resource utilization vs. resource management • WUI focused vs. landscape-level health or restoration • Considerations for wilderness and other protected areas
Means of communication, Message framing	• Formal channels (e.g. media, extension publications) vs. informal networks (e.g. word-of-mouth, local clubs) • Message source and legitimacy (e.g. Joint Fire Knowledge Consortium, local firefighters) • Message content and focus (e.g. potential damage to property vs. benefits of management to ecosystem)

was an attempt to provide a tangible range of ideas and actions that could be used by local people to approach the complex task of addressing wildfire in their locality. The first step in that process included a set of literature-driven considerations that any community would likely need to approach when planning for wildfire adaptation. Considerations were organized into broad realms and category-specific examples to help better conceive of variability across locations. I have included a replication of those initial considerations in Table 3, though I have omitted citations to the large body of supporting literature

corroborating each consideration to conserve space (for that full list, see Paveglio et al., 2018).

My collaborators and I used accumulated lessons from our ongoing case study work and other work on wildfire adaptation to propose specific forms of proposed adaptation pathways for two of our archetype categories. These proposed pathways served as an example for how local leaders might meaningfully combine different design considerations, recruitment strategies, or implementation efforts in ways that were tailored to site-specific conditions (see Paveglio et al., 2018). For instance, we outlined how populations with social conditions approximating "high-resource, high-amenity WUI communities" were often more supportive of top-down regulations/codes to manage wildfire risk among private properties (governance model/structure of collaborative processes), associated formal standards such as requirements for fire resilient building construction or vegetation management near homes (ways to promote property-level residential adaptation), and preservation of "natural" conditions through associated presence of special interest groups focused on environmental causes (resource management foci). Conversely, populations with social conditions approximating "working landscape communities" were often much more supportive of local, grassroots organizing due to a distrust of agencies or government (governance model/structure of collaborative processes), sought to harness agricultural, farming, or timber management practices as a means to treat private fuels because mitigations around homes were already in place (ways to promote property-level residential adaptation) and emphasized responsible *resource utilization* policies (timber, forage resource or agriculture) as a means to manage fuels at larger scales (resource management foci).

The above are merely isolated examples of the many pathway components initially proposed across each archetype (for an initial accounting across more conditions, see Paveglio et al., 2018). Yet they demonstrate how the interaction of local context characteristics in each hypothetical location, organized into more coherent categories (archetypes), and using associated considerations for the foci of potential community development efforts (pathway components) might help meaningfully explain a range of likely, but divergent, adaptation strategies to pursue in such areas. Articulation, verification, and expansion of pathway components were still necessary, but their development had also brought my collaborators and me full circle. We could use the various steps in our research as a comprehensive system for determining unique communities in a geographic area, explaining emergent collective action, or identifying a range of potential adaption strategies that could be tailored to different local context conditions (see Figure 2). We had a theoretical approach, and a rough process by which to apply it.

My ongoing efforts to study diverse human populations grappling with what it means to "co-exist with fire" now utilize the accumulated characteristics, patterns, potential strategies, and theoretical lenses my collaborators and I developed as a system through which to more quickly think through how best to engage local people in the promotion of adaptation that suits their circumstance. That engagement can take different forms or empower different local champions depending on the existing strengths, goals, or mitigations a community already has in place. In fact, much of my ongoing work is concerned with understanding whether and how adaptive actions may be sequenced in tandem with the development of the local capacity to produce them. Though my collaborators and I were always interested in research supporting community development, we have begun to more

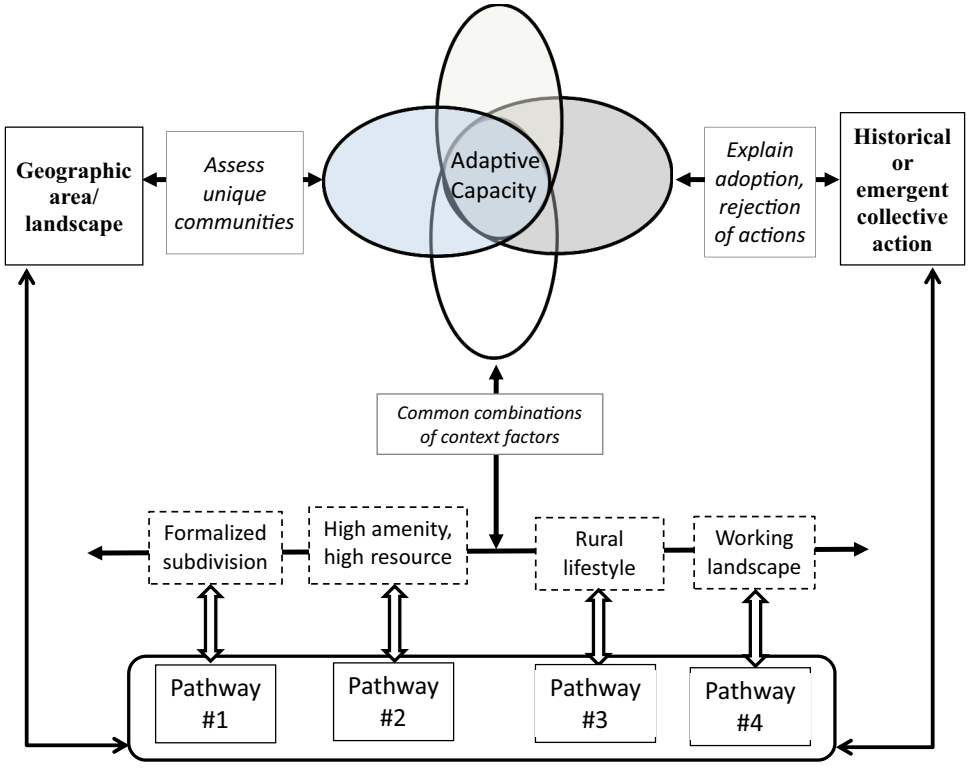

Figure 2. Development and uses for the Interactional Approach to Adaptive Capacity. The approach can be used to determine unique communities in a geographic area, explain emergent or historic collective action, or identify potential strategies best suited to local context through the systematic documentation of local social context. Meta-analysis of cases using the interactional approach has uncovered a continuum of "archetype" communities (e.g. formalized subdivision; high amenity, high resource) that share common combinations of social context. Each "archetype" community would likely have a different "pathway" for fire adaptation (adapted from Paveglio et al. 2018).

explicitly focus on how the interactional approach to adaptive capacity might serve as a foundation for transactive processes that allow local stakeholders to best capitalize on their circumstances (e.g. create community fields) in the promotion of collective action surrounding wildfire.

Examples of recent and ongoing work help illuminate this shift toward a more experimental process of community development. One project used interactive focus groups to engage diverse community members spanning five western states. The interactive focus groups challenged participants to rate the utility and applicability of varied "pathways components" given the specific context of their community. We then used results from each rating to explore the reasons behind shared choices, discuss differences of opinion, and challenge participants to design a more comprehensive blueprint for collective action surrounding fire in the locality. The results (and continuing case studies) verify the presence of very different pathways among diverse communities sharing patterns of associated local context and promote a way of looking for strategic actions that can

develop local capacity for future collective action (or the emergence of community fields) (see Edgeley et al., 2020; Paveglio, Edgeley et al., 2019).

Another recent effort engaged a consortium of residents, firefighters, emergency professionals, politicians, and land managers to help distinguish unique communities across a broader landscape and catalog how the local characteristics defining each might structure community development efforts that best fit the local culture of those places. We used participatory mapping, examples of adaptive capacity characteristics, descriptions of the existing archetypes, and potential pathway components as waypoints in facilitating those processes, but with the explicit premise that any effort still requires careful adaptation and innovation to the unique context of a population. Likewise, my collaborators and I have begun to use our work across landscapes, and in response to federal policy calling for wildfire management at larger scales, to document and explore what we call "social fragmentation." By social fragmentation, we mean the variable nature of human perspectives, values, relationships with the landscape, skills, or willingness to work together that will influence the occurrence, size, and characteristics of communities emerging across a broader region (see Paveglio, Carroll et al., 2019; Billings et al., 2021). If community implies the interaction, cohesion, cooperation, and communion that allows shared action, social fragmentation might help us understand its dialectic force – the processes, circumstances, or influences that inhibit the expression of community or community development across locations, and which might restrict the growth of broader "regional fields" that allow distinct communities the means to develop their collective potential (Paveglio, 2021).

The latest effort to make my ongoing wildfire research relevant for community development aggregates lessons from ongoing projects into a tool that community members, policymakers, or practitioners can use to better tailor wildfire adaptation across diverse human populations (see Paveglio et al., 2022). The "Fire Adapted Communities Pathways Tool," which was created in collaboration with practitioners from the Fire Adapted Communities Learning Network (FAC Net), provides a step-by-step, facilitated processes for building adaptation pathways in response to a range of site-specific community conditions. The pathways tool provides expands more comprehensive pathways for each archetype, introduces a new community archetype, and organizes pathway components using practitioner-oriented categories developed by FAC Net staff. The initial release of the pathways tool is in a paper format, but an interactive web version is currently in development.

Users of the pathways tool first engage with a set of considerations about community (including notions adapted from Wilkinson) before defining the community that will be the focus of their effort. We encourage users to deliberate as they identify the community that will be the focus of their effort – including how their assignment of community matches the local circumstances, values, relationships, and connections to place that our work and the tradition outlined by Wilkinson identify as important precursors to collective action. Users are then provided with multiple methods for selecting a community archetype that best matches their existing community conditions, and which can be used as a starting point in suggesting a "menu" of wildfire adaptation practices that may work well given their local conditions (see Paveglio et al., 2022 to download the initial tool). Each community archetype features a customized graphic that organizes unique considerations, resources, and examples of adaptation practices best suited to its corresponding

conditions, though all archetype graphics are organized using the same *categories* of practices to allow for comparison across conditions/communities. Finally, users are provided with step-by-step processes and worksheets that help refine, prioritize, and consider the feasibility of their customized fire adaptation "pathway" when planning future actions, including the opportunity to consider a wider range of adaptation practices that might apply across other archetypes.

Notes on an emerging story

The interactional theory of community, and Wilkinson's exploration of its utility, captured my imagination because it seemed less like a *prescription* and more like an invitation to a new *way of seeing*. It provided the opportunity and the foundational considerations that allowed my collaborators and me to construct adaptive cycles of longitudinal inquiry for better understanding differential collective action surrounding wildfire. In reading *The Community in Rural America* again in preparation for this article, I yet again learned new things, challenged my own understandings, and considered old and evolving ideas in a fresh way. That seems like a clear hallmark of theoretical quality – a set of ideas, thoughts, and considerations whose lessons continue to become apparent as experience helps reveal their additional use.

The challenge with efforts such as the interactional theory of community – invitations to pursue, develop, and harness *ways of seeing* the somewhat invisible threads that structure local life – is that that they require users willing to undertake the burden that is *learning to look*. It takes time, dedication, discipline, empathy, and the development of skills to understand the varied ways that community might emerge across diverse places and suggest ways it might meaningfully influence any of the challenges that face rural communities. It is only now that I might consider myself a journeyman in that endeavor. Not all policymakers, politicians, managers, or residents have the time or the willingness to apply lessons about community so intently. Nor, do I fear, that the nuanced and in-depth effort it takes to apply Wilkinson's ideas to research or extension appeal to many scholars whose survival increasingly depends on "building a brand" through a treadmill of publications, use of secondary or big data, and invocation of interdisciplinary concepts that reimagine old ideas. That is not to say that any of the aforementioned people do not care about their communities and community development, or that large datasets and modeling efforts are not of great utility to various fields. However, it might mean that there still is a specialized need for Extension professionals, community leaders, and scholars who focus on making the important considerations of collective action, community fields, or interaction among actors visible through their efforts. It might be useful for funding agencies and other governmental bodies to revisit their support for such efforts, especially when reigniting the land-grant missions that might yet guide efforts for many of our universities.

Wilkinson's tradition seems to imply that good research and extension should help inform the process or structure of interactions that help promote distinct forms of positive community development. Only local people can truly build such capacity through their ownership of the process. Likewise, the progression of my experience suggests a need to reengage linkages between research and extension in more meaningful way. Efforts by my collaborators and me have primarily been a research endeavor focused on practical

outcomes or insights for policymakers, residents, and professionals. It is only more recently that we have engaged in experimental or dedicated extension efforts to apply those lessons in a practical, systematic way for targeted community development (see Paveglio, Edgeley et al., 2019 or Paveglio et al., 2022). Engaging practitioners whose expertise is outreach, extension and implementation has been a valuable way to refine our efforts in ways that make them more effective processes for deliberation and eventual action.

My attempts to utilize and extend Wilkinson's work focus on providing a set of tangible steps for understanding lessons about community emergence or diversity relative to the particular pursuit of wildfire adaptation. Those steps, progressively contextualized means for inductively cataloging, categorizing, and forecasting influences on collective action, are designed to help make the process of "seeing" the emergence of community a bit less onerous. They also serve as a reminder that the study of community or its development is a longitudinal one that is context-specific. Research on community requires, if not demands, the willingness to interact in meaningful ways with the populations studied.

Others need not approach their research efforts the same way I have. It is my hope that my story provides some notes on the ways that the interactional theory of community can help structure research inquiry into community and its variable influence on topics (wildfire) that feature both social and ecological components. Rigorous attention to the social science that should help guide such efforts are of critical importance for addressing environmental issues, and they require specialists whose primary goals are to engage with, apply, or extend efforts like the interactional theory of community.

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