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Cumulative Impact: Digital Ethnography of Environmental Activism in the Mountain View Community

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FINAL PROJECT REPORT

Submitted in Partial Fulfillment of the
Requirements for the Degree of

Master of Arts
Communication

The University of New Mexico
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Chapter 1
Introduction

In partial fulfillment of the requirements for my master's degree in communication, I propose to collaborate with the Mountain View community to research, write, shoot, edit, and produce a digital ethnography in the form of a documentary entitled Cumulative Impact: Digital Ethnography of Environmental Activism in Mountain View (hereafter referred to as Cumulative Impact.) This documentary will detail the struggles of the Mountain View community in Bernalillo County, New Mexico, and its resulting achievements as it has advocated against environmental pollution. Chapter 1 provides a synopsis of the documentary's objectives and purpose, describes extant issues in the Mountain View community and in the literature, and discusses the overall significance of this project to the field of communication.

The Cumulative Impact Project has five fundamental objectives. First, it will include a systematic review of the literature regarding digital ethnography, community-based participatory research, and Critical Race Theory to assess how each impacts the community's environment. Second, this project will identify, and, where appropriate, integrate, variables of ethnography that researchers have previously identified (e.g., theories, paradigms, and constructs). Third, it will probe socio-political rhetorical arguments prevalent in current research. Fourth, the Cumulative Impact Project study will examine the methodological focus of communication scholars. Finally, using documentary form, it will share findings regarding the communicative discourses and patterns around environmental health and other shared values influencing the Mountain View neighborhood of Bernalillo County, New Mexico.

Statement of Problem

While digital ethnography is a growing genre in communication, there is a salient need to fill the gaps of knowledge concerning health communication using a digital format. Digital ethnography holds the potential of reaching larger audiences, incorporating more stakeholders, and adding previously muted voices – individuals from non-academic communities as well as communities of color – to health research dialectics. With limited use of this tool in the field of health communication, there remain untapped opportunities for intra-disciplinary work within the communication field (e.g., ethnography, performance ethnography, critical ethnography) and beyond. By combining ethnography and community-based participatory research as theoretical frameworks and digital ethnography as an approach, seminal opportunities may be discovered in understanding the role of environmental discourse in human behavior, promoting higher levels of community participation, engaging those who are most greatly impacted by environmental issues, and fostering positive social change.

Knowledge Gaps

While studies about ethnography and environmental communication have bloomed during the early 21st century, the Cumulative Impact Project adds to prior scholarly work by incorporating multiple theoretical lenses and digital ethnography to add to the body of knowledge in such areas (Cox, 2006; Dempsey, 2009; Fals-Borda & Rahman, 1991; Gaventa, 1993; Hammersley and Atkinson, 2007; Pink, 2001; Pink, 2007). By focusing on the Mountain View community, this project would make evident the influence that community groups can wield on political decisions made regarding their particular locations. Further, Cumulative Impact emphasizes the CRT tenet of naming one's own reality or storytelling to both analyze/

challenge power-laden beliefs and combat self-serving majoritarian mindsets. While the lenses used for this research would be those of digital ethnography, CRT, and community-based participatory research (CBPR), the focus of this work will be environmental activism. The end product would be as follows: (1) a 40-minute documentary targeted toward a mass audience and distributed widely through channels appropriate to such a product; and (2) data gathered for future use in the development of peer-reviewed scholarly journal articles aimed at academic audiences. Thus, this project would contribute to the literature of the communication field and to the appreciation of community activism's role in environmental issues in New Mexico.

The Cumulative Impact Project also seeks to enlarge upon themes found in the literature such as the disproportionate hazard waste siting of environmentally hazardous industry in communities of color and unequal protection against environmental threats (Bullard, Mohai, Saha & Wright, 2007; Commission for Racial Justice, 1987) and comparing them to challenges faced by residents of the Mountain View neighborhood. Themes that will serve as subjects of inquiry include the hazard waste siting 33 out of 35 Environmental Protection Agency (EPA) regulatory facilities by government agencies in this community; the possibility that harmful actions by corporations or lack of proper oversight by the government constitute environmental racism; the role of Mountain View residents' discourse in surviving, coping with, and removing environmental threats to the neighborhood; the process of building shared beliefs and values among Mountain View residents; and the building of an activism pipeline to foster sustainability of future environmental organizing efforts.

Purpose, Thesis & Research Questions

The purpose of this study is three-fold: (1) to document on-going efforts of Mountain View community leaders and residents to survive, cope with, and remediate environmental damage resulting from the hazard waste siting in their area of 33 out of 35 EPA sites; (2) to explore lives, unique culture, and continuing activism of Mountain View residents, as they seek to construct a reality that transcends their being targeted as a dumping ground for environmental pollutants; and (3) to encourage social action by offering ways in which people can not only procure knowledge and empowerment regarding environmental threats, but also pursue practical responses to alleviate them.

The Mountain View neighborhood has long battled against environmental injustice. While the EPA Office of Justice (2015) suggests that no group of people should bear disproportionate shares of environmental threats and promotes environmental justice through the fair treatment and meaning involvement of all people groups, Mountain View is one New Mexican community where residents continue to experience unequal protection against environmental hazards. Martinez (2016) describes discourse among residents regarding well water contamination as early as the 1920's with little to no governmental efforts to investigate or mitigate this problem. Price & Farell (2011) chronicle Mountain View's designation, along with the South Valley, as nuclear defense sacrifice zone as recent as the 1950's. As recently as 2016, neighborhood residents have battled against governmental efforts to increase industrial presence and to augment the 33 EPA regulated facilities already disproportionately placed in Mountain View neighborhood (Silva, 2016; Yoder, 2016).

This Cumulative Impact Project focuses upon on the 35-year period of Mountain View history beginning in the early 1980's when community organizing efforts became increasingly

galvanized. When a community infant was poisoned and hospitalized with "blue baby syndrome," a medical condition that causes an infant's hands, feet, nails, and skin to become bluish as a result of the blood's reduced ability to carry oxygen, community residents were in an uproar over the threat of potential suffocation of the area's most vulnerable citizens (Moore, 2015).

Over the ensuing decades, the Mountain View Community Association has addressed environmental concerns regarding noxious odors from the city's wastewater plant, worked to abate two EPA Superfund sites, and engaged in a myriad of other initiatives. Its organizing successes include the development of a community center, which provides child care, meeting rooms, and recreation for all ages; a neighborhood garden, where residents cultivate both humanity and the land; Bernalillo County Place Matters (now known as Place Matters New Mexico), an organization that evaluates consequences of plans, projects, and policies with particular emphasis on environmental conditions and promotes equitable health access in high-risk communities of color; and Valle del Oro, a 570 acre national wildlife urban refuge with a mission to serve not only wildlife and their habitats, but also grassroots community.

While Mountain View residents have experienced measurable gains to their quality of life, environmental threats continue to emanate in their neighborhood. The story of Mountain View's resilience in the face of environmental injustice deserves to be shared with a wider audience. This study argues that digital ethnography of the Mountain View neighborhood reveals social and discursive relationships that legitimize community knowledge, promote understanding of cultural systems, and promote social justice as a result of shared beliefs.

The Cumulative Impact Project will examine the following research questions (RQs) that focus on ethnography in a digital format:

RQ_1: How do community residents' stories communicate a reality that transcends their targeting as a dumping ground for environmental pollutants?

RQ_2: What kinds of shared beliefs/values are discussed among Mountain View residents?

RQ_3: How has community activism impacted decisions regarding environmental threats to the Mountain View neighborhood?

Responses to these questions hold significance because they constitute a guide for discovering how membership, identification, and identity are constructed. These questions are designed to aid in understanding how shared beliefs/values relate to communicative behavior in the Mountain View neighborhood. Using Community-Based Participatory Research (CBPR), we may better understand how other communities facing environmental challenges may challenge and transform their respective cultures through communication, including research culture.

In delivering the results of this inquiry through the documentary medium, this project aims to elucidate environmental injustices through community collaboration and cooperative engagement. The research investigator will collaborate with residents through attendance at neighborhood association and related meetings, participation in community events, and interviews with Mountain View Neighborhood Association (MVNA) leaders that have engaged in environmental activism. MVNA leaders not only serve merely as data sources, but also as partners in research work, who will be consulted for feedback regarding and approval of the

documentary results prior to official release. Using this medium, the researcher aims to achieve the following collaborative goals: 1) to inspire Mountain View residents to increasingly engage in counter-storytelling as a method of heightening awareness regarding their targeting a dumping ground; 2) to develop a digital media tool (for use in both the community and academia) to foster social justice in redressing institutional policies that have allowed this marginalized community of color to remain unequally protected from environmental threats; 3) to demonstrate the value of community expertise as a source of empirical knowledge; and 4) to build positive relations between academia and the community of Mountain View.

Significance

While peer-reviewed articles are increasingly addressing digital ethnography, there remains a gap in the literature regarding ethnography, and further, community discourses around environmental issues. The Cumulative Impact Project represents a fusion of scholarship in the combined areas of digital ethnography, CRT, and participatory research. It aims to promote collaborative partnerships with non-academic communities, include more culturally diverse voices, and champion higher levels of social justice regarding environmental issues plaguing one local community. This project holds the potential for providing a detailed understanding of the "pronesis," or action-oriented knowledge of a local social ecosystem (Flyvbjerg, 2001); the Mountain View community in Bernalillo County of central New Mexico.

Collaborative Partnership. Cumulative Impact utilizes a Participatory Action Research (PAR) orientation that views knowledge generation as collaborative and values the diverse experiences, skills, and expertise of Mountain View community residents. Through a process of digital ethnography and community engagement, this research intends to cooperatively document

emic or insider's perception of environmental challenges that continue to barrage this neighborhood. Examples of collaborative partnership include community meeting/activity attendance, interview gathering, and joint reflection on/community approval of the data collected. Through this process, all stakeholders can better understand the socio-political spheres, systemic forces that shape environmental concerns, and ways to foster change in the midst of oppressive social systems (Cammarota & Fine, 2008). This partnership holds the potential of serving as a mechanism for co-producing agency and hope (Mies, 1996), and building the capacities of community partners to both tell their own stories and improve their health outcomes (Delgado and Stefancic, 1993; Kreps, O'Hair & Clowers, 1995).

Diverse Voices. The Cumulative Impact Project will engage and empower the voices of for those least heard and most marginalized by environmental hazards in this community to share their sage wisdom and knowledge. It seeks to translate new voices from a community of color adversely impacted by environmental injustice and include those narratives to the discourse concerning research, policy development, and health outcomes. The outcomes of this multivocalic research orientation can be shared with the academic community and beyond as result of multimedia dissemination (Angrosino & Rosenberg, 2001).

Digital ethnography is one method to reduce the marginalization of those most effected by environmental problems, and ensure that these discourses and points of view receive vital consideration (Frey, 2009). Wallerstein and Duran (2010) argue that community-based participatory research not only engages and empowers communities, but also seeks to translate findings from research into interventions and activities that promote health equity. Hall (1999) highlights the importance of breaking the knowledge monopoly that universities have in research to recognize and include the participation of non-governmental community-based voices that

represent different power relations and interests. These voices are even more critical when more than 134 million Americans live within ‘vulnerability zones’ where industries manufacture environmental pollutants (Orum, Moore, Roberts & Sanchez, 2014).

Minorities and low-income communities carry an unequal burden related to hazardous facilities and waste sites and shoulder a disproportionate share of indirect costs, which include chronic illnesses and disabilities (Massey, 2004). Their resultant insights may not only deepen knowledge, but also provide complex and/or contradictory perceptions to the dominant narrative (Angrosino & Rosenberg, 2001). The inclusion and empowerment of diverse voices provides new avenues for boosting awareness of environmental challenges in Mountain View, increasing community activism concerning decisions affecting their local environ, augmenting capacity building, and contributing to the reduction health disparities (Cox, 2006; Gaventa, 1993; Schulz, Park, Israel, Becker, Maciak & Hollis, 1998).

Social Justice. Beyond understanding discursive cultures, digital ethnographers have opportunities to use research to promote health equity, improve quality of life for community residents, and shift imbalanced hegemonic and socio-political forces. The Cumulative Impact Project is significant in that it seeks to apply moral principles to the systems and institutions of society (Angrosino, 2005). Through the vivid and descriptive analysis offered in documentary form, this project can emancipate community vision, motivate people to struggle and resist oppression through moral authority, and inspire transformative inquiries (Denzin and (Giardina, 2009, pp. 11). First-hand accounts of environmental discourses may promote social justice through rich academic research that is co-created among both researchers and community residents (Frey, 2009). Such work provides communication scholars opportunities to partner

with marginalized and under-resourced communities to create counter-narratives and share objective findings that foster political action (Vannini, 2009).

This chapter furnished a framework of understanding to explain how the Cumulative Impact Project strengthens the field of communication by promoting collaborative partnerships with non-academic communities, including more culturally diverse voices, and championing higher levels of social justice regarding environmental challenges in the Mountain View community. An introductory overview of this documentary's purpose, objectives, and significance was also shared. Having described existing issues in the Mountain View community and offered a cursory discussion of the literature, Chapter 2 will more deeply delve into scholarly research regarding communication theory and the varied uses of ethnography in this project. It will also examine the lenses of CRT and participatory action research to further explore the role that community and environmental activism play in populations of color.

Chapter 2
Review of Literature

Theoretical Framework. Although the findings of Cumulative Impact are presented as a creative documentary, this study is, nonetheless, grounded in the literature and theories of communication. This chapter will explore three aspects of literature as a framework for my documentary. We will begin with the origin of ethnography and its interdisciplinary use; continue with its present influences in communication theory; and conclude section one with the potential applications for use in my project. Next, we will consider Critical Race Theory (CRT) as a lens for digital ethnography. This literature review will conclude with a discuss the varied use of Participatory Action Research methods as devices for enhancing digital ethnographic research.

Ethnography. Born out of a social and cultural anthropological tradition, this qualitative approach has been used across time and disciplines to understand culture. Early ethnographic fieldwork used narrative vignettes to describe people living in colonial environments and created cultural stories from the perspective of the researcher's place in the world. During this first dimension of ethnography, researchers utilized what Erickson (2011, p. 45) describes as an "encyclopedic approach" in that its goal was to collect factual data such as contact with *civilized* races, medical and anatomical observations, religion, laws, food, clothing, and navigation. Boas (1940) sought protection of cultural practices imperiled by colonialism and encouraged use of ethnography to promote more holistic approaches to understand individual cultures, photographic documentation, and artifact collections; to more deeply explore their sociocultural perspectives; and to foster greater attention upon linguistics. This philosophy continued through

the work of other anthropologists (Mead, 1928; Benedict, 1934; Whorf, 1956, and others). As recently as the mid-twentieth century, anthropologists continued to use the term ethnography as a description of the accounts of non-literate peoples (Radcliffe-Brown, 1952). Vidich and Lyman (1994, p. 25) have updated the description to be defined as "the science devoted to describing the way of life of humankind."

In its next dimension of use during the late nineteenth/early twentieth century, ethnography was utilized by American sociologists to inform and advocate for social change. This dimension would later serve as a building block for a new genre in not only sociology, but also communication. Booth (1891) shares narratives on immigrants in New York's lower East Side. DuBois (1899) chronicles demographic information, community history and groups, and local institutions of Philadelphia. In his monographs about the western Pacific, Malinowski (1922) demonstrates the use of a subject's point of view, vision, and everyday life as point of focus, in addition to factually accurate and holistic accounts.

While ethnographic impact has been helpful in increasing knowledge regarding social and cultural anthropological traditions globally, critics warn against the potential for illegal and unethical behavior. In the documentary "Secrets of the Tribe," Padilha (2010) chronicles the flawed anthropological methodologies of researchers, illegal and unethical behavior, and ill-regard for their subject's well-being. This documentary is based, largely, upon Tierney's (2001) book regarding the Yanomami people of the Amazon Basin, which reports on how ethnographers disrupted the Yanomami's way of life by exposing their existence to other researchers and causing a parade of new researchers to continue this process.

Padilha (2010) suggests that researchers traded information for machetes and steel axes, engaged in molestation and other formers of sexual impropriates, and contributed to measles

and exposure through which entire villages of people died. It also explores the disregard that institutions had in bringing responsible individuals to justice. While the American Society of Human Genetics (2002), Dreger (2011), and the International Genetic Epidemiology Society (2001), and others have refuted many of the claims in Tierney's book that served as source data for the documentary as misrepresentational, the release the measles virus and other "minor" incidents were confirmed. The aforementioned reports and many others emphasize the importance of researcher ethics in all populations.

Amidst the ongoing debates in academia, it is important to consider the adverse impacts and harmful histories that can be created by research intervention. Walter, Stately, Evans-Campbell, Simoni, Duran, Schultz, Stanley, Charles, & Guerrero (2009) remind researchers to be both aware of and sensitive to the research exploitation, historical trauma, devastation that well-intentioned, but faulty research fosters. The research goals should strive to out distance past exploitation patterns rather than replicate them. Prior faulty research has led some indigenous communities to begin protecting the rights to their own scientific knowledge production to avoid being treated at scientific objects or being the subject of "helicopter" researchers who refuse to have long-term investments in their chosen areas of research. Still, the opportunity for qualitative ethnographic research could be seminal for future communication study.

The Cumulative Impact Project represents a potential for long-term work between academia and the Mountain View community. As such, the research methods undertaken will refrain from internalizing colonization in such a way that holds indigenous knowledge in lower esteem. It will also exert great efforts be conducted in such The Mountain View community in Bernalillo County, New Mexico has been the subject of qualitative health impact studies and

several quantitative studies. Before we delve too deeply, let us, first explore communication theory and ethnography's influence upon it.

Communication Theory

Bormann (1980) uses the metaphor of an umbrella as a term for analyzing communication phenomena. Using this conceptual picture, theory functions as an encapsulation of similar communicative principles, practices, rules, and systems. While one important use of an umbrella is its service as a centralizing structure, another important function is its role as a protective shield. Communication theory must account for times when varying perspectives are not objectively covered; when instead, certain communicative perceptions, actions, and understandings are ignored or unequally valued by dominant cultures. A vehicle must exist to address the inevitable times when theorists, in their pursuit of truth, are partial in their coverage or in need of further engagement to challenge assumptions, assess interpretations, and/or explore multiple realities.

One pre-emptive vehicle to ameliorate pursuit of partial truth in research is the use of praxis, the application of communication knowledge and skills, to increase our understanding of real life phenomena. Duck and McMahon (2015) suggest that study of everyday communication is valuable in that meaning can be extracted from routine discourses of human interactions and relationships, and the impact of discourse on culture and even reality can be identified. Hammersley and Atkinson (2007) propose the use of wider contexts in interpreting the local implications of institutional and human actions. Other scholars focus upon ways that communication shapes events, acts, and styles every day communication (Carbaugh & Wolf,

1999; Townsend, 2004). Rampton (2009) notes the researcher's duty to view "practical activity" as the stuff of scholarly inquiry.

While it is important that researchers have opportunities to engage in metadiscourse, it is equally important that they implement practical theories about how humans process what they say and do in ordinary, everyday ways (Taylor, 1992). Craig (1999) provides a theoretical matrix that aims to create a coherent, rich, mutually relevant application of communication theories with the goal of applying them to a "practical lifeworld." A major goal of this schema is to foster what Craig calls a dialogical-dialetical coherence, an awareness of the *complementaries* and *tensions* among theories that would induce further engagement among theories and theorists. These metadiscursive frameworks provide structures through which communication theorists can test dialogues, explore power relations between them, and enrich understandings of language and culture (Craig, 1999). One such framework is ethnography of communication.

Ethnography of Communication (EOC). While I ultimately made the decision to not utilize EOC for this research, it is important to note its place in the field of communication. Hymes (1962, 1964) shifted the focus of ethnographic models from culture and linguistics to the role of speech in human behavior. By considering verbal, non-verbal, and context-dependent non-vocal uses, EOC encourages exploration of the role of speech in constructing human behavior in socio-cultural environments. Hymes (1974) further offers eight social units to promote discovery of cultural themes and communication patterns using the mnemonic SPEAKING – scene or setting (physical or psychological arena); participants (relationships and interactions); ends or purposes of interaction; act sequence (the order and form of the event); key (manner or tone of interactions); instrumentalities (communicative codes); norms (rules about behavior and interpreting meaning); and genre (types of events or speech acts).

Philipsen (1992) broadened EOC's use with the introduction of Speech Code Theory (SCT). Using speech as the unit of observation, SCT explores how members of speech communities use codes, symbols, and meanings that are socially constructed and have rules that govern communicative conduct. SCT's interpretative approach observes how people feel and talk and the words, phrases, and silences uttered by speech community members that serve as ethnographic symbols and evidence of the community's world view (Baillet, 2009). Through analysis of speech codes and the speaker's/hearer's cognitive process, researchers uncover shared patterns of knowledge, behavior, values, beliefs, and social organization in language; they gain enhanced understanding of cultural maintenance and change (Saville-Troike, 2003).

Carbaugh (2007) describes how radiants or hubs of cultural meaning are enacted in communication practice. When individuals talk, their discourse is literally related to the topic at hand, but also cultural in nature. Carbaugh cites that when people talk, they disclose "who they are, how they are related, what they are doing together, how they feel about what is going in, and about the nature of things" (2007, p. 174). As such, communicative acts embed codes in our speech and produce meaning to the participants. Meaning making has been an epistemological goal of all forms of ethnography, including digital ethnography.

***Digital Ethnography*.** A relatively new genre of the larger field of ethnography, digital ethnography integrates traditional epistemological goals of social storytelling with new technological media forms. It is developed out of the exigent need to use multimodal, social story telling research techniques that reflect and keep pace with an evolving technological society. Digital ethnography's embryonic stage of development is reflected, in part, by the myriad of names used to describe similar phenomena: digital ethnography (Murthy, 2008);

visual ethnography (Hine, 2000, Pink, 2007); internet-related ethnography (Postill & Pink, 2012); netnography (Kozinets, 2009); discourse-centered online ethnography (Androutsopoulous, 2008); cyberethnography (Robinson & Schultz, 2009); ethnography on the internet (Beaulieu, 2004); and ethnography of virtual space (Burrell, 2009), among others. Digital ethnography continues the traditions of interviews, observation of communication in the context of culture, and research sites. In addition, it examines these experiences in innovative ways to include multimedia (text, graphics, still images, audio, animations, and video) and hypermedia (similar forms, but web-based).

Digital ethnography liberates traditional social storytelling by situating it in new and varied contexts. Hammersley and Atkinson (2007) note the importance of re-contextualizing and reinterpreting discourses to more effectively address unique circumstances. Sava suggests that digital technology repositions classic methodologies into levels of more contemporary relevance offering "new tools and solutions to ethnological sciences" (2011, p. 52). Forsyth, Carroll and Reitano (2009, p. 214) note scholars and journalists are increasingly recognizing that "to use video recordings in research is to harness this wider cultural aspect which in turn can reveal the complexities of everyday experiences and realities." As classical ethnography has, in times past, matriculated from paper and pen to taped recordings and provided higher levels of accuracy and efficiency, digital ethnography continues this trend, while also providing occasion for new contexts and fresh interpretations.

Yet, digital ethnography's use is not without criticism. Scholars argue that digital documentaries sharing the work of environmental activists may be "image events" (staged protests designed for media dissemination) and promote their arguments as "images are capable of offering unstated propositions and advancing indirect and incomplete claims in ways that

function to block enthymemes and advance alternatives" (Delicath & DeLuca, 2003, p. 315). Other scholars suggest that "vernacular spectacles" may be created by community activists and citizens through vehicles such as YouTube to foster "a rhetorical and argumentative construction of the polarized *Other* crafted to heighten popular participation in the democratic process (Hess, 2010, p. 106). Still, Lester and Hutchins (2009) suggest that the adoption of these types of vehicles demonstrates the current media-savvy nature of users and points toward the appropriateness of employing these methods as digital (or video) ethnography to show information about participant's endeavors.

Ethnographic Implications. Because my environmental research intent was focused less on the communicative acts embed codes and their meaning production on the participants (Carbaugh, 2007) and more intent on the impact of communicative acts upon public policy, I chose to pursue Hammersley and Atkinson's (2007) ethnographic approach of methods to re-contextualize and reinterpret discourses in addressing unique circumstances, including how ethnographers gather data (p. 3):

1. People's actions and accounts are studied 'in the field' in everyday contexts rather than researcher created conditions.
2. Data gathering occurs through documentary evidence as well as participant observation and conversations.
3. Data collection is 'unstructured' in that there is not fixed research design and interpretive categories for what people do and say are not automatically built into the data collection process, but rather generated through data analysis.
4. There is an in-depth study of a single setting or group of people.

5. Data analysis reflects interpretation of meanings, functions, and consequences related to human action and institutional practices and their consideration in wider contexts.

This ethnographic approach investigates a particular aspect of the lives of the people – in the case of the Cumulative Impact Project, investigation of community residents' environmental awareness and activism – to find out how residents view the problems they face, how they perceive each other, and how they perceive themselves. While some shadowing will take place in this research, the lion's share of data collection will result from direct open-ended interviews will be pursued to promote expediency in meeting the time restrictions of this project.

Environmental Activism. Recent environmental activism scholarship suggests that individuals' perceptions regarding both the harshness of environmental threats and their confidence in environmental activist groups foster support for more stringent environmental protection policies (Lubell, 2002; Lubell, Vedlitz, Zahran, & Alston, 2006). Using cognitive hierarchy models, individuals' likelihood to participate in grassroots protests against environmental abuses can be predicted using their knowledge, socialization, attitudes and value orientation (Barr, 2003; McFarlane & Boxall, 2003; Stern, 2000). Dempsey's (2009) case study of environmental justice, which sheds light on the ways members of grassroots activist movements promote authenticity and accountability in discourses and also actively develop and mobilize images and stories of their constituents, has applications for documentary.

In environmental activism work, researchers have advocated for the establishment of praxis to identify methods and principles that are most effective in addressing abuses to the natural world (Endres, Sprain & Peterson, 2008). Slawter (2008) suggests that the use of digital

forms such as internet videos to disseminate consumer-directed appeals (e.g., TreeHugger TV) may reflect new forms of praxis designed to influence grassroots actions.

Documentary Activism. Pink (2001) suggests that, in addition to serving as a mixed method of analysis, the amalgamation of scholarly research with documentaries increases accessibility to mass audiences and fosters more innovative research methods. One advantage that research-oriented documentaries possess is joint use by both general audiences, who simply wish to increase knowledge, and community activists, who wish to galvanize people to their cause. The Cumulative Impact Study in Mountain View endeavors to achieve both of these ends. Not only is the study designed to fulfill the requirements of academia, but it is also designed to promote community awareness, community activism, and social change. Pezzulo (2001) notes that documentary participants are assisted in creating discursive "interrupting" events which foster their ability to reframe their stories. As Spurlock's (2009) work in the expanding arena of environmental advocacy tourism suggests, partisan storytelling is now flourishing.

In section one, a summary of scholarly perspectives was presented through the lens of traditional ethnography, EOC, digital ethnography, and, finally, documentary and environmental activism. The next section will explore the literature through the lens of Critical Race Theory.

Critical Race Theory

Overview. An extension of critical, legal, and political philosophy and radical feminist studies, Critical Race Theory (CRT) explores the phenomena of systematic and institutional racism as it directly and indirectly effects minorities as both groups and individuals (Stovall, 2005; Yosso, 2005). Delgado and Stefancic (2013) promote that CRT challenges racial

orthodoxy and new ways of thinking about racism. Flores (2009) notes that CRT's design fosters discussions that produce insight and awareness of both those who engage in domination and those who are dominated; it promotes equality for all people and seeks liberation of the oppressed from societal forces that perpetuate the wealth of a privileged few. Through the lens of CRT, power systems are exposed in various arenas, and enduring racial stratifications are explored (Brown, 2003; Delgado and Stefancic 2000, 2001).

With regard to investigation, Brown (2003) notes that the epistemological and ontological biases that are ingrained in research, policies, and laws produce dysfunction and harm to minorities (Brown, 2003). Creswell (2007) suggests that CRT can be conspicuously used in all facets of research to challenge worldview and conventional research texts. To employ its use in this Cumulative Impact Project study, it is necessary to further examine the tenets of CRT. While a search for the key tenets of CRT is challenging and produces diverse results, Delgado and Stefanci (1993) and Matsuda, Lawrence, Delgado, and Crenshaw (1993) have yielded the most substantive and comprehensive results.

Tenets. From critical legal perspective, Delgado and Stefancic (1993) summarize ten tenets that are foundational to CRT pedagogy:

(1) Critique of liberalism reveals discontent with liberalism's engagement of the race problem in American society.

(2) Storytelling, also described as naming one's own reality, analyzes and challenges power-laden beliefs and uses counter-stories to combat self-serving majoritarian mindsets.

(3) Revisionist interpretations explore the ineffectiveness of efforts to redress inequity and issues such as colonialism, anti-colonialism, psychology of race, and white-self-interest.

(4) Race and racism promote understanding of the underpinnings of race and how situations may promote discrimination and disempowerment.

(5) Structural determinism examines how culture and law influence structures and foster maintenance of the status quo.

(6) Intersectionality analyzes the separate disadvantaging factors of race, class, and sex.

(7) Essentialism and anti-essentialism explore commonalities and differences among oppressed people.

(8) Cultural nationalism/separatism examines the notion of people of color promoting their interest by separating from the American mainstream.

(9) Critical pedagogy discusses the need for representation in diverse fields and institutions as well as the development of alternative instructional methods.

(10) Criticism and self-criticism examine internal and external criticism against CRT as well as responses to this criticism.

Each of these CRT tenets have relevance when conducting ethnography fieldwork in populations of color. By exploring tenets of CRT, researchers may also enhance understanding of how it is applied in every lived experiences and how experiential knowledge is gained.

Applications. Matsuda et al. (1993) outline six defining tenets that broaden CRT's application beyond legal studies to include ideologies such as Marxism, feminism, neopragmatism, and poststructuralism/postmodernism. First, racism is endemic to American life and serves as a vehicle for racial subordination. Second, claims of neutrality, color blindness,

objectivity, and meritocracy from dominant society are approached with skepticism. Third, ahistoricism challenges current inequalities and practices in light of and with linkage to earlier periods where the cultural meaning and intents of these practices were clear. Fourth, CRT uses lived experience and experiential knowledge from oppressed communities to analyze law and society. Fifth, the interdisciplinary and eclectic nature of CRT fosters examination and incorporation of diverse methods to advance racial justice. Finally, CRT pursues the goal of eliminating racial oppression and measures progression by social transformation.

Environmental Racism. Numerous authors suggest the high prevalence of environmental racism in low-income and minority populations is evidenced by their health and economic sacrifices on the altar of industrial profit and national security (Bullard, 1994; Faber & Kreig, 2002; Lavalle & Coyle, 1992; Maantay, 2002; Mohai & Bryant, 1992; Pace, 2005). National Sacrifice Zones, also known as “hot spots of pollution” or “fenceline communities,” represent hundreds of dangerously contaminated areas scattered across the United States, almost exclusively in populations of color (Lerner, 2010). Containing by-products of nuclear weapon production facilities, uranium mining operations, chemical contamination, and other types of intense pollution, these communities experience “unequal exposures [that constitute] a form of environmental racism that is being played out on a large scale across that nation” (2010, p. 3).

The Commission for Racial Justice’s report “Toxic Wastes and Race in the United States” (1987), produced by the United Church of Christ, performed a discriminant analysis test on locations of toxic waste sites and found “the minority percentage of the population in relation to the presence of commercial hazardous waste facilities was very statistically significant” (p. 13). This report suggests that while the health disparities between Whites and populations of color have been a national health concern, little government focus has been placed upon the

effects of improper toxic waste disposal in Black and Hispanic communities in which an inordinate amount of uncontrolled toxic wastes are sited. Using census tract data and more sophisticated methodologies, Bullard, Mohai, Saha and Wright (2007) report an update for the Commission for Racial Justice 20 years later and reveal:

- Race remains a “significant and robust predicator of commercial hazardous waste facility locations when socioeconomic factors are taken into account,” and people of color continue to remain disproportionately impacted by the hazard waste siting of such facilities. (p. xi-xii)
- Not only are they disproportionately affected, communities of color are also unequally protected with regard to government remediation of environmental threats (p. xii). While federal and state governments are aware of these discriminatory facts impacting communities of color, they either fail or are slow to respond to community concerns, unnecessarily allowing Superfund and other contaminated waste sites to remain with little regulation.
- “ . . . The U.S. EPA, the governmental agency millions of Americans look to for protection, has mounted an all-out attack on environmental justice and environmental justice principles established in the early 1990s. Moreover, the agency has failed to implement the Environmental Justice Executive Order 12898 signed by President Bill Clinton in 1994 or adequately apply Title VI of the Civil Rights Act.” (2007, p. 156)

Some scholars express concern that while President Clinton’s Executive Order (1994) to federal agencies sought to reduce the disproportionate effects of toxic waste on disadvantaged communities, it continued to allow production of toxic waste (Holifield, 2001). Still, even the

presidential executive order failed to galvanize the political will to remedy the known injustice that proliferated in communities nationwide. This may be, in part, due to the ambiguity and differences in opinion regarding what constitutes environmental racism or injustice.

The terms environmental racism or environmental justice are plentiful and not without dispute. Some scholars combine traditional environmentalism with concepts of civil rights and social justice (Harvey, 1996; Pulido, 1998; Taylor, 2000). Chavis (1994) shares the following definition for environmental racism that is frequently employed in activism:

> Environmental racism is racial discrimination in environmental policy-making and enforcement of regulations and laws, the deliberate targeting of communities of color for toxic waste facilities, the official sanctioning of the presence of life threatening poisons and pollutants for communities of color, and the history of excluding people of color form leadership of the environmental movement (1994, p. xii).

While the term "official sanctioning" described above may in itself seem controversial, this terminology is likely employed due to lack of remediation of known environmental threats as Bullard et al. (2007) cite above. Even when fines are levied on industries that pollute, they are sometimes apportioned unequally. A review of eleven hundred Superfund sites showed that environmental fines in White areas were 506 percent higher than those administered in minority communities; they were done more expeditiously even when the clean-up was more intensive (LaValle & Coyle, 1992).

For this reason, many minority communities launched movements to combat perceived environmental racism (McGurty, 2000; Orum et al., 2014; Taylor, 2000). These movements sometimes met resistance from the Environmental Protection Agency (EPA) and, other times, encouragement. The EPA even changed its semantics to shift with the public discourse. One

example includes EPA's shift from use of the term "environmental equity" to a newer term "environmental justice" that is currently defined as follows:

> Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies (U.S. EPA Office of Justice, 2015).

"Fair treatment" the EPA cites "means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies." It delineates "meaningful involvement" through the following:

1. people have an opportunity to participate in decisions about activities that may affect their environment and/or health;
2. the public's contribution can influence the regulatory agency's decision;
3. their concerns will be considered in the decision making process; and
4. the decision makers seek out and facilitate the involvement of those potentially affected.

As the above literature suggests, the role that Critical Race Theory offers as a lens to address the disproportionate hazard waste siting of hazardous waste in communities of color is one of significance. Through this lens we can better explore the phenomena of systematic and institutional racism and promote discourse that fosters the liberation of those who are oppressed from societal forces that perpetuate non-polluted neighborhoods to those of privilege. In concluding this section of the literature review regarding CRT, in general, and environmental racism, in particular, the literature suggests that CRT merits strong consideration for use in

environment research. The final section of this literature review describes the use and application of participatory action research. Use this methodology, the Cumulative Impact Project aims to more deeply identify the potential health dangers to Mountain View residents that may be resultant from environmental pollutants.

Participatory Action Research

Overview. Participatory Action Research (PAR) originates from a broader umbrella of research approaches known as action research (AR). These approaches hold that knowledge is created by reflecting on actions with the end goal of creating change (Reason & Bradbury, 2008). The overall tradition of AR is to involve people who are affected by a practical problem in the problem-solving process that includes research of the facts, action, and evaluation (Lewin, 1946; Greenwood & Levin, 1998). The values and assumptions of *action research* are varied and sometimes viewed as polar opposites on a continuum, with action research (AR) and community-based participatory research (CBPR) as polar opposites. Some scholars note that application of AR is more conservative in its commitment to social change in the United States (Brown & Tandon, 1983; Minkler & Wallerstein, 2003). This may suggest research agendas that primarily reflect the self-interest of institutions.

Use of community as research collaborators strengthens the caliber of investigation, recognizes differing interests and power relations, and breaks the knowledge monopoly that universities have in research (Hall, 1999). Freire (1970), Horton & Freire (1990), Kindervatter (1979), Lewis (2001), Nyerere (1969), and Tandon (1988) are examples of adult educators that applied democratic and collaborative principles in their pedagogy and moved the academic

research pendulum toward PAR. Researchers of all genres, but particularly those using PAR, have opportunity to consider the trifecta of who gets to claim knowledge, how research know is claimed, and the process for doing so (Cruz, 2008). To deepen research and action, numerous feminist scholars have also explored the importance of incorporating marginalized voices to share their own reality (Cornwall & Jewkes, 1995; Hill Collins, 2000; hooks, 1984, 1989; Lykes, 1997; Maguire, 1987, 2001).

Brydon-Miller, Kral, Maguire, Noffke & Sabhlok (2011) view PAR as a social process of data gathering in which wisdom belongs to all people. It views research as a component of the struggle in achieving economic and social justice both locally and globally, and acknowledges that ordinary people can both understand and affect change in their own lives using the tools of research, education, and action. Community-based participatory research serves as an extension of this orientation.

Community-Based Participatory Research (CBPR). Minkler and Wallerstein (2003) describe CBPR as research orientation that stresses three components: 1) community partnership; 2) action for social change; and 3) reductions in health inequities an integral component of research. While action research is viewed as one polar end of the continuum, at the opposite pole of the continuum is community-based participatory research (CBPR), a research approach with roots in education, colonialism, and the liberation of oppressed people groups (Fals-Borda, 1987; Freire, 1982, Tandon, 1996). CBPR may fall at any point along this continuum, but usually operates from the ideology of community as co-collaborator in research development and implementation (Minkler & Wallerstein, 2003). Wallerstein and Duran (2010) argue that CBPR not only engages and empowers community, but also seeks to translate findings

from research into interventions and activities that promote health equity. Horowitz, Robinson, and Seifer (2009) note the role of CBPR in deepening the understanding of factors that impact health and illness, and its contributions to new innovations.

Israel, Schulz, Parker, and Becker (1998) note CBPR is a unique type of scholarly research in that it:

(1) Exhibits a participatory nature.
(2) Engages researchers and community members in a cooperative, joint process reflecting equal contribution.
(3) Fosters a co-learning process.
(4) Includes local community capacity building as well as systems development.
(5) Empowers participants to increase their own control over their lives.
(6) Achieves a balance between research and action.

Use of the CBPR approach in digital ethnography ensures that counter-storytelling, which is imperative among people of color, reflects community voice with greater accuracy and precision.

CBPR & Environmental Health Activism. The Commission for Racial Justice Study's (1987) reporting health disparities between Whites and populations of color, a national health concern, has spurred little government focus upon either the effects of improper toxic waste disposal in Black and Hispanic communities or reversal of the inordinate amount of uncontrolled toxic waste sites situated in these communities. While executive orders have been issued by two recent presidents (Executive Order 12898 by President Bill Clinton in 1994 addressing environmental justice in minority and low-income populations; and Executive Order 13650 by

President Barack Obama addressing Chemical Facility Safety and Security), the necessity for the initial for grassroot organizations persists as a result of little political will to implement these measures. Numerous researchers note challenges in health disparities that occur when some people's voices are excluded from involvement in the research process (Fals-Borda & Rahman, 1991; Gaventa, 1993; Hall, 1993; Hatch, Moss, Saran, Presley-Cantrell, and Mallory, 1993; Schulz, Park, Israel, Becker, Maciak & Hollis, 1998; Maguire, 1996; Wallerstein, 1999). Kreps, O'Hair, and Clowers (1995) suggest that health targets benefit by participating in the health delivery processes since they are most impacted by the outcomes.

The Environmental Justice and Health Alliance for Chemical Policy Reform (EJHA) is one example of those effected by environmental outcomes working together to foster social change. A network of grassroot, policy platform engaging organizations, EJHA promotes environmentally just outcomes in frontline communities adversely impacted by ongoing exposure from polluting facilities and old contaminated sites. EJHA (2014) defines "fenceline zones" as areas with industrial sectors and large numbers of people living in the path of potential worst-case chemical release (p. 2). These communities experience constant toxic hazards and emissions from industry in their communities where their homes, schools, churches, and other key institutions are located. Also considered "vulnerability zones," industrial sectors have disaster impact radiuses ranging 0.01 to 25 miles (p. 11). Fenceline or vulnerable communities are disproportionately located in people of color communities (75% greater in African American communities and 60% greater in Latino communities than in the US as a whole), have higher rates of poverty (50% higher than the US as a whole), and lower educational levels (46% less than a high school degree), incomes (22% below the national average), and housing values (homes values of 33% below national average (p.3).

Cox (2006, p. 84) describes the importance of public participation in environmental issues as ‘‘the ability of individual citizens and groups to influence environmental decisions through (1) access to relevant information, (2) public comments to the agency that is responsible for a decision, and (3) the right, through the courts, to hold public agencies and businesses accountable for their environmental decisions and behaviors.’’ Beierle and Cayford (2002) acknowledge a variety of processes that promote public participation in environmental issues, such as public hearings, advisory committees, policy dialogues, consensus-building, citizen juries, and formal negotiation. The United Nations Food and Agriculture Organization (2006) emphasizes the importance of capacity building and education for sustainable environmental initiatives. Promoting citizen deliberation regarding environmental issues and providing a voice for stakeholders with lesser clout, often the marginalized and poor, are two essential areas of participation.

While community members most effected by environmental hazards have a right to partner in environmental information procurement and decision-making, they may need support to do so. As Bullard et al. (2007, p. vii-viii) note, polluting industries “follow the path of least resistance” because decision-makers often consider low-income communities and populations of color as passive citizens who do not consistently fight back against the contamination of their communities for reasons of economic survival and potential loss of jobs. Although environmental issues are a significant concern for low-income and minority populations, addressing these issues may be considered a “luxury” compared to the myriad of issues impacting their survival, including poverty, unemployment, poor housing, education, and health (p. xii). With lower levels of representation from minority and low-income communities in public health professions (Coburn, 2004; Lynn, 2000), environmental activists may find relief in

other health researchers willing to bring light to environmental injustices and assist in cultivating social change.

Several scholars suggest that corporations and governments cannot be expected to eradicate health disparities on their own; communities that are adversely effected by environmental and health injustices must participate in the decision-making and policy development to achieve this end regardless of their race, ethnicity, class or national origin (Cox, 2006; Freire, 1982; Kreps, O'Hair & Clowers, 1995; Orum et al., 2014). Environmental activists report difficulty in accessing needed information, and some claim that government agencies impeded either their learning process or responded slowly to environmental concerns, leaving communities at risk (Bullard et al., 2007; Commission for Racial Justice, 1987; Moore, 2015). As such, research work from the Cumulative Impact Project may offer knowledge to elucidate environmental injustices through community collaboration and cooperative engagement.

Summary

How, then, does the literature inform the Cumulative Impact Project? From the perspective of participatory action research, this project can support Mountain View through collaborative partnership at every stage of the digital ethnographic process in which the timeline for master's completion would not be impeded. By working cooperatively with leaders to gather, analyze, and disseminate data, this project could assist the Mountain View community in the redressing institutional policies that permit unequal protection from environmental threats. Another result is capacity building. Cumulative Impact is also a mechanism through which the Mountain View community could be empowered to share its collective voice, galvanize continued activism, and share strategies with other communities that have also been targeted for

environmental injustice. It can also foster systemic changes to institutions and governmental bodies that allow communities of color to disproportionately bear environmental injustices. Through the lens of Critical Race Theory, Mountain View residents can be empowered to name their own reality, analyze and challenge power-laden beliefs, and use counter-stories to combat dominant environmental narratives that adversely impact their neighborhood. Using digital ethnography, occasion is found to liberate traditional social storytelling methods by situating them in new and varied contexts.

Finally, through ethnography, the field of communication is augmented with observations of environmental activism in New Mexico, and knowledge gaps are filled in, uncovering social organization in language, community world view, and shared patterns of knowledge, values, and culture.

Digital ethnography liberates traditional social storytelling by situating it in new and varied contexts. Hammersley and Atkinson (2007) note the importance of re-contextualizing and reinterpreting discourses to more effectively address unique circumstances. Sava suggests that digital technology repositions classic methodologies into levels of more contemporary relevance offering “new tools and solutions to ethnological sciences” (2011, p. 52). Forsyth, Carroll and Reitano (2009, p. 214) note scholars and journalists are increasingly recognizing that “to use video recordings in research is to harness this wider cultural aspect which in turn can reveal the complexities of everyday experiences and realities.”

The story of Mountain View’s resilience in the face of environmental injustice deserves to be shared with a wider audience. As the Mountain View timeline indicates (*figure 1*), several decades often ensue between the identification of environmental problems in a community and their mitigation. The first Blue Baby was identified in the early 1980’s. Ground water experts

noted they were on the verge of nitrate clean-up in 1995 (Avila, 2016). Today, nitrates continue to be a problem in the well water of Mountain View. By employing the above approaches, the environmental problems that have plagued this community can be shared digitally with multiple and larger audiences (social media, public television, other media, and community group meetings) through which more people can be galvanized to hasten governmental remedy. Because of its digital format, the Cumulative Impact Project also holds the potential of incorporating more stakeholders and adding previously muted voices to environmental health discourses.

From a communication perspective, the Cumulative Impact Project can use digital ethnography to reveal social and discursive relationships that legitimize community knowledge, promote understanding of cultural systems, and promote social justice as a result of shared beliefs. In cooperatively developing this documentary with the research community, Mountain View can broaden the far reaching impact of their struggle's resonance, strengthen their ability to recruit more environmental activists, and ultimately, gain new and increasingly more effective strategies to promote social justice.

Chapter 3
Methodology

Theoretical Orientation

To guide the Cumulative Impact Project, this research project applied tenets of ethnography, Participatory Action Research (PAR), and Critical Race Theory (CRT) described in greater detail in Chapter 2. Although I idealistically aspire to Community-based Participatory Research (CBPR), I refer to the project more as participatory action research in that it has many, but not all, components that include community participation. This is a necessity in that this project, must out of necessity, have a manageable timeline that fosters fulfillment of my master's degree. Using true CBPR principles, I would be dependent upon a timeline solely of the community's design. While each of these approaches were incorporated heavily in the research, the leading theoretical orientation is that of digital ethnography, which will be overviewed in section one. Ensuing section will discuss paradigms employed for the Cumulative Impact Project, and the thesis and research questions that served as foundation to its design.

Overview. From the onsite of my research, my notion was to employ EOC to analyze my research discourse as the work focuses on the role of speech in constructing human behavior in socio-cultural environments and considers verbal, non-verbal, and context-dependent non-vocal uses (Hymes, 1961). Originally, I had considered Speech Code Theory (Philipsen, 1992), a broadened version of EOC, to digitally explore how people talk about environmental health issues in the Mountain View neighborhood, and also examine words, phrases, and silences uttered by individuals that serve as ethnographic symbols and evidence the community's world view (Baillet, 2009). As I conducted preliminary research on Mountain View, I found that the unique characteristic of being semi-rural, semi-urban, combined with the environmental

challenges necessitated the need to go beyond communicative acts embed codes and their meaning production on the participants (Carbaugh, 2007), and focus more intent on the impact of communicative acts upon social change.

Paradigm Use. The Cumulative Impact Project was positioned upon a Critical Tradition paradigm, as research has linked the hazard waste siting of industries and wastewater facilities to communities of color, which are reported to bear a disproportionate burden of the indirect costs these facilities generate (Environmental Justice & Health Alliance for Chemical Policy Reform, 2014; Massey, 2004). My approach was based upon the assumption that knowledge is socially constructed in the knower, rather than an external existing reality (Kilgore, 2001). The Cumulative Impact Project sought to discover discursive truths related to social power struggles (McCarthy & Dimitriadias, 2005), emancipatory knowledge (Merriam, 1991), and changes needed in social policy and practice regarding environmental challenges faced by the Mountain View neighborhood (Fay, 1987). This paradigm can be further understood ontologically, epistemologically, and methodologically.

Ontologically, this my perspective was that reality and knowledge are developed as a result of communication, interaction, and practice, and that meanings are socially constructed through language and interactions (Lincoln, Lynham & Guba, 2011). In addition, I posited that experiential knowledge can be legitimately gained from those who both experience health disparities and effectively engage in discourses that promote social change (Brown, 2003). As a result, this project practiced centering in the margins or shifting perspectives to mitigate the Mountain View Neighborhood as the marginalized group (Ford and Airhihenbuwa, 2010). It examined agency of Mountain View neighborhood residents, who individually and collectively

construct discourse around developing shared values, building community, and promoting health in the midst of environmental challenges.

Epistemologically, my project supported the role of knowledge in empowering others to mitigate oppression related to environmental issues often linked to ethnicity, race, and other socioeconomic factors (Bernal, 2002; Merriam, 1991). It situated knowledge in the Mountain View neighborhood and references the neighborhood association as a historical vehicle for empowerment. In addition, the Cumulative Impact Project situated knowledge among community leaders as trusted sources for health and other historical community information. By conducting and examining interviews with community leaders, I explored how community discourses were used to create a sense of unity around environmental challenges and how they spur community engagement to survive, cope with, and remediate environmental threats. Epistemologically, I sought to explain discourses and make predictions regarding health-related activity that may aid in empowering of other marginalized communities.

Methodologically, the Cumulative Impact Project applied a focused ethnographic approach to include short-term field visits captured through the medium of digital technology (Knoblauch, 2005). I employed participatory action research to foster social justice (Israel, Eng, & Schulz, 2013; Wallerstein & Duran, 2010). Using of community-based ethnographic participatory research methods, I was better able to understand relationships between language, speech community, and environment. CBPR also enabled me, as the researcher, to engage in agency to support further social transformation (Merriam, 1991). I was ethnographically immersed in the lives of community residents through interviews, meeting attendance, video recording, and iterative critique on related video production work.

My project goal was to gain knowledge on environmental issues from the point of view of the community. Upon completion of the video and review/approval from the Mountain View Neighborhood Association, this co-created knowledge will later be situated in a digital format for broader consumption. In doing so, I endeavored to inspire other communities to explore how culture and change are shaped through discourse. In sum, the Cumulative Impact Project aimed to foster collaborative partnerships between community stakeholders, and work collaboratively with them to produce transformative outcomes (Frey, 2009).

Role of the Researcher. In conducting this study, my values played a strong role. As a researcher of African American descent, my personal and professional life have often intersected with health and community issues. For a period of more than thirty years, I hope advanced health through a combination of endeavors to include design, development, and/or implementation of the following: education programs and literature for a national health organization; administration toward the improvement of quality of life for substance abusers at a local behavioral health organization; and community organizing endeavors around health in both church and non-profit organizations. Serving in leadership roles in my church necessitated that I serve as liaison with the larger community. I have seen first-hand the adverse impact that issues such as limited healthcare access, historical mistrust, poverty, marginalization, and poor institutional policies have made upon the lives of people of color, including morbidity and mortality.

As African American, pastor, and community leader, I saw the potential of community discourses being paired with social action to significantly reduce health inequalities, ameliorate health among minorities, and curtail associated economic burdens. Through a formative process, I assessed community leader discourses in the Mountain View neighborhood with the goal of

building knowledge and fostering social action regarding environmental health issues. As an investigator, I sought knowledge from leaders – people positioned to hold the trust of their community – with the goal of better understanding what interventions can serve as a catalyst for positive transformation. As both an African American and a community leader, I understood not only the value of the insider perspective that would be identified in the interviews (Ely, Anzul, Friedman, Garner, & Steinmetz, 1991), but also recognized potential for bias in my findings. As a result, I applied self-reflexivity in order to minimize that bias and assist the reader to interactively contextualize findings (Denzin & Lincoln, 2011).

I am an avid consumer of digital texts, especially documentaries. Because of my age, I can be best defined as a 'digital immigrant' rather than a 'digital native' (Prensky, 2001). With the exception of a few seconds narrative submitted at the beginning of the documentary, I did not insert myself in the actual documentary. My rationale was to allow the marginalized voices on this topic of environmental injustice to resonate loudly. I did, however, actively situate myself in other community events and activities beyond the documentary to gain ethnographic insights. While I employed "distanced authorial voice" at times as a researcher, I considered my research participants to be agents of change rather than be passive "research objects" (Erickson, 2011, p. 46).

Method

Description of study design. I designed this project as a community based participatory research using digital ethnography as an exploratory lens. It involved observation of Mountain View Community Association leaders in their role as environmental activists. Supplemental materials of items referenced later in this section are provided in the Appendix as follows:

- Appendix 1 - Cumulative Impact Project Time
- Appendix 2 - Release Form (detailing requirements for participation)
- Appendix 3 – Interview Guide
- Appendix 4 – Donation Letter for Community Fun Day
- Appendix 5 – Press Release for Community Fun Day

Following the development and approval of the project prospectus, project timeline (appendix 1), release form (appendix 2), and interview guide (appendix 3), I commenced observations situated in neighborhood association meetings, subjects' homes, the community garden, and other areas where leaders were located. These observations were combined with in-depth semi-structured interviews using an interview guide, which is designed to produce new ways of seeing and understanding environmental issues in the Mountain View neighborhood.

The interview guide was structured to prompt participants to express facts, perceptions, opinions, attitudes, emotions, and other pertinent feedback that elucidate the three research questions proposed above. Each interview and observation was captured using videotape according to a preliminary shot log suggested by initial research. Amendments to the shot log were incorporated during the course of ethnography as new data is acquired. A total of 12 weeks were dedicated to data gathering through observation at sites in Mountain View and other relevant areas in the South Valley of Bernalillo County, New Mexico, as suggested by the participants.

Digital ethnographic observations were captured using the following equipment: One Apple iPad 2 (16 GBs), One Swivl ™ (model: SW2782), one tripod, one Zoom H6, two XRT Cords, two Samson UHF Micro 32 diversity receivers, two lavalier mikes, and one set of earphones for audio testing and monitoring.

I chose to utilize the iPad as a digital recording device for two primary reasons: finance and accessibility. As a grad student, I experienced the same challenges as may most community based organizations (CBOs) – limited finances. Having extensive past experience with CBOs, I had prior knowledge of the challenges such organizations have in galvanizing the resources to tell their stories with quality outcomes and limited resources. As such I chose to employ the tools I had at hand as one aspect of my community-based participatory research. If I could produce a quality documentary with limited resources, limited technical expertise, and mostly a strong desire for improved methods, similar results may be achieved within CBOs.

Secondly, even as a grad student with access to equipment at the Journalism and Communication Department at my university, my access was highly competitive. Students and instructors alike were constantly requesting limited high quality equipment and return times were short. Because of the work with community leaders of limited availability, I had to be assured that I would have the equipment when ethnographers were scheduled, and for prolonged periods of time. During the pilot project, I had user higher grade digital equipment from my department, when available, and my iPad during times of limited availability. In viewing the video from the higher grade digital equipment and the iPad footage, my non-expert opinion was the digital quality was comparable. In addition, past use of my iPad for wedding videos, ceremonies, and the like, seemed to challenge the notion that higher quality video equipment was the only way to go with digital productions. At minimum, a community-based production might raise awareness and open the doors for increasing funding through which higher quality equipment could be procured. While I was strongly encouraged by my thesis committee to the notion described above, at least one film expert in my communication and journalism department discouraged the notion with a sincere concern regarding HD quality.

One solution to that concern was the discovery of FiLMiC Pro, 2x iOS Video Camera App, now a gold standard of mobile video. Baker (2015) shattered film conventions and experienced rave reviews in the production of "Tangerine," a Sundance Festival film feature. Utilizing three iPhone 5s, anamorphic adaptors (that have lens flares that bend light and stretches the image to appear curved), and new apps, Baker's production transverses a new realm in digital media and demonstrates the high quality production that is possible for more accessible cameras. With use of FiLMiC Pro, Baker avoided challenges related to changing exposures typical of phone cameras. It also provided white balance and better compression. Inspired by his achievement, I decided upon FiLMiC Pro's use in the Cumulative Impact project. It could potentially increase the HD quality and appeal to my desire to use more innovative ethnographic tools. While Baker used Final Cut Pro for editing and Da Vinci Resolve to correct saturation and color contrast, I would utilize iMovie to again promote accessibility to a community-based audience. May individuals and organizations are already owners of Mac computers and could utilize a very inexpensive iMovie editing app.

When observations and interviews were completed, I analyzed all video to determine facts and themes relevant to answering the study's three research questions. Video segments from interviews were, then, selected, edited, and woven together to tell the story of the Mountain View community through the lens of environmental activism. The analysis and editing phases occurred over a six-week period. Using CBPR principles, I sought to situate my documentary premier in the Mountain View community.

Population and Sampling procedures. I did not attempt to extrapolate its findings to a larger population than that observed/interviewed as it utilized a case-study design. The subject population was comprised of the Mountain View Neighborhood Association (MVNA) leaders,

both present and former residents. The MVNA leaders represented a convenience sample that was made available through the courtesy of Dr. Magdalena Avila, assistant professor in the College of Education at the University of New Mexico and also a Mountain View resident. Each subject's participation was voluntary and without compensation.

Project Participants. I asked nine individuals to participate in the Cumulative Impact project with latitude to include new leaders, if recommended as a result of snowball referrals. No participants over the age of 18 who were both Mountain View community leaders and possessed information/interest relevant to this study were excluded from participating in the data collection phase of the project. As a result of a pilot study and mini-documentary, "From Justice to Victory," I experienced prior email, phone, observation, and interview contacts. With these tools, I was able to pursue fresh observations and dialogues based upon the new interview guides.

Data Collection. From October-November 2015, I conducted in-depth, open-ended interviews as a team project with two other researchers in fulfillment of a pilot study centered around environmental health for a rapid Health Impact Assessment (HIA). These interviews averaged one hour in length. Our component of the project conceptualized interviewing as a way of accessing a sphere of reality concerning individual's subjective attitudes and experiences that would be otherwise be inaccessible (Perakyla and Ruusurvuori, 2011). This pilot study evoked detailed narratives from the participants to deeply explore the phenomenon of community health (DiCicco-Bloom & Crabtree, 2006). Through the use of interviews as a semi-structured method of information gathering, this project shared pre-determined questions and allowed further elaboration by both the interviewer and interviewee in order to pursue a response or idea in

greater detail (Gill, Steward, Treasure, & Chadwick, 2008). From the collective team research, I produced a 15-minute mini-documentary as an outcome of this pilot study. The resulting data served as the foundation for my current research.

Since the mini-documentary pilot video was well received among Mountain View Neighborhood Association leaders, I sought and received permission from prior interviewees to administer a new round of open-ended interviews and video recordings. The goal of this expanded documentary was to more finely focus on discourse, in particular, meaning-making and building of shared values.

Data Analysis. Hammersley & Atkinson's (2007) ethnographic approach investigates a particular aspect of the lives of the people – in the case of the Cumulative Impact Project, this investigation reflects community residents' environmental awareness and activism – to find out how residents view the problems they face, how they perceive each other, and how they perceive themselves. I found this approach a more appropriate course of study than EOC for two reasons. First, the public health concerns produced by environmental challenges in Mountain View suggest that data analysis using interpretation of meanings, functions, and consequences related to human action and institutional practices and their consideration in wider contexts would be more appropriate. Second by using interpretive categories that where not fixed, the data analysis would define what people do and say rather than data collection. Because the community is a co-collaborator my research process, they are experts to determine categories and meaning.

Data Management. Neither anonymity nor confidentiality was maintained in this study, as the method/results dissemination will be a 40-minute documentary designed for public distribution. However, data integrity was maintained by storing final research notes in a locked cabinet in the researcher's office in the Communication and Journalism (C&J) Building at the

University of New Mexico. Final videos will be uploaded to YouTube and Vimeo to promote greater sharing among academicians, community residents/organizations, and the general public. Upon final approval from the thesis committee and community leaders, copies will also be provided on DVD to all interviewees and extra copies to the Mountain View Neighborhood Association for portability and use in the event of challenges with internet access. Due to workplace space limitations, raw data was stored in the home office files of the researcher. This included unedited video (stored on an external hard drive) and transcription notes (dictations, interview summaries, work organized thematically, and the like).

Informed Consent Procedures. Each individual interviewed was asked to sign a release form (see Appendix 1) that granted the researcher permission to photograph, video record/documentary, and/or audio record all discourse in partial fulfillment of the requirements of this digital project. This release granted the researcher/producer perpetual rights to use all video and recordings for educational purposes.

Risks and Benefits. No tangible or monetary benefits were offered to participants in this project. According to PAR standards, participants will have opportunities for review and input of their feedback on recorded experiences and messages prior to the final release of the documentary with a larger public. There were no known risks to participants who chose to partake of this study.

As with any research, the methodology of the Cumulative Impact project served as vehicle through which the validity of the research can be assessed. Building upon the lessons learned from the literature, investigations were conducted using broad principles and procedures

with the ultimate goal of discovering, interpreting, and solving problems within the field of communication.

Results

My documentary was premiered at the Valle de Oro (VDO) Wildlife Refuge in Mountain View to mixed group of more than 75 community representatives from the Mountain View, South Valley, local university, and general Albuquerque metropolitan communities. One of three major success stories featured in the documentary, the VDO features a beautiful landscape, a mission of environmental justice, and a role as in-kind contributor for this project through the provision of tent expense for with the event. The results for the Cumulative Impact Project are featured in three sections. Section one features the research question results. Section two highlights the participatory action research results. The final section shares lessons learned from equipment used for the Cumulative Impact Project.

Research Questions. The Cumulative Impact Project completed 11 interviews with nine participants over a period of 12 weeks. Seven interviews were conducted in the homes of participants, and two were conducted in community-based business settings. Two interviews were conducted twice – once due to challenges with the novice experience with FiLMic Pro and another instance of lavalier mike damage resulting in poor sound quality. In the ensuing sections, I will systematically explore the rich, thick data summarizing the qualitative data from participant research question responses.

RQ_1: How do community residents' stories communicate a reality that transcends their targeting as a dumping ground for environmental pollutants?

Racism & Classism. Residents share stories that suggest their targeting as a dumping ground is a result of class related issues and institutional racism. Scott Altenbach, Mountain View resident for more than 30 years, says:

> ". . .in the minds of a lot of people, the north valley tends to be high dollar. The south valley is agrarian, working class . . . the ideal a place to put a business that nobody else wants . . . [In that past, there was] probably not the community outrage that would stop such a thing . . . That's the way it's been. When I first came down here . . . I mean . . . you know . . . the sewage plant ran unchecked. When you talk[ed] to real estate people, like real estate brokers . . . they talk[ed] about the South Valley being redlined. . . Not so much now. . . People that live here and see the kinds of businesses that are permitted everywhere . . .the only way to interpret that is . . . you know . . . that we are a dumping ground . . . We don't really count for much."

Mountain view residents recognize that the targeting of their community is intentional and reasons include the demographics of being an agrarian, community of color. MVNA leaders reported that county officials openly admitted that the same harmful industries that have been approved would be undesirable in their own neighborhoods (Silva, 2016; Cross-Guillen, 2016). While a good number of retired professionals reside in the community with higher incomes, there remains a sizeable population of low income families and individuals, predominantly Spanish speakers, with a high school diploma or less.

During his interview, Lauro Silva, Mountain View Neighborhood Association's (MVNA) current president, shared some local demographics and reasons he believes his community has become a dumping ground.

> "Eighty-six percent (86%) of the population are Spanish surnames. Close to 60% speak Spanish as the primary language. We know very clearly that we can engage in

> euphemisms saying that they are 'Brownfield'[1] communities; and they are. Nonetheless, the policies that a made are racist; the basis is racism. Institutional racism, structural racism, and one-to-one kind of personal racism that people . . . the policies of the state, city, and county officials, the powers that be have pushed. . . The city [of Albuquerque], under the administration of Marty Chavez, for example whenever someone came to get a siting permit . . . they would say send them to Mountain View. It's outside of the city limits, it's in the county. . . They don't need to do that. . . .We worked for 12 years to get a sector development plan in place, but when the local businesses started rebelling, they fought against [our plan to create] buffer zones [to protect community residents].

[1]Brownfield – properties that may have hazardous substances, pollutants, or contaminants present (EPA. gov)

The Mountain View Sector Development Plan (a plan created by neighborhood residents with Bernalillo County over a 12-year period, but tabled with the election of new county commissioner) indicates that industrial zoning was enacted into code in 1973. Maria Globus, 13-year resident of Mountain View, indicates "the neighborhood had a great plan for the community and it was squashed. So it's up and then down." Area residents are fully cognizant that their community has, in the last 40 years, moved from being a completely agrarian community to a local dumping ground. They continue to battle against and transcend institutional racism, and unequal protection from government that allows communities of color, like Mountain View, to share a disproportionate burden of the area's environmental pollutants. In the midst of these challenges, residents continue to pursue their semi-rural, semi-urban way of life and refuse to relent to their community being a depot for environmental pollutants. In fact, Silva (2016) shares:

> "In Mountain View, 33 [out of 35] EPA regulated facilities that are located in the South Valley are located in Mountain View. The residents of Mountain View keep getting dumped on. Recently, we were able to stop a fertilizer company from coming in. We also were able to stop an asphalt plant from coming in. We also stopped a cement batch coming in that was going to be located immediately across the street from the Mountain View community center, where children have come in . . . 200-300 students come in

> every evening after school to participate in the after school programs. And the children . . .[would be] in danger of breathing in that dust. Cement workers are actually required to wear masks to prevent them from doing damage to their lungs contributing to cardiovascular disease, asthma and other [things]. The irony is that at the Mountain View community, we have an air monitoring station. The trouble is that that air monitoring station only measures one or two things; it's supposed to measure seven things! So when we challenge the air quality permits that the county passes out like chocolate chip cookies . . . the special use permits that we argue against . . . the City uses the data, not from here, Mountain View, but from the airport, quite a distance away."

Sofia Martinez raised her children in Mountain View. Now a former resident, she continues environmental activism of its behalf. Both her narratives and that of all Mountain View leaders interviewed confirm the existence CRT trends of environmental racism in their community that are documented in numerous texts (Bullard, 1994; Commission for Racial Justice (1987); Faber & Kreig, 2002; Lavalle & Coyle, 1992; Lerner, 2010; Maantay, 2002; Mohai & Bryant, 1992; Pace, 2005).

> "I think it's all across the county. When you do the environmental justice research, and again even looking at environmental justice up until 1980-1981, when the first People of Color Leadership Summit was held, you'd be hard pressed to find any article or book that talked about environmental justice. The environmental justice movement, at that time, basically really brought attention to the fact that dirty and polluting industry was more likely to be found in communities of color; whether in the city or rural areas. At that time, they were identifying Native nations to bring in hazardous waste. People across the country, poor and people of color that had been doing civil right work [and] social justice work really began to focus on making connections . . . A lot of research has basically told corporations [that] you need to do is go to rural, uneducated, poor, majority Catholic, communities where it is easy to start up or bring industry. That particular report that I'm referring to is called the Cerrell Report."

Martinez (2016) refers to the "Political Difficulties Facing Waste-to-Energy Conversion Plant Siting Report," mostly commonly referred to at the Cerrell Report. Developed at the request of the California Waste Management Board of the State of California for a consultant fee of $500,000, Powell's (1984) Cerrell & Associates, Inc., report suggests that those communities

least likely to resist environmental waste siting held in common the following characteristics: Rural, open to promises of economic benefits, above middle Age, high school or less education, low income, Catholics, not involved in social issues, old-time residents (20 years+), nature exploitive occupations (farming, ranching, mining), conservative, Republican, and free-market communities. Mountain View's demographics matches many of the characteristics cited in this report. Refusing to be a victim, Mountain View chooses, instead, to serve as catalyst for social change.

RQ$_2$: How has community activism impacted decisions regarding environmental threats to the Mountain View neighborhood?

Bianca Encinias grew up in Mountain View and resided there 15 years. Now a former resident and continued environmental activist for the community, she notes one threat is the government process that, by design, works to disempower community voice and delimit public comment. "They don't want you to be in community with one another," says Encinias, " . . . . It's a way to control the process in a very undemocratic way." Encinias' narrative supports PAR research findings. As Cox (2006) notes, public participation in environmental issues is paramount in influencing information revelation, good decision-making, and accountability for public agencies and businesses. Encinias (2006) also notes that "Community is the expert; the people who live, work, and play in that community are the experts. . . [and] governments don't value community expertise."

In addition to devaluing of participation by government, community residents may not always exercise agency until threats appear. This notion is confirmed by several community

narratives. Amzie Yoder, a ten-year community resident/activist and former mission worker in Central America, notes that “the things that bring people together are often threats.” Altenbach (2016) concurs and also notes that most residents will not get involved until threats appear. Silva (2016) and Moore (2016) indicate that when people “cannot see, feel, or taste” a threat, they have trouble believing it exists (Silva, 2016; Moore, 2016).

Still, Mountain View has amassed much public participation over the last 40 years as result of its activism against environments threats to the quality of life in the community. As the Mountain View Timeline indicates in Figure 1, several threats have spurred community activism and various organizing initiatives to include the following; the death of three infants/young children dying of Blue Baby Syndrome; multiple challenges with well water contamination; city sewage connection efforts; MVNA organizational development; several health impact assessments; sector development plan design and development; submitting denial requests and/or halting several industrial companies that threatened community harm; promotoral model integration for health; community collaboration with research initiatives and the like. Three major initiatives that serve as benchmarks of MVNA’s activism against environmental threats are Health Places Matter New Mexico (formerly Bernalillo County Place Matters), Valle de Oro, and the Community Garden.

Matt Cross-Guillén, a South Valley resident, has worked to foster environmental justice in Mountain View. More than a decade ago, he served as health educator for Bernalillo County, where he worked actively with Mountain View. Today, he directs Health Places NM, whose existence MVNA was fundamental in establishing. There, he equips residents to understand land use and how that effects the quality of life in each community. Cross-Guillén indicates the life expectancies can be calculated according to zip code lifetime/expectancies and where we live

directly correlates to our health. His observations about Mountain View's zoning and collaboration to empower New Mexicans follows:

> "When properties are zoned certain ways, that allows certain things to happen whether it's a farm or a grocery store, or heavy industry. . . A lot of properties are zoned M-1 or M-2 . . . A lot of properties are zoned M-2, which is why heavy industry comes in, but not all of them. Industry gets located by special used permits and that happens by zoning, which is another conversation that needs to happen . . . We found that in the North Valley there is M-2 zoning. On the map it looks comparable, but in person it may be a different story. . . You have heavy industry and majority of EPA regulated facilities in the South Valley. In the North Valley much of that M-2 is brand new car lots. . . You have to ask the question "Why?" . . . I had to be involved in a movement where all people have access to a healthy life. . .the Mountain View Neighborhood Association and other organizations have been a part of that process . . . At Healthy Places NM, we are developing an initiative called "Healthy Here," . . . a Land Use Tool Kit [as a resource for neighborhoods]. If communities want to get involved, they know what the process it and the places where they can have the greatest input. . . In order to change the system, you have to engage in change. . . Activism is always important. Organizing is always important. . . The group voice is always better . . . it carries more weight. . ."

Yoder (2016) notes that the Mountain View community is continually organizing to stop patterns of environmental injustice in Mountain View and working to change others people's perception the South Valley as the "arm pit of Albuquerque." He also notes that "businesses are surprised how this community, in an intelligent and civil way, says 'be just. . . and respect ecological principles." Moore (2016) reiterates the touch stance that Mountain View leaders have with industry:

> "Industry should keep in mind that, for many of us at Mountain View, we were there before those facilities, and quite frankly, we'll be there when a lot of them are not there anymore. We know the importance of having positive businesses and industry around employment, and . . . you know . . . jobs and the production of what there are doing. But on the opposite side of that coin, those who not good neighbors – who are doing damage to the health, safety, and well-being to the residents of our neighborhood – are honestly not welcomed."

Mountain View's activism has not been limited to resistance and reaction to community threats; It has also been proactive. Valle de Oro is one example of this proactive activism. During the last decade MVNA has engaged in more research and work on policies to effect change. It has worked to not simply to contest problems, but to implement the solutions. As Encinias (2016) notes, "we engaged the community and . . . watched[ed] the solutions come to life. Valle de Oro [became] protection for us." Jennifer White-Owens, director of the Valle de Oro acknowledges that "the Mountain View Neighborhood Association has been instrumental role in helping to form, build, design, grow the success of the wildlife refuge." Recognizing that federal laws offered more protection for the wildlife considered endangered species than for the residents, MVNA began explorations for a more policy oriented solution.

Faced with the potential sale of the 570 acres of land that was formerly Price Dairy and noticing wildlife habitation patterns, MVNA worked with the Price family and the federal government to purchase and create the only urban wildlife refuge in the Southwest. MVNA recognized that by enacting the laws for the wildlife refuge, they would also limit a barrage of industry upon the land and at the same time promote environment health within the community. This property would later be named Valle de Oro, Spanish for "Valley of Gold". Owens-White (2016) indicates that the Price family, who owned the dairy named the property Valley Gold Farms because of the grass and cottonwoods, which would turn gold in color.

Since becoming protected land, Valle de Oro is not only a valley of gold for the animal inhabitants. It presents local residents with a golden opportunity for a healthier community, and a gold standard for nearby industries in close proximity. White-Owens notes:

> "The way we're building this refuge is by the community, for the community. And so, environmental justice is huge component of the development of Valle de Oro. . . We get

> funding to do environmental justice education programs, and outreach programs, and partner with groups like Los Jardines and the Mountain View Neighborhood Association; to do surveys, to find out what people really want out of this property, and what they perceive as issues being with our neighborhood and with the refuge. And this year, we're holding our 2nd annual Environmental Justice Day with free food, and music, and games, and kids activities; [and] tours of the neighborhood and the refuge that help enlightened people about community issues, but also allow us to celebrate community successes. . . Hopefully, people see the establishment of this refuge as one of the major successes of the Mountain View Neighborhood Association."

Valle de Oro is, indeed, considered one of the major successes of the MVNA. Yoder (2016) notes that the Valle de Oro Wildlife Refuge has been a very good thing in that it has increased community involvement and interaction as well as buffered the potential for more industry on the land. Another recent success is the emergent work of the Community Garden.

Established in 2014, the MVNA has procured both land that is donated annually and grant funds that cover the insurance on the land. Neighborhood residents work together to till the land, plant and water, seeds, clear weeds and trash, and harvest the produce. Rows are purchased at rate of $25 for Mountain View residents and $50 for non-residents. These monies are recycled to furbish materials for the garden, but much of the resources are donated by community members.

Elena Yoder and Maria Globus, members of the MVNA, were the visionaries for the Community Garden. Their narratives speak of fostering healthy diets for children and families and empowering people. Maria is co-visionary of the community garden came to Mountain View in 2003. She tells of the love for the land and creating produce:

> "Elena and I are going to the elementary school every month . . . I do a little garden at the school; the kids love it. Every so often an adult . . . generally it's an older adult . . .will stop and talk about their garden. It seems they really enjoy it. The Hispanic people really love the earth. The latter generations . . . I'm not sure if that is happening with younger ones . . . but with the older generation, it is important for them to grow their chilies and their tomatoes, and stuff like that."

Elena has been a resident of Mountain View for her husband Amzie for 10 years. She discussed how the vision of the Community Garden came to fruition:

> "Well, Marie and I would walk every week and we would talk about our dreams and visions. . . We talked about the possibility of creating a community garden. And, of course, we no place in mind, because we had no land. That's how the whole things started. We kept talking about it and then at one point, somebody offered . . . offered some land and I was just like . . . 'Oh maybe it is a possibility' because we hardly knew where to go from our dream . . . I was hoping what would come out of it was a place for . . . what Maria was doing at the time was a school garden and I saw how much the kids liked what was grown and planted there, and what was harvested. And, I was just envisioned a place where families could come and children could learn how to harvest crop of whatever they liked and that they would have a better diet. . . . Last year was just the beginning. When we shared the vision, we heard a lot of talk. We also took food to people's homes. The people were just so grateful."

The first year of community gardening culminated with a community fiesta in September, 2015. This fiesta featured food, entertainment, information distribution by community organizations, and harvesting of the crops as community. Those in attendance, both residents and visitors, were welcomed to take whatever these desired and other produced was donated to those in need. Residents described the Community Garden as a place where people talk and work cooperatively together. During the pilot project for this research, three months after the fiesta, Silva (2015) shared his dreams for the Community Garden:

> "We want to not only plant together; we want to cultivate together. We don't want to want to just cultivate the plants, we want to cultivate our own humanity, our human resources, our ability to talk to each other and collaborate on different things. Not only to share a resistance in the environmental movement, but to create a harmony of beauty within our community. . . [where] people care about each other as neighbors, and people take care of each other."

Elena, Maria, and other members of the MVNA have used Community Garden as method of activism and vehicle of empowerment in the community. They have empowered people to raise their own vegetables; increased their capacity for self-sufficiency; enhanced their agrarian

knowledge to help combat obesity and foster healthy eating; and fostered the development of community spirit among residents, who work together to meet basic needs. Altenbach (2016) also suggests that land is a vehicle for self-sufficiency. He says that lawns in Europe were a sign of wealth because they represented land used for aesthetic beauty rather than production of food. As Altenbach notes, the Community Garden promotes the notion of "doing what has to be done, when it has to be done." These skills are transferrable into every area of life for Mountain View residents and beyond.

RQ$_3$: What kinds of shared beliefs/values are discussed among Mountain View residents?

Three major themes that emerged from this project were cultivating humanity, family and togetherness, and care and friendship. I found that Silva's (2015) notion of cultivating humanity as discussed in the pilot project of this study, was reiterated as a theme among participants of the Cumulative Impact Project. Some community residents spoke of promoting human value by conscientizing them. These theme reflect Friere's theories on developing critical awareness of people's social reality and action and works to not only uncover actual needs and problems, but also change their reality.

Cultivating Humanity. Amzie and Elena Yoder, speak much of cultivating humanity. Elena says that Mountain View residents are "trying to cultivate open relationships" where people know and are known of others. Amzie explores this concept of cultivating humanity more deeply:

". . . our philosophy of life of is that everything is connected and people are

Interrelated; that people should not be discriminated by any human made barriers or value systems. We value all humans as being equal . . . Every place we've gone we try to value all humans as of equal value to God and the community. . . One of the objectives of the Community Garden was to get to know one another better, to develop a sense of community as humans because we have in common our humanity as well as our geographic area."

A. Yoder (2016) continues by saying that this cultivation of humanity should not only be among the community residents, but with industry as well.

> "Recently as a result of awareness that's happening, people were invited to meet with one the owners of one corporation . . . And this corporation . . . The owner also lives in the community and he very much interested, just as much as any of us, in having a safe environment. So it's being proactive in meeting together -- community leaders and corporations meeting together and talking like humans to one another in a civil way . . . and working at developing something that doesn't destroy the ambient for humanity."

Mountain View's aspiration for maintaining the ambient of humanity is also reflected in a second theme, that of family and togetherness. Residents described the cultural tradition of the family network inherent in Spanish culture and surviving as a family. They also talked about the differences between Spanish and Anglo families with regard to proximity of living. Encinias (2016) begins our discussion for this component:

> "We garden with our children and for the community . . . I think it goes back to our traditional ways . . .that for a community to survive, it has to make sure that everyone is fed . . . We never went without a food, a home, or shelter. So, we may have been cash poor, but rich in the collectivism of the survival of our family."

Encinias continues by sharing the importance of building "another family":

> "There's the family that you born into and the family that you adopt for different reasons. Then, when there are issues in the community, not everyone will work on those issues, but there is a certain group in the community who come together who aren't blood related, who aren't necessarily living right together with each other, but we have a common interest, right? So, I think by coming together as a community, by learning about what going on, to inform other, to try to educate each other, to share our emotions about what's going on [regarding environmental issues and the health of families] . . . it creates a space . . . in hindsight . . a healing space, a space for solutions."

Altenbach, an Anglo Mountain View resident remarks about the difference between his family traditions and those of neighboring Spanish families:

> "Family is valuable, especially in the Hispanic Community. My son lives right here. My grandson and granddaughter live right here. So, we have an extended family right here. Uhm . . .But that's the norm in the Hispanic family; a very tight, cohesive family tradition. If there is a problem, there is immediate, reliable family support. That's not the case so much in the Anglo community and I wish it were. That's something that would be a wonderful hope for the blending process. . . to learn from one another. Few Hispanic families have the majority of their children scattered across the United States or further. Whereas the majority of Anglos, the ones I know, have families scattered to the winds. So what my son and I have here is unusual."

Thus far, Mountain View residents have communicated narratives that discuss the importance of cultivating humanity as well as family and togetherness. A third shared that concludes this discuss is that of care and friendship. A. Yoder (2016) notes that residents are developing more friends which is evident in part of increased communication and greeting of one another, stopping on the road to talk, and friendships emerging among people who have been in the community. E. Yoder (2016) share the importance of knowing and dreaming with our neighbors:

> "Some of us having been trying to contact people more, visit their homes, or call. Also Maria and I are trying to be present at the school when we have parent teacher meetings. That we way we get to know them and they get to know us . . . It's important to knowing your neighbor, and planning activities to [get to] know them . . . Then [you can] start dreaming together, talking together, and discuss what can be done. Everyone increases in knowledge and is made richer. . . [and that results in] more [people who] can be united to speak."

Cross-Guillén (2016) notes that care and friendship is often communicated through language and culture:

> "There's certainly a value of community, of culture . . . being a white guy who can speak Spanish, I've been welcomed with open arms in conversations and with my openness to language and culture. [We have an] appreciation for each other. Likewise,

> we've learned from each other. [In the Mountain View community], there is a sense of we will be resilient and will continue amidst the battles that we face. And, that's very admirable."

Cross-Guillén also highlights the very diverse groups living in Mountain View also affirmed by others (Silva, 2016; A. Yoder, 2016). Retired professionals and people with diverse races and backgrounds that include international experience demonstrate their care and friendship by getting to know one another and sharing their experience and expertise. He suggests that one of Mountain View's successes is its ability to getting acquainted with neighborhoods. All interviewees in this project commented on the diverse culture provides richness and benefits.

Participatory Action Research. The Community Fun Day was designed to draw Mountain View residents, local academia, and members of the community at large. To do this, I was able to draw approximately 75 participants with supplemental food, activities, entertainment, and the featured documentary. This event was met with favorable results.

The design, development, and implementation of the Community Fun Day occurred during the last four weeks of the project and was completed in conjunction with the Mountain View Neighborhood Association, two past students of Dr. Magdalena Avila's advance health research classes, and other individuals and groups from my sphere of influence. I prepared a donation letter (appendix 5) in conjunction with the MVNA, signed by the MVNA president as an endorsement of our event, and disseminated for donations request for food for 200 people. Donations were received from local businesses, members of MVNA, and the community-at-large. This work was supplemented by marketing.

Having prepared a press release (appendix 4), I distributed it to the three major television networks and the major newspaper outlet for our metropolitan area. I developed an English flyer for distribution in the community and, with the assistance of two MVNA residents and one other reviewer, translated it into Spanish. With the assistance of the university students, I was able to disseminate these flyers to 250 homes, and approximately 30 families who participate at the summer youth program of the Mountain View Community Center. A precision timeline was developed as a guide for the flow of activities and entertainment for the actual Community Fun Day event.

Digital Equipment Use. During the pilot project, I found the audio capacity of the iPad 2 to be of very poor quality for documentary purposes. I was extremely limited in my ability to increase volumes during post-production, particularly for low voice interviewees. During the Cumulative Impact project, I simultaneously recorded the interviews and B-roll sounds with zoom. This incorporation led to significantly higher quality audio. While more technical work was added to post-production in terms of deletion of the iPad 2 audio and synchronization of the Zoom audio was required for all video data captured, the enhanced audio quality was well worth the time.

To enhance the video for this installation, I added use of a Swivl™ and tripod as well as incorporated FiLMiC Pro. The Swivl™ and tripod significantly corrected video distortions compared to the manual hand holding of the device during pilot project. These tools also augmented smoother and larger ranges of motion. The greater challenge and blessing with respect to video was FiLMiC Pro. As mentioned in the methods section, FiLMiC Pro was utilized to increase white balance and HD. While FiLMiC Pro provided better quality video, it did consume much storage capacity on my iPad 2. This necessitated initiation of a factory reset

of my device after each interview, and an upload of video data to my computer after each interview or B-roll recording session to allow file sharing between devices. In two cases, there were only two hours between interviews. As such, I would have to find mobile locations to transfer information prior to the next session, leaving a small window for error in transfer and device reset. Second, FiLMiC Pro is optimized for use with iOS 8. My iPad 2 is iOS 7, which meant my device was slightly slower, but not significantly more time consuming with the app's usage. The improvement in HD was well worth any minor inconveniences.

What did prove inconvenient was the extra work required as result of higher memory needs of FiLMiC Pro. Utilizing half of the memory on my iPad 2, this necessitate continual factory reset after each video upload. After each factory reset, I would have to modify in-app settings and save to the camera roll, which being a novice I forgot to do on a couple of occasions. This inadvertently affected how and where my iPad 2 loaded data to my computer resulting in temporary concern of video loss after transfer. Early on, I also forgot to lock-in my exposure, which, at times, caused my iPad to search to focus in the middle of a recording (rendering that segment of video unusable).

Some advantages to FiLMiC pro compared to regular video camera use on iPad 2 was the ability to drag the focus reticle to a particular area of my video frame. This allowed me to manipulate the amount of light to my camera lens. It also allowed me to utilize the distance of between my interviewees or object of focus (in the case of B-roll footage) to set a depth of field resulting in better focus. The greatest advantage of using FiLMiC Pro was a HD quality comparable to higher priced professional videography equipment. Overall, use of enhanced audio and video tools contributed to a comparable produced as more expensive camera. For novice ethnographers, grad students, and CBOs on limited budgets, the extra time needed for

supplemental device may not only compensate for the inability to purchase pricier equipment, but especially in the case of Zoom, allow for more diverse uses.

One final equipment challenge was the space capacity of the Mac computer used for this project. Its capacity was only 250 GB and not solely dedicated to this project. All audio and video from the iPad 2 and Zoom were originally saved to a PC with larger capacity and accessibility. They were subsequently transferred to an external hard drive that provided supplemental memory to the Mac. Limitations of space occurred with the various rendering of the video when the computer combined various elements (pictures, video and audio clips) into a single digital video. There were also several iterations of those videos in working to the final projects. Each of these renderings consumed great space with the final project being 118 GBs alone.

Discussion

The Cumulative Impact Project was a wonderful growth experience for me in that it required the expansion of existing communication skills and the development of new technical skills. A very positive experience, my interactions with community not only contributed to a successful outcome but also confirmed my trajectory of community-based research at the doctorate level.

Communication Skills. My communication skills were expanded to include a heightened interview skill set and a greater level of networking necessary for resource procurement. I formerly utilized interview skills in corporate settings, primarily in interviewing candidates for new employment or – in the case of community-based settings – equipping residents with mock interviews and resume development to gain employment. For this project, my skills were heightened for use with documentary-style interviews of community residents. I learned quickly

regarding the need to be more directing in the execution of interviews. By using an interview guide with open-ended questions consistently administered to each interviewee, I enlarged the amount and consistency of data procured. The challenge with open-ended interviews, however, is effective time management and ensuring that the interviewee remains on topic.

Higher levels of networking were also employed to procure information and resources needed for project completion whether it was the discovery of state library archival information, preparation of donations letters, or engagement in corporate outreach concerning food and equipment for the Community Fun Day. I was also able to utilize my communication skills in the development of a press release for the documentary premiere and dissemination of it to news outlets.

My technical communication skills were also elevated regarding the knowledge, understanding, and use of equipment that formerly novel or foreign to me. While I was aware of Zoom for quality audio purposes as a result of encounters with audio-visual staff at my church, I had not previously been responsible for operating it or uploading product content. I also was never responsible to sync interfaces between the device and PCs, Mac, or external hard drives. Previously, I did not consider myself technologically savvy, and thought of myself more as second wave adapter – allowing more adventurous individuals to test out new products and later orient me. For example, I was totally unaware of FiLMic Pro at the commencement of this project. In becoming aware of its novel use with iPhones for documentary development, however, I sought to experiment with its use with my iPad to further increase the HD quality of my product. These experiences exacerbated my desire to be a first wave technology user, enhanced my desire to develop technology skills through formal and informal learning, and increase my adeptness in using technology to enhance my communication research products.

Community Participation. Overall, I found the Mountain View community very receptive to the Cumulative Impact Project. Last semester, I had the distinguished gift of introduction to this community through an emic – a community resident who also is a researcher and professor at a local university. As a result of this introduction, I was able to bypass some of the usual challenges ethnographers new to a community experience. Mountain View leaders were eager to share their community world view, encourage my participation in community meetings/activities, help me decipher meanings of observations, and interpret community culture. They also provided participatory feedback through interviews, inquiries, and documentary reviews.

One challenge experienced on this project compared to my pilot project was availability of leaders. Because of our success with the initial 15-minutes documentary produce in the pilot project, my return to the community was met with great favor. Still, the response time on scheduling and execution of appointment from community leaders was greatly extended by comparison. During the pilot project, I was able to secure all interviews in less than a two-week period following initial contact. During the Cumulative Impact Project, average interviews took 3-4 weeks to be secured (two of which were rescheduled 2-3 times expanding the total weeks of procurement). Two interviews required six weeks to secure. I attribute this interview delay two factors: time of year and scheduling availability of activists.

The pilot project interviews occurred between late October and late November, 2015. This period was a traditional holiday period when many families and businesses are slowing down for cultural festivities. The Cumulative Impact interviews were between March and June, 2016. Spring and summer and traditionally busier periods for community activists.

Because of more conducive weather, spring and summer tend to be heightened activity periods Mountain View activists, who are engaged with work both locally and nationally. Community leaders reported being involved in a myriad of activities in the Mountain View neighborhood, in contiguous communities in the South Valley, in Northern New Mexico, and in one case, national travel related to environmental justice. During this period, one participant also designed, developed, and implemented a birthday event that also celebrated his environmental and community activism in which 400 people attended, including many national leaders in the national movement. As a result, future community research should either be conducted either with more time factored into the interview process or during seasons of reduced community activity.

Environmental Activism Research. The Cumulative Impact Project revealed that community residents' stories communicate a reality of racism and classism as evidenced by siting a disproportionate number of EPA regulated facilities in this agrarian, working class, community of color. Mountain View residents report multiple dirty and polluting industries, red lining, zoning practices that perpetuate environmental racism, two superfunds, flight line dumping, a wastewater treatment facility, and a myriad of characteristics as a result of institutional and structural racism. They acknowledge the Cerrell Report's influence in fostering the siting of industries that share environmental pollutants in communities of color across the nation, including Mountain View, but have and continue to work consistently to transcend being a target for a dumping ground.

Mountain View residents talk about use community activist to impact decisions that serve as environmental threats to their community. These threats lead to disempowering, devaluing, and delimiting the community and its voice. In addition to the ongoing organizing against

environmental threats, three major successes of the MVNA include the establishment of Healthy Places Matter NM, Valle de Oro, and a local community garden. MVNA members also see to foster dialogue with industry representatives to promote community harmony and to develop community solutions that are beneficial for all stakeholders and are ecologically-wise. They also created shared values by cultivating humanity, valuing family and togetherness, and promoting care and friendship among community members.

Conclusion

In conclusion, the Cumulative Impact documentary project encapsulated the story of the Mountain View neighborhood's resilience in the face of environmental injustice as evidenced by hazard waste siting 33 out of 35 EPA sites in their community, a wastewater treatment plant, and numerous industries polluting the community with hazardous waste. Although environmental threats have continued to emanate in Mountain View since the blue baby syndrome was first identified from nitrates in their water supply, this community has experienced measurable gains to their quality of life. Using digital community-based participatory ethnography research, this project engaged in digital storytelling to capture Mountain View's perspectives on being targeted as a dumping ground for environmental hazards and to heighten understanding of their both cultural communication and social justice pursuits through environmental activism.

The Cumulative Impact Project served as a vehicle to promote social justice by amplifying the voice of formerly marginalized residents, and fostering their movement to the center of the environmental discourse. Neighborhood residents, in partnership with the researcher, co-created counter-stories to dominant narratives about environmental challenges in their community. By creating and sharing their story regarding how they survived, coped with,

and remediated environmental problems that adversely affected them, Mountain View leaders were able to construct a reality that transcended their being targeted as a dumping ground for environmental pollutants. In sharing this testimony, they are now positioned to encourage other marginalized communities to social action, knowledge procurement, and empowerment regarding environmental threats, including the practical pursuit of responses to alleviate them.

Outcomes & Implications. This project demonstrates that communities can serve as agents of change and mitigate the environmental challenges that often engulf them. Environmental activism not only promotes accountability among government and industry, but it also serves as unifying that fosters community awareness of their reality, mutual care and respect, and social change. This work benefits the field of communication be adding to the discourse on communication and culture. It clarifies and adds insight regarding the shaping of meaning around shared values and decision-making. It also explores how talk is used to convey stories realities of racism and classism.

From a digital ethnography perspective, the Cumulative Impact Project expands upon innovative uses of technology and demonstrates that community based organizations and other entities of limited means can effectively engage in counter-story telling through use of the iPad or other accessible communicative tools to enhance awareness and promote social change. These visual accounts may add to the research records of scientific communities and foster academia's willingness to embrace community leaders/members as carriers of expert knowledge. Digital ethnographic records may also be used in the future as new methods of communicative analysis and understanding are available through which fresh interpretations may evolve.

The Cumulative Impact Project highlights another example of collaboration between academia and community through participatory action research. With an emphasis toward

CPBR to reduce health disparities, this project highlighted the potential that communities can have upon policy development that produced improved health outcomes. It points to the Valle de Oro wildlife refuge as a new method of enacting the laws that would not only benefit wildlife, but also limit a barrage of industry upon semi-rural, semi-urban communities of color. The Cumulative Impact Project chronicled how community residents talk together, unite together, and empower each other to cultivate the land and humanity as well as foster improved the health and spirit of the community.

Limitations & Future Study. The Cumulative Impact Project had several limitations to include case study focus, equipment, expense and expertise. This project was a case study based in one semi-rural, semi-urban community in Bernalillo County, NM. Therefore, its findings are not universally generalizable. The aspects of digital ethnography and environmental activism communication techniques may, however, be generalizable both in urban and rural communities. Digital ethnographies are often said to reflect weaknesses and limitations similar to that of film. These characteristics may include the professional interests and bias of the research investigator, how truth is presented, and whether or not reality is thought to have been manipulated.

This project would also require significant expense and expertise for communities seeking to replicate it, especially those on the other side of the digital divide. While its goal was successfully achieved in demonstrating that technological accessible tools can be used to create digital ethnographies, the savings in finance will require expensive human resource costs. This investigator was able to utilize equipment from university and other resources. I relied on my sphere of influence for informal training media training and required an external editor to foster speedy program completion. CBOs may need to develop relationships with post-secondary institutions or media organizations to facilitate access to both equipment and expertise where

needed. While this project utilized video and audio recording equipment than those available to professionals, CBOs and novice ethnographers may also need to procure grant funding to cover equipment expenses.

References

Alaszewki, A. (2006). *Using diaries for social research*. London: SAGE.

Androutsopoulos, J. (2008). Potentials and limitations of discourse-centered online ethnography. *Language@Internet, 5*(9). Retrieved from http://www.languageatinternet.org/articles/2008/1610/androutsopoulos.pdf.

Angrosino, M. V. (2005). Recontextualizing observation: Ethnography, pedagogy, and the prospects for a progressive political agenda. In N.K. Denzin & Y.S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (3rd ed, pp. 729-74). Thousand Oaks, CA: Sage.

Angrosino, M.V. and Rosenberg, J. Observations on observation: Continuities and challenges. In N.K. Denzin and Lincoln, Y.S. (Eds.), *The SAGE Handbook of Qualitative Research*, (4th ed, pp. 467-478). Thousand Oaks, CA: Sage.

ASHG commentary: Response to the allegations against James V. Neel in Darkness in El Dorado by Patrick Tierney. (2002, January). *American Journal of Human Genetics, 70*(1): 1-10

(M. Avila, personal communication, June 21, 2016).

Bailey, C. A. (2007). *A guide to qualitative field research*. Thousand Oaks, CA: Pine Forge Press.

Baillet, P.O.C. (2009). Ethnography. In S.W. Littlejohn and K.A. Foss, *Encyclopedia of Communication Theory*, 355-360. Thousand Oaks, CA: SAGE Reference.

Baker, S. (Director.) (2015). Tangerine [movie]. USA: Magnolia Pictures.

Barr, S. (2003). Strategies for sustainability: Citizens and responsible environmental behaviour. *Area, 35*(3):227-240.

Beaulieu, A. (2004). Mediating ethnography: Objectivity and the making of ethnographies of the internet. *Social Epistemology, 18*, 139-163.

Beierle, T. C., & Cayford, J. (2002). *Democracy in practice: Public participation in environmental decisions*. Washington, DC: Resources for the Future Press.

Benedict, R. (1934). *Patterns of culture*. Boston: Houghton Mifflin.

Bernal Delgado, D. (2002). Critical race theory, Latino critical theory, and critical raced-gendered epistemologies: Recognizing students of color as holders and creators of knowledge. *Qualitative Inquiry 8*(1), 105-126.

Bernalillo County. (n.d.). Water quality: Nitrates. Retrieved from http://www.bernco.gov/public-works/water-quality.aspx.

Bernalillo County Place Matters. (2012). *Health assessment on the impact of the Bernalillo County pedestrian and bicyclist safety action plan: Accessibility and safety on Mountain View's second street*. Bernalillo County Place Matters Team. Bernalillo County, NM: J. McEntire LLC.

Berry, N. S., McQuiston, C., Parrado, E. A., and Olmos-Muniz, J. C. (2012). CBPR and ethnography: The perfect union. In B. A. Israel, E. Eng, and A. J. Schulz (Eds.)., *Methods for Community-Based Participatory Research for Health (2nd Ed.),* 305-334. San Francisco: Jossey-Bass.

Boas, F. (1940). Race, language, and culture. New York: McMillan Company.

Booth, C. (1891). *Labour and life of the people of London*. London and Edinburg: Williams and Nargate.

Bormann, E. (1980). *Communication Theory*. New York: Holt, Rinehart and Winston, 1980.

Brandon, L. J., & Proctor, L. (2010). Comparison of health perceptions and health status in

African Americans and Anglos. *Journal of the National Medical Association, 102*(7), 590-7.

Brown, T. N. (2003). Critical race theory speaks to sociology of mental health: Mental health problems produced by racial stratification. *Journal of Health and Social Behavior 44*(3), 292-301.

Brown, L.D., and Tandon, R. (1983). Ideology and political economy in inquiry: Action research participatory research. *Journal of Applied Behavioral Science, 19*, 277-294.

Bullard, R. (1994). Unequal protection: Environmental justice and communities of color. San Francisco: Sierra Club.

Bullard, R.D, Mohai, P., Saha R., and Wright, B. (2007). Toxic waste and race, 1987-2007: A report prepared for the United Church of Christ Justice and Witness Ministries. Retrieved from http://www.uMountainedu/ethics/imx/toxic20.pdf

Burrel, J. (2009). The field site as a network: A strategy for locating ethnographic research. *Field Methods*, 21, 181-199.

Brownfields. (2016, June 23). Environmental Protection Agency. Retrieved from www.epa.gov/brownfields.

Brydon-Miller, M., Kral, M., Maguire, P., Noffke,S, and Sabhlok, A. (2011). Jazz and the banyan tree: Roots and riffs on participatory action research. In N.K. Denzin and Y.S. Lincoln (eds.), *The SAGE Handbook of Qualitative Research* (4th ed.). Los Angeles: SAGE Publications, Inc.

Cammarota, J., & Fine M. (Eds.). (2008). Revolutionizing education: Youth participatory action research in motion. New York: Routledge.

Carbaugh, D. (2007). Cultural discourse analysis: Communication practices and intercultural encounters, *Journal of Intercultural Communication Research, 36*(3), 167-182.

Carbaugh, D., & Wolf, K. (1999). Situating rhetoric in cultural discourses. *International and Intercultural Communication Annual, 22*, 19–30.

Chavis, B. F., Jr. (1994). Preface. In R. D. Bullard (Ed.). *Unequal Protection: Environmental Justice and Communities of Color*. San Francisco, CA: Sierra Club Books.

Clair, R. P. (2003). The Changing story of ethnography. In R. P. Clair (ed.), *Expressions of ethnography: Novel approaches to qualitative methods*, 3-24. Albany: State University of New York Press.

Coburn, C. (2004). Beyond decoupling: Rethinking the relationship between the institutional environment and the classroom. *Sociology of Education, 77*(3), 211-244

Collins, P. H. (2000). *Black feminist thought: Knowledge, consciousness, and the politics of empowerment* (2nd ed.). New York: Routledge.

Commission for Racial Justice. (1987). Toxic wastes and race in the United States: A national report on the socio-economic characteristics of communities with hazardous waste sites. *United Church of Christ.* Retrieved from http://d3n8a8pro7vhmx.cloudfront.net/ unitedchurchofchrist/legacy_url/13567/toxwrace87.pdf?1418439935.

Conquergood, D. (1991). *Rethinking ethnography: Toward a critical cultural politics. Communication Monographs*, 58, 179-194.

Cornwall, A., and Jewkes, R. (1995). What is participatory research? *Social Science and Medicine, 41,* 1667-1676.

Cox, R. (2006). Environmental communication and the public sphere. Thousand Oaks, CA: Sage.

Craig, R. T. (1999). Communication theory as a field. *Communication Theory, 9,* 199-161.

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five*

approaches (2nd ed.). Thousand Oaks: Sage Publications.

Cruz, M. R. (2008). What if I just cite Graciela? Working toward decolonizing knowledge through a critical ethnography. *Qualitative Inquiry, 14*(4): 651-658.

Delicath, J.W. and DeLuca, K.M. (2003). Image events, the public sphere, and argumentative practice: The case of radical environmental groups. *Argumentation, 17*(3):315-333.

Delgado, R., and Stefancic, J. (1993). Critical race theory: An annotated bibliograpy. *Virginia Law Review, 79*(20), 461-516.

Delgado, R., and Stefancic, J. (2000). *Critical race theory: The cutting edge* (1st ed.). Philadelphia: Temple University Press.

Delgado, R., and Stefancic, J. (2001). *Critical race theory: An introduction*. New York: New York University Press.

Delgado, R., and Stefancic, J. (2013). *Critical race theory: The cutting edge* (2nd ed.). Philadelphia: Temple University Press.

Dempsey, S.E. (2009). NGOs, communicative labor, and the work of grassroots representation. *Communication and Critical/Cultural Studies, 6*(4):328-345.

Denzin, N.K. & Giardina, M.D. (2009). Qualitative inquiry and social justice: Toward a politics of hope. In N.K. Denxin & M.D. Giardina (Eds.), *Qualitative inquiry and social justice*, (pp. 11-52). Walnut Creek, CA: Left Coast Press.

Denzin, N. K., & Lincoln, Y. S. (2011). *The Sage Handbook of Qualitative Research.* Los Angeles: Sage Publications.

DiCicco-Bloom, B., & Crabtree, B. F. (2006). The qualitative research interview. *Medical Education, 40*(4), 314– 321.

Dreger, A. (2011, September). Darkness' descent on the American Anthropological Association: A cautionary tale. *Human Nature, 22*(3): 225–246. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3178026

Duck, S., and McMahon, D. T. (2015). Communication in every day life, (2nd ed.). Thousand Oaks, CA: SAGE.

DuBois. W. E. B. (1899) The Philadelphia negro: a social study. New York: Schocken.

Ely, M., Anzul, M., Friedman, T., Garner, D., & Steinmetz, A. M. (1991). Doing qualitative research: Circles within circles. New York: The Falmer Press.

Endres, D., Spring, L., and Peterson, T.R. (2008 Jul). The imperative of praxis-based environmental communication research: Suggestions from the Step It Up 2007 national research project. *Environmental Communication, 2*(2):237-245.

Erickson, F. (2011). A history of qualitative inquiry in social and educational research. In N. K. Denzin & Y. S. Lincoln (Eds.). *The Sage Handbook of Qualitative Research.* Los Angeles: Sage Publications.

Executive Order 12898; Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 Fed. Reg. (February 16, 1994). Retrieved from https://www.archives.gov/federal-register/executive-orders/pdf/12898.pdf

Faber & Kreig, (2002). Unequal exposure to ecological hazards: Environmental injustices in the Commonwealth of Massachusetts. *Environmental Health Perspectives*, 100, S2, 278.

Fals-Borda, O. (1987). The application of participatory action research in Latin American. *International Sociology, 2*, 329-347.

Fals-Borda, O., and Rahman, M. A. (1991). Action and knowledge: Breaking the monopoly with participatory action research. New York: Apex.

Fay, B. (1987). *Critical social science: Liberation and its limits*. Ithaca, NY: Cornell University Press.

Flores, L. A. (2009). Critical Race Theory. In S. Littlejohn & K. Foss (Eds.). *Encyclopedia of Communication Theory, 2.* Thousand Oaks, CA: Sage Publications, p. 231-234. Gale Virtual Reference Library. Web.

Flyvbjerg, B. (2001). *Making social science matter: Why social inquiry fails and how it can succeed again.* Cambridge, UK: Cambridge University Press.

Ford, C. L., and Airhihenbuwa, C. O. (2010). Critical race theory, race equity, and public health: toward antiracism praxis. *American Journal of Public Health, 100*(S1), S30-35.

Foreman, C. H., Jr. (1998). The Promise and Peril of Environmental Justice. Washington, DC: Brookings Institute Press.

Forsyth, R., Carroll, K.E., and Reitano, P. (2009). Illuminating everyday realities: The significance of video methods for social science and health research. *International Journal of Multiple Research Approaches, 3*(3): 214-217.

Freire, P. (1970). *Pedagogy of the oppressed*. New York: Seabury.

Freire, P. (1982). Creating alternative research methods: Learning to do it by doing it. In B.L. Hall, A. Gillette, and R. Tandon (Eds.), *Creating knowledge: A monopoly? Participatory research in development.* New Delhi: Society for Participatory Research in Asia.

Frey L. R. (2009). Social justice. In S.W. Littlejohn and K.A. Foss, *Encyclopedia of Communication Theory*, 908-911. Thousand Oaks, CA: SAGE Reference.

Fry, G. M. (1984). *Night Riders in Black Folk History*. Knoxville: University of Tennessee Press.

Gamble, V. (1997). Under the shadow of Tuskegee: African Americans and health care.

American Journal of Public Health, 87: 1773-1778.

Gaventa, J. (1993). The powerful, the powerless, and the experts: Knowledge struggles in an information age. In P. Park, M. Brydon-Miller, B. L. Hall, and T. Jackson (Eds.), *Voices of change: participatory research in the United States and Canada*, pp. 21-40. Westport, CT: Bergin & Garvey.

Geertz, C. (1973). *The interpretation of cultures*. Selected essays. New York: Basic Books.

Geertz, C. (1995). *After the fact*. Cambridge, MA: Harvard University Press.

Gill, P., K. Stewart, K., Treasure, E., and Chadwick, B. (2008). Methods of data collection in qualitative research: interviews and focus groups. *British Dental Journal* 204, 291 - 295

Greenwood, D., & Levin, M. (1998). *Introduction to action research: Social research for social change.* Thousand Oaks, CA: Sage.

Griffin, E.M. (2012). *A First Look at Communication Theory, (8th ed.).* New York, NY: McGraw-Hill.

Guney, S. (2010). New significance for an old method: CAS theory and ethnography. Communication Methods and Measures, *4*(3):273–289.

Gupta, A., and Ferguson, J. (1997). Discipline and practice: ‘The field’ as site, method, and location in anthropology. In A. Gupta and J. Ferguson (Eds.). *Anthropological Locations. Boundaries and Grounds of a Field Science*, 1-46. Berkeley, LA: University of California Press.

Haider & Wanty (2013). Reducing health disparities. In M. J. Dutta & G. L. Kreps (Eds.), Reducing health disparities: Communication interventions, pp. 226-242.

Hall, B. L. (1992). From margins to center: The development and purpose of participatory research. *American Sociologist, 23*(4), 15-28.

Hall, B. L. (1999). Looking back, looking forward: Reflections on the International Participatory Research Network. *Forests, Trees, and People Newsletter, 39*, 3-36.

Hammersley, M. (1998). Reading ethnographic research: A critical guide, (2nd ed.). New York: Addison Wesley Longman.

Hammersley, M. and Atkinson, P. (2007). *Ethnography: Principles in Practice, 3rd edition.* New York, NY: Routledge.

Harris, A. P. (1994). The jurisprudence of reconstruction, *California Law Review, 82*(4), 741.

Hatch, J., Moss, N., Saran, A., Presley-Cantrell, L. and Mallory, C. (1993). Community research: Partnership in black communities. *American Journal of Preventive Medicine, 9*, 27-31.

Harvey, D. (1996). *Justice, Nature, and the Geography of Difference.* Oxford, UK: Blackwell.

Hess, A. (2010 Fall). Democracy through the polarized lens of the camcorder: Argumentation and vernacular spectacle on YouTube in the 2008 election. *Argumentation and Advocacy, 47*:106-122.

Hine, C. (2000). *Virtual ethnography*. London: SAGE.

Holifield, R. (2001). Defining environmental justice and environmental racism. *Urban Geography, 22*(1), 78-90.

hooks, b. (1984). *From margin to center.* Boston: South End Press.

hooks, b. (1989). *Talking back: Thinking feminism, talking black.* Boston: South End Press.

Horowitz, C. R., Robinson, M., Seifer, S. (2009). Community-based participatory research from the margin to the mainstream: Are researchers prepared? *Circulation, 119*, 2633-2642.

Horton, M., & Freire, P. (1990). *We make the road by walking: Conversations on education and social change.* Philadelphia: Temple University Press

Hymes, D. H. (1962). The ethnography of speaking. In T. G. Gladwin & W. C. Sturtevant (Eds.). *Anthropology and human behavior.* Washington, DC: Anthropological Society of Washington.

Hymes, D. H. (1974). *Foundations in sociolinguistics: An ethnographic approach*. Philadelphia: University of Pennsylvania Press.

Hymes, D. H. (1996). *Ethnography, linguistics, narrative inequality. Towards an understanding of voice.* London: Taylor & Francis.

International Genetic Epidemiology Society; Baur, M.P., Majumder, P.P., Amos, C.I., Feingold, J.I., King, T.M., Morton, N.E., Province, M.A., Spence, M.A., Thomas, DC. (2001, September). International Genetic Epidemiology Society: Commentary on Darkness in El Dorado by Patrick Tierney. Genetic Epidemiology, 21(2): 81-104. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/11507719

Israel, B., Eng., E., and Schulz, A. J. (2013). *Methods for community-based participatory research for Health, (2nd Ed.).* San Francisco: Jossey-Bass.

Israel, B. A., Shulz, A. J., Parker, E. A., and Becker, A. B. (1998). Review of community-based research: assessing partnership approaches to improve public health. *Annual Review of Public Health, 19*, 173-202.

Jackson, B. (1999, October). The ethnographic voice. Originally published in Italian in *Il Polo*, University of Fermo, as a tribute to Jean Malaurie. Retrieved from http://www.acsu.buffalo.edu/~bjackson/ETHNOGRAPHY.HTM

Kahn, K.L, Pearson, M.L., Harrison, E.R, Desmond, K. A., Rogers, W.H., Rubenstein, L.V., Brook, R. H., & Keeler, E. B. (1994). Healthcare for black and poor hospitalized Medicare patients. *Journal of the American Medical Association, 271*, 1169-1174.

Kaiser Family Foundation. (2012). Disparities in health and health care: Five key questions and answers. Retrieved from http://kff.org/disparities-policy/issue-brief/disparities-in-health-and-health-care-five-key-questions-and-answers.

Kilgore, D. W. (2001). Critical and postmodern perspectives on adult learning. *New Directions for Adult and Continuing Education,* 89, 53-63.

Kindervatter, S. (1979). *Nonformal education as an empowering process*. Amherst: University of Massachusetts, Center for International Education.

Knoblauch, H. (2005). Focused ethnography. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, *6*(3), Art. 44. Retrieved from http://nbn-resolving.de/urn:nbn:de:0114-fqs0503440

Kozinets, R.V. (2009). Netnography: Doing ethnographic research online. London: SAGE.

Kreps, G. L., O'Hair, D., & Clowers, M. C. (1995). *Communication and health. communication and health outcomes*. Cresskill, NJ; Hampton Press, Inc.

Kuhn, T. (2005). The institutionalization of Alta in organizational communication studies. *Management Communication Quarterly, 18*, 618-627.

Lavalle, M., & Coyle, M. (1992). Unequal protection: The racial divide in environmental law. National Law Journal, S2-S12.

Lerner, S. (2010). Sacrifice zones: The front lines of toxic chemical exposure in the United States. Cambridge, MA: MIT Press.

Lester, L. and Hutchins, B. (2009). Power games: Environmental protest, news media and the internet. *Media, Culture & Society, 31*(4):579-595.

Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues, 2*, 34-46.

Lewis, H. (2001). Participatory research and education for social change: Highlander Research and Education Center. In P. Reasons H. Bradbury (Eds.), *Handbook of action research: Participative inquiry and practice* (pp. 356-362). London: Sage.

Lincoln, Y. S., Lynham, S. A., Guba, E. G. (2011). Paradigmatic controversies, contradictions, and emerging confluences, revisted. N. K. Denzin, & Y.S. Lincoln (Eds.). In The SAGE handbook of qualitative research. Thousand Oaks, CA: Sage.

Lindolf, T. R. & Taylor, B. C. (2011). *Qualitative Communication Research Methods* (3rd ed.). Los Angeles: SAGE.

Link, E. P. (1969). The civil rights activities of three great Negro physicians (1840-1940). *Journal of Negro History*, 52, 177.

Littlejohn, S., & Foss, K. (2011). *Theories of human communication*. 10th ed. Long Grove, IL: Waveland Press.

Lubell, M. (2002 July). Environmental activism as collective action. *Environment and Behavior, 34*(4):431-454.

Lubell, M., Vedlitz, A., Zahran, S., and Alston, L.T. (2006 Mar). Collective action, environmental activism and air quality policy. *Political Research Quarterly, 59*(1):149-160.

Lykes, M. B. (1997). Activist participatory research among the Maya of Guatemala: Constructing meanings from situated knowledge. *Journal of Social Issues, 53*, 725-746.

Maantay, J. (2002). Mapping environmental injustices. *Environmental Health Perspectives*, 110, S2, 162.

Madison, D. S. (2005). *Critical ethnography: Methods, ethics, and performance*.

Thousand Oaks, CA: SAGE.

Maguire, P. (1987). *Doing participatory research: A feminist approach.* Amherst: Center for International Education, University of Massachusetts.

Maguire, P. (1996). Considering more feminist participatory research: What's congruency got to do with it? Qualitative Inquiry, 2, 106-118.

Maguire, P. (2001). Uneven ground: Feminisms and action research. In P. Reasons & H. Bradbury (Eds.), *Handbook of action research: Participative inquiry and practice* (pp. 59-69). Thousand Oaks, CA: Sage.

Malinowski, B. (1922). *Argonauts of the Western Pacific: An account of native enterprise and adventure in the archipelagoes of Melanesian new Guinea*. London and New York: G. Routledge and E. P. Dutton.

(S. Martinez, personal communication, April 7, 2016).

Massey, R. (2004). Environmental justice: Income, race, and health. Global Development and Environmental Institute. Tufts University. Retrieved from http://www.ase.tufts.edu/gdae/education_materials/modules/Environmental_Justice.pdf

Matsuda, M. J., Lawrence III, C. R., Delgado, R., and Crenshaw, K. W. (1993). Words that wound: Critical race theory, assaultive speech, and the first amendment. Boulder, CO: Westview Press.

McCarthy, C., and Dimitriadias, G. (2005). Governmentality and the sociology of education: media, educational policy, and the politics of resentment. In C. McCarthy, W. Crichlow, G. Dimitriadias, and N. Dobly (Eds.), *Race, identity, and representation in education* (2nd ed.). New York: Routledge.

McFarlane, B.L. and Boxall, P.C. (2003 Mar). The Role of social psychological and social structural variables in environmental activism: An example of the forest sector. *Journal of Environmental Psychology, 23*(1):79-87.

McGurty, E. M. (2000). Warren County, NC, and the emergency of the environmental justice movement: Unlikely coalitions and shared meanings in local collective action. *Society & Natural Resources, 13*, 373-387.

Mead, M. (1928). Coming of age in Samoa. New York: Mentor Books.

Merriam, S. B. (1991). How research produces knowledge. In J. M. Peter, P. Jarvis and Associates (Eds.). *Adult education: Evolution and achievements in developing a field of study*, 42-65. San Francisco: Jossey-Bass.

Mies, M. (1996). Liberating women, liberating knowledge: Reflections on two decades of feminist action research. *Atlantis, 21(*6), 10-24.

Minkler, M., and Wallerstein, N. (2003). Introduction to community based participatory research. In M. Minkler & N. Wallerstein (Eds.). *Community-Based Participatory Research for Health.* San Francisco: Jossey-Bass, p. 5-6.

Mohai, P., and Bryant, B. (1992). Environmental injustices: Weighing race and class factors in the distribution of environmental hazards, *University of Colorado Law Review*, 63, 927.

(R. Moore, personal communication, November 17, 2015).

Moriarty, P. (1993). Deep learning for earth county. In Carmody and Carmody (Ed.)., Future of *Prophetic Christianity: Essays in Honor of Robert McAfee Brown*. New York: Orbis Books.

Murthy, D. (2008). Digital ethnography: An examination of the use of new technologies for

social research. *Sociology, 42*(5): 837-855.

Neuman, M. (1992). The trail through experience: Finding self in the recollection of travel. In C. Ellis and M. G. Flaherty (Eds.), *Investigating subjectivity: Research on lived experience*, 176-201. Newbury Park, CA: SAGE.

Neuman, W. L. (2006). *Social research methods: Qualitative and quantitative approaches*. Boston: Pearson.

Nyerere, J. (1969). Education for self-reliance. *Convergence, 3*(1), 3-7.

O'Reilly, K. (2005). Ethnographic methods. Abingdon, Oxford: Routledge.

Orum, P., Moore, R., Roberts, H., and Sanchez, J. (2014). Who's in danger? Race, poverty, and chemical disasters: A demographic analysis of chemical disaster vulnerability zones. Environmental Justice and Health Alliance for Chemical Policy Reform.

Pace, D. (2005). More Blacks live pollution. Associated Press. Retrieved from http://hosted.ap.org/specials/interactives/archive/pollution/part1.html.

Padilha, José (Director & Producer). (2010). Secrets of the Tribe [documentary]. Zazen Productions.

Perakyla, A., & Ruusurvuori, J. (2011). Analyzing talk and text. In N. K. Denzin, & Y. S. Lincoln, (Eds.). *The Sage Handbook of Qualitative Research.* Los Angeles: Sage Publications.

Pezzullo, P.D. (2001). Performing critical interruptions: Stories, rhetorical invention and the environmental justice movement. *Western Journal of Communication, 65*(1):1-25.

Philipsen, G. (1992). Culturally speaking: Explorations in social communication. Albany: State University of New York Press.

Philipsen, G. (1997). A theory of speech codes. In G. Philipsen & T. Albrecht (Eds.) Developing communication theories. Albany: State University of New York Press.

Pink, S. (2001). *Doing Ethnography: Images, Media and Representation in Research.* London: Sage.

Pink, S. (2007). *Doing visual ethnography.* London: SAGE.

Postill, J. & Pink, S. (2012, November). Social media ethnography: The digital researcher in a messy web. *Media International Australia Incorporating Culture and Policy: Quarterly* Retrieved from http://search.informit.com.au/documentSummary; dn=992474822836114;res=IELLCC> ISSN: 1329-878X.

Powell, J. S. (1984). Political difficulties facing waste-to-energy conversion plant siting. California Waste Management Board, State of California. Los Angeles: Cerrell Associates, Inc.

Prensky, M. (2006). Digital native, digital immigrants. *On the Horizon 9*(5), 1-6.

Price, V. B., and Farell, N. (2011). *Orphaned land: New Mexico's environment since the Manhattan project.* Albuquerque: University of New Mexico Press.

Pulido, L. (1998). The sacredness of "Mother Earth": Spirituality, activism, and social justice. In Engagements with David Harvey's Justice, Nature and the Geography of Difference. *Annals of the Association of American Geographers, 88,* 706-730.

Radcliffe-Brown, A. R. (1952) Historical note on British social anthropology. *American Anthropologist*, 542 (2, parts 1), 275-277.

Raine, L. (2013, November 5). Pew: 15 percent of Americans don't use the internet.

[video]. Washington Post Live. Retrieved from https://www.washingtonpost.com/posttv/business/technology/pew-15-percent-of-americans-dont-use-the-internet/2013/11/06/172a067c-4698-11e3-bf0c-cebf37c6f484_video.html

Rampton, B. (2009). Dell Hymes's visions of enquiry. *Text & Talk, 29*(3): 361-369.

Randsdell, L. (1995). Church-based health promotion: An untapped resource for women 65 and older. *American Journal of Health Promotion, 9*(5), 333-336.

Read, S. (2011). The mundane, power, and symmetry: A reading of the field with Dorothy Winsor and the tradition of ethnographic research. *Technical Communication Quarterly*, *20*(4):353–383.

Reason, P., & Bradbury, H. (2008). *The SAGE handbook of action research: Participative inquiry and practice* (2nd ed.). Thousand Oaks, CA: Sage.

Robinson, L. & Schulz, J. (2009). New avenues for sociological inquiry: Evolving forms of ethnographic practice. *Sociology,* 43, 685-698.

Saha, S., Komaromy, M., Koepsell, T.D., & Bindman, A.B. (1999). Patient-physician racial concordance and the perceived quality and use of health care. *Archives of Internal Medicine, 159,* 997-1004.

Samuel-Hodge, C. D., Headen, S. W., Skelly, A. H. Ingram, A. F., Keyserling, T. C., Jackson, E. J., Ammerman, A. S., and Elasy, T. A. (2000). Influences on day-to-day self-management of type 2 diabetes among African American Women: Spirituality, the multi-care giver role, and other social contexts. *Diabetes Care, 23*, 928-933.

Sava, E. (2011). Digital ethnography. *Revista romana de Jurnalism si Comunicare, VI*(3) :52-56.

Saville-Troike, M. (1989). The ethnography: An introduction (2nd ed.). New York: Basil Blackwell, Inc.

Schulz, A. J., Parker, E. A., Israel, B. A., Becker, A. B., Maciak, B. J., and Hollis, R. (1998). Conducting a participatory community-based survey: Collecting and interpreting data for a community intervention on Detroit's East Side. *Journal of Public Health Management and Practice, 4*(2), 10-24.

(L. Silva, personal communication, April 5, 2016).

Silverman, D. (2005). *Doing qualitative research*. London: SAGE.

Sims, J. M. (1889). *The Story of My Life.* New York: Appleton.

Slawter, L.D. (2008). TreeHugger TV: Re-visualizing environmental activism in the post-network era. *Environmental Communication: A Journal of Nature and Culture, 2*(2):212-228.

Smedley, B.D., Stith, A.Y., & Nelson, A.R. (Eds.). (2002). *Unequal treatment: Confronting racial and ethnic disparities in health care.* Institute of Medicine (U.S.). Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care. Institute of Medicine. Washington, DC: National Academy Press.

Spurlock, C.M. (2009). Performing and sustaining (agri)culture and place: the cultivation of environmental subjectivity on the Piedmont Farm Tour. *Text and Performance Quarterly, 29*(1):5-21.

Stern, P.C. (2000). Toward a coherent theory of environmentally significant behavior. *Journal of Social Issues, 56*(3):407-424.

Stovall, D. (2005). A challenge to traditional theory: CRT, African-American community organizers, and education. *Discourse: Studies in the cultural politics of education, 26*(1), 95-108.

Tandon, R. (1988). Social transformation and participatory research. *Convergence, 21*(2/3),

5-18.

Tandon, R. (1996). The historical roots and contemporary tendencies in participatory research: Implications for health care. In K. DeKoning & M. Martin (Eds.), *Participatory research in health: Issues and experiences* (2nd ed, pp. 19-26). London: Zed Books.

Taylor, D. (2000). The rise of the environmental justice paradigm: Injustice framing and the social construction of environmental discourses. *American Behavioral Scientist, 43*, 508-580.

Taylor, T. (1992). *Mutual misunderstanding: Scepticism and the theorizing of language and interpretation*. Durham, NC: Duke University Press.

ten Have, P. (2004). *Understanding qualitative research and ethnomethodology*. London: SAGE.

Tierney, P. (2001). *Darkness in El Dorado: How scientists and journalists devastated the Amazon*. New York: W.W. Norton & Company

Tracy, S. H. (2013). *Qualitative research methods: Collecting evidence, crafting analysis, and communicating impact.* Oxford, UK: John Wiley & Sons.

Townsend, R. (2006). Widening the circumference of scene: Local politics, local metaphysics. *KB Journal, 2*(2), 1–19.

United Nations Food and Agriculture Organization. (2006). World Congress on Communication for Development: Lessons challenges, and the way forward. Washington, DC: The World Bank, The International Bank for Reconstruction and Development.

United States Environmental Protection Agency, Office of Environmental Justice. (2015). Basic information: Environmental justice. Retrieved from

http://www3.epa.gov/environmentaljustice/basics/

Vannini, A. (2009). Critical ethnography. In S.W. Littlejohn and K.A. Foss, *Encyclopedia of Communication Theory*, 223-226. Thousand Oaks, CA: SAGE Reference.

Vannini, A. (2009). Performance ethnography. In S.W. Littlejohn and K.A. Foss, *Encyclopedia of Communication Theory*, 735-739. Thousand Oaks, CA: SAGE Reference.

Varis, Piia. (2016). Digital ethnography. In A. Georgakopulou and T. Spilioti (Eds.), *The Routledge Handbook of Language and Digital Communication,* p. 55-68. New York: Routledge.

Vidich, A. J., and Lyman, S. M. (1985). *American Sociology*. New Haven, CT: Yale University Press.

Waite, C. (2007). On the evolution of a discipline. *Qualitative Research Reports in Communication, 8*(1):15-19.

Wallerstein, N. (1999). Power between evaluator and community; Research relationship within New Mexico's healthier communities. *Social Science and Medicine, 49*, 39-53.

Wallerstein, N., and Duran, B. (2003). The conceptual, historical, and practice roots of community based participatory research and related participatory traditions. In M. Minkler & N. Wallerstein (Eds.). *Community-Based Participatory Research for Health.* San Francisco: Jossey-Bass, p. 27-51.

Wallerstein, N., and Duran, B. (2010). Community-based participatory research contributions to intervention research: the intersection of science and practice to improve health equity. *American Journal of Public Health, 100*(S1), S40–6.

Walter, K. L., Stately, A., Evans-Campbell, T., Simoni, J. M., Duran, B., Schultz, K.,

Stanley, E. C., Charles, C., and Guerrero, D. (2009). “Indigenist” collaborative research efforts in Native American communities. In A.R. Stiffman (ed.)., *The Field Survival Guide*, 146-173. Oxford: Oxford University Press.

White House Office. (2013). Four years of broadband growth report. Office of Science and Technology Policy and the National Economic Council. Retrieved from https://www.whitehouse.gov/sites/default/files/broadband_report_final.pdf.

Whitehead, T. L. (2004). What is ethnography? Methodological, ontological, and epistemological attitudes. Ethnographically informed community and cultural assessment research systems (EICCARS) working paper series. Cultural Ecology of Health and Change. Retrieved from http://www.cusag.umd.edu/documents/ WorkingPapers/EpiOntAttrib.pdf.

Whorf, B. L. (1956). Language, thought, and reality. Boston: MIT Press.

Wolcott, H. F. (2008). Ethnography: A way of seeing (2nd ed.). Landham, MA: AltaMira Press.

Woolf, S. H., Johnson, R. E., Fryer, G. E., Rust, G., & Satcher, D. (2004). The health impact of resolving racial disparities: Analysis of US mortality data. *American Journal of Public Health, 94,* 2078-2081.

World Health Organization. (2011). WHO Guidelines for drinking water quality (4th edition), Geneva: World Health Organization.

(A. Yoder, personal communication, June 6, 2016).

Yosso, T. (2005). Whose culture has capital? A critical race theory discussion of community cultural wealth. *Race Ethnicity and Education, 8*(1), 69-91.

Appendix 1
Production Timeline

Following is the proposed timeline for the Cumulative Impact Project:

Feb 29	Disseminate project prospectus to full committee for review and evaluation
March 2	Prospectus Defense
March 14-20	Spring Break
Mar 20-April 8	Situate qualitative observations in locations where Mountain View residents live, work, and recreate. Combine observations with in-depth semi-structured interviews using an interview guide. Add snowball referrals to existing convenience sample to identify potentially new stakeholders for interview.
April 9-May 1	Extract data from digital transcripts and perform editing to expand pilot mini-documentary from 15 to 40-minute full documentary video.
May 2	Share 1st draft of documentary video with thesis committee for feedback, incorporate suggested changes, and continue editing through date of project implementation.
May 23	Meet with Dr. Magdalena Avila for meeting to augment community Insights and discuss strategy for community based premiere of documentary.
May 23-June 24	Design, develop, and implement “Community Fun Day” being held in conjunction with documentary premiere. Identify working team to assist and donors for various aspects of event.
June 10	Complete draft #2 of the Cumulative Impact documentary.
June 24	Complete draft #3 of the Cumulative Impact documentary.
June 25	In conjunction with Mountain View Neighborhood Association, implement Community Fun Day to include recreational activities for youth, food and entertainment for all, and the premiere of “Cumulative Impact” Documentary. Post-presentation, solicit community feedback onsite.

June 27	Conference call and follow-up emails with thesis chair to assess documentary outcomes, procure feedback on changes necessary, and be apprised of outstanding report requirements to fulfill of master's degree.
June 27-July 7	Work on documentary revisions and final project report.
July 10	Submit updated work to thesis committee for review.
July 11	Thesis committee meets via conference call to prepare final feedback.
July 12-14	Incorporate thesis committee recommendations to Cumulative Impact Project
July 15	Submit all work on or before this date to thesis chair and Graduate Studies in fulfillment of summer graduate deadlines.
July 16-Aug 15	Meet with Mountain View Neighborhood Association after thesis committee has granted approval to seek community review and approval prior to larger release to YouTube, Vimeo, and other dissemination sources.

Appendix 2

CUMULATIVE IMPACT RELEASE FORM

I (the undersigned) do hereby confirm the consent heretofore given to Nina Cooper and her associates (hereafter referred to as "producer") with respect to photographing, video recording, documentarying, and/or audio recording me in connection with Producer's Communications Department Masters Graduate Video Project for the University of New Mexico entitled "Cumulative Impact: Digital Ethnography and the Mountain View Community" and hereby grant to Producer, Producer's successors, assigns and licensees the perpetual right to use, as Producer may desire, all video, still picture, motion picture and sound track recordings and records which Producer may make of me or of my voice, and the right to use my name or likeness in or in connection with the exhibition, advertising, use or any other use of such images and recordings for educational purposes.

I confirm the following:

- ☐ I am over eighteen years of age and willing to complete a one-hour, video-taped interview.
- ☐ I am a community leader/resident whose knowledge and work influences the Mountain View neighbor.
- ☐ I am aware this is a graduate student video project with no monetary compensation.
- ☐ I am aware this video may be put on YouTube, Vimeo, and the like and will be used in community education and research.

____________________________ ____________________________ ____________

Subject Name (Print) Subject Signature Date

____________________________ ____________

Investigator Signature Date

Subject Contact Information

Address: ____

City/State/Zip: ____

Phone: (   ) __________________________________

Email Address (Permanent): ____________________________________

Appendix 3

INTERVIEW GUIDE FOR MOUNTAIN VIEW COMMUNITY

As a graduate student of the University of New Mexico, I am completing a documentary video project in partial fulfillment of my degree in health communication. I have identified several open-ended questions for today's interview. These will serve as a starting point for discussion. You are encouraged to expand upon these ideas as you respond.

1. Describe your involvement in the environmental struggles affecting the land, water, air, and/or people of Mountain View.
2. Was there an "aha" experience that encouraged you to increase your involvement in environmental activism? If so, describe the moment that represents a turning point in your involvement.
3. Are there other environmental movements or leaders that have influenced your continued involvement in activism in Mountain View?
4. What reasons do Mountain View residents perceive as reasons for hazard waste siting 33 out of 35 of the EPA regulated facilities in Mountain View?
5. How would you characterize the relationship between corporations and various levels of government regarding environmental issues in Mountain View?
6. How has community activism impacted decisions regarding environmental threats to the Mountain View neighborhood?
7. What role do you see for yourself and other environmental activists in propelling various levels of government toward more environmentally positive policies for Mountain View?
8. How do Mountain View residents talk about surviving, coping with, and remediating environmental threats that adversely impact health in the community? Describe some of these stories.
9. How do community residents' stories reflect upon and rise above being targeted as a dumping ground for environmental pollutants?
10. What kinds of shared beliefs/values are discussed among Mountain View residents as they live, work, and recreate together?
11. What influences, if any, do you think Mountain View's environmental organizing work has made upon other communities?
12. How can the Mountain View community build an activism pipeline to foster sustainability of future environmental organizing efforts (*e.g., important criteria for cultivating new leadership or strategies, lessons from other indigenous communities*)?

Appendix 4
Press Release for Community Fun Day

PRESS RELEASE

FOR IMMEDIATE RELEASE
Thursday, June 23, 2016

CONTACT: Nina Cooper, 505/417-5454 or nmcooper@unm.edu

ALBUQUERQUE, NM – ***Saturday, June 25, 2016 – Community Fun Day & Documentary Premiere***

COMMUNITY ACTIVISM HONORED
UNM Student examines environmental injustice and community activism in new documentary

On Saturday, June 25th from 2-5pm, Mountain View residents celebrate a Community Fun Day featuring food, fun, entertainment, and the premiere of the documentary "Cumulative Impact." In addition to the documentary, there will be a festive atmosphere where children can enjoy jumpers, face painting, and recreational games. Various entertainers will be on hand to support the event including Cathy McGill, singer & performance artist; and Andrew Cooper, singer. Mariachi and folk bands have also been invited to perform.

Featuring the work of UNM grad student, Nina Cooper, the featured documentary highlights the environmental challenges that have plagued the Mountain View neighborhood, a semi-urban/semi-rural community, for more than 30 years. Thirty-three out of 35 EPA regulated facilities in the South Valley are located in Mountain View. Situated south of Rio Bravo and 2nd street, this community has faced the challenges of environmental injustice, but has also experienced great success with environmental activism in transcending being targeted a dumping ground. This documentary explores the cumulative impact of environmental policies upon and environmental waste in the Mountain View community. It also highlights the power of community to unite together, promotes the inclusion of marginalized voices, and wields influence on decisions that impact their community.

Appendix 5
Donation Letter for Community Fun Day

MOUNTAIN VIEW NEIGHBORHOOD ASSOCIATION

Lauro Silva, President
P. O. Box 19081
Albuquerque, NM 87119

June, 2016

To Whom it may Concern:

On Saturday, June 25th from 2-5pm, Mountain View residents will celebrate a **Community Fun Day** featuring food, fun, entertainment, and the premiere of the documentary "*Cumulative Impact*," that highlights the community activism that has been produce successful community organizing activities in the midst of environmental injustice. A festive atmosphere, this Community Fun Day will feature jumpers, face painting, and recreational games for the children, and food and various genres of entertainment for all.

We are writing to invite your partnership with this event by donating hotdogs, buns, bottled water, frito chips, ice, vegetables or other items for the 100 people expected to attend. The donations provided will ensure the success of our event while also encouraging the cultivation of community.

Thank you in advance for your consideration and support. As the event draws near quickly, we would greatly appreciate a swift reply. Should have additional question, feel free to contact me at 505/720-4539.

Sincerely,

Lauro Silva, President
Mountain View Neighborhood Association

Appendix 6

COMMUNITY FUN DAY
& Cumulative Impact Documentary Showing
Precision Timeline

Note: Have each artist introduce themselves.

2:00 – 2:05 PM	Welcome & Opening Remarks – Magdalena Avila & Amzie Yoder, MV Residents
2:05 – 2:20 PM	Eileen Shaughnessey & the *In-Betweens*
2:20 – 2:35 PM	Cathy McGill, *Singer & Performance Artist*
2:35 – 2:45 PM	Overview of Documentary – Nina Cooper
2:45 – 3:25 PM	Cumulative Impact Film Showing
3:25 – 3:35 PM	Questions & Answers
3:35 – 3:50 PM	Andrew Cooper, Singer
3:50 – 3:59 PM	BREAK
4:00 – 4:40 PM	Cumulative Impact Film Showing
4:40 – 4:50 PM	Questions & Answers
4:50 – 5:00 PM	Closing Remarks ▪ Dr. Judith White, UNM ▪ Nina Cooper ▪ Lauro Silva, President, Mt. View Neighborhood Association