Abstract

Unstructured in-depth interviews were used to explore the lasting influences the lead mining industry and its legacy have had on community perceptions and identity within Missouri’s Old Lead Belt. The Old Lead Belt is a mining subdistrict within the Southeast Missouri Lead District containing the cities of Bonne Terre, Desloge, Leadington, Leadwood, and Park Hills in which large scale, industrial lead mining occurred between 1864 and 1972. Bourdieu’s theory of *habitus*, as outlined by Silviu Serban (2011) and others, was used as a theoretical foundation to guide the main research questions as well as the project’s methodology.

Introduction

Lead mining in southeast Missouri in the area known as the Southeast Missouri Lead District is more than just an industry; it is an engrained and defining aspect of the environment and community. Although he could not have realized it at the time, when French explorer Philip Francois Renault discovered high concentrations of lead in the region in 1719 (“History of Lead Mining in Missouri,” 2002) he had stumbled across the highest concentrations of lead in the world (Seeger, 2010). Mining commenced the following year and has continued unabated for nearly three centuries, arguably becoming
the most significant force that would come to shape and define the region. Presently, lead mining is ongoing in the Southeast Missouri Lead District in the subdistrict know as the Viburnum Trend, but it is destined to fade, potentially quickly, as various economic, environmental, and social influences alter the landscape, maybe even the existence, of the industry. These events will, undoubtedly, have far reaching consequences within the entire region.

The Southeast Missouri Lead District is a formal mining district that includes the large disseminated lead deposits that occur in the Bonneterre Dolomite Formation in Southeast Missouri. The Bonneterre Formation is a roughly 300 foot thick layer of sedimentary rock formed from ancient coral reefs over hundreds of millions of years as ancient seas formed and receded around the Precambrian igneous mountains now known as the St. Francois Mountains. After its formation, lead was entrained in the Bonneterre Formation as mineralizing flows passed through the area (Larsen, 1977). Within the entire area known as the Southeast Missouri Lead District there are four distinct lead mining subdistricts: Fredericktown/Mine LaMotte, the Old Lead Belt, Indian Creek, and the Viburnum Trend. With the exception of Fredericktown/Mine LaMotte, which is where lead was first surface mined by Renault and then intermittently mined through 1959, each of the subdistricts was mined continuously during progressively overlapping time periods. The Old Lead Belt was mined from 1864-1972, Indian Creek was mined from 1953-1982, and mining in the Viburnum Trend began in 1960 and is still active today (“Missouri Lead Mining History by County”, 2013). As an aside, it seems important to note that lead has been mined in southeast Missouri in other areas, although in less quantity, such as Valle Mines, Irondale, and Shirley-Palmer; however, these lead
deposits are not part of the Bonneterre Formation, they are from other deposits, and subsequently not included in the Southeast Missouri Lead District.

The history and legacy of the Old Lead Belt subdistrict is particularly interesting due to its longevity, 108 years, and its development and adoption of industrial mining techniques that enabled mining to expand from simple surface level mines to ones hundreds of feet below the surface. At its inception, numerous mining ventures were concurrently operating within the Old Lead Belt; however, within a relatively short period of time the St. Joe Lead Company acquired every single mining company and mine within the Old Lead Belt, effectively transforming the area into a company town. Five adjacent but distinct towns–Bonne Terre, Desloge, Leadington, Leadwood, and Park Hills–comprise the Old Lead Belt today, with the legacy of each deeply entrenched in the industry of lead mining that ceased operation in the Old Lead Belt in 1972.

This research is focused on the Old Lead Belt subdistrict of the Southeast Missouri Lead District, and how the area has transformed in the four decades since mining stopped.

**Theoretical Framework**

The 20th century French sociologist and philosopher Pierre Bourdieu introduced the theory of *habitus*, which considers what one does and the actions in which one engages or practices as the defining features of personal identity. It is a useful entry point for exploring the close relationship between an individual’s identity and their larger social context, sociologist Silviu Serban (2011) explains:

*Habitus* is an abstract entity identified within the interval between a bodily and spiritual dimension, and is the only possible foundation of individual identity (the
practical identity based on *habitus* is the only true identity). The only true knowledge of individual identity can be a sociological self-knowledge of *habitus* [... for Bourdieu, concepts and theories are not to be objectified, but used to illuminate and explain particular puzzles in sociological analysis (we are deeply marked by the contexts in which we find ourselves) (p. 249).

Bourdieu’s theory not only suggests that the lead industry has defined and shaped the communities within the Old Lead Belt, but that the individual identities of community members are intrinsically tied to this industry. This point of view suggests that individual identity has historical roots in the practices of the community and that the future of the community and its members are built on these practices. My question is what happens to a community when the defining practices of the community change significantly or disappear? More specifically, what happens to the individuals in the community, especially their sense of self, when their livelihood and the livelihoods of all of those around them disappear?

*The concept of habitus.* Pierre Bourdieu, born 1930, was a French sociologist, anthropologist, and philosopher perhaps best known for his 1979 book *Distinction: A Social Critique of the Judgement of Taste*, in which he argues that the powers within society—e.g. social capital, hierarchical class power, economic power, etcetera—define societal tastes or preferences and, as a result, a person’s own interests are defined by one’s social class or experience with or access to these tastes or preferences in their society. The book was later voted by the International Sociological Association as one of the ten most important sociology books of the 20th century (“Books of the Century,” 1998). This theory on the relationship between societal taste, social class, and individual identity is couched in his broader theory of habitus.
On a most basic level, habitus can essentially be understood as how the broader social context of one’s life has a defining influence on personal identity. As an example, Bourdieu uses habitus to explain how the children of educated parents have higher success rates of educational attainment (Prieur & Savage, 2011). “Cultural and economic capitals create patterns of social differentiation that are linked to fundamental processes of social stratification and inequality” (Serban, 2011, p. 249-250). In Bourdieu’s view, these patterns of social differentiation do not exist solely outside of an individual as a way of grouping community members; rather, community members absorb these differentiations into themselves, incorporating them into their own personal identity or sense of self. Overall, Bourdieu employs habitus to illuminate and explain puzzles of what appear to be voluntary differentiations or distributions among groups in a society that emerge in sociological research by recognizing that “we are deeply marked by the contexts in which we find ourselves” (Silva & Warde, 2010, p. 2). In other words, we come to inhabit, as the term habitus suggests, our social roles and experiences.

While habitus may seem to suggest that individuals are powerless in shaping their own lives when stacked up against the overwhelming influence of societal context, Bourdieu is also keenly aware of the interplay between large-scale social change and the struggles of daily life (Calhoun, 2012). Habitus is a bidirectional and reciprocal process, individual social action is shaped by social context, but individual action also plays a vital role in defining and reshaping social contexts as these actions are played out in the real world. Thus, habitus is a dynamic process that changes in relation to social, cultural, and economic conditions through the actions of individuals (Glastra & Vedder, 2009). For example, in returning to Bourdieu’s discussion of taste in *Distinction: A Social*
Critique of the Judgement of Taste, he points out the cyclical nature of social process in how the reigning powers in a society define the societal context in ways that shape the personal preferences of individuals, who in developing and modifying these preferences, influence how the reigning powers define society. It is important to reinforce the notion that this process is a complex and fluid process with no fixed outcomes. Individuals and society continually create and recreate one another with the goals that organize these transactions typically motivated by local or contemporary needs or concerns rather than deterministic outcomes.

Scholars have used the construct of habitus to understand how individuals and social contexts work together. The social context examined can be large in scope, for example an entire nation or society, or much smaller in size, such as a community or any type of sustained social group. In the paper “Habitus as Topic and Tool: Reflections on Becoming a Prizefighter”, Wacquant (2011) uses habitus as a theoretical framework for his ethnography of the Chicago boxing gym Woodlawn Boys Club. Through the lens of habitus, Wacquant saw the boxing gym as more than a local gathering place. For Wacquant, this gym was a complex microcosm with its own history, culture, aesthetic, social practices, and intense emotional and moral life that defined the individuals who participated in the gym (Wacquant, 2011). For Wacquant, habitus was more than a framework for the research, it “supplied at once the anchor, the compass, and the course of the ethnographic journey […] it is the topic of the investigation” (Wacquant, 2011, p. 81). For example, the concept of habitus states that individuals have various sets of dispositions shaped by their social location and experience in the social context. Wacquant found that these varying dispositions ultimately made a direct contribution to
the level of success that each boxer had both in the gym and the ring, and that this success subsequently shaped the reputation of the gym itself (Wacquant, 2006).

Wacquant himself was in constant communication with Bourdieu throughout his research (Wacquant, 2011). Upon learning that Wacquant had adopted the role of participant-observer, a method championed by the American sociologist Erving Goffman, and signed up to learn how to box, Bourdieu sent him an encouraging note that read: “Stick it out, you will learn more about the ghetto in this gym than you can from all the surveys in the world” (Wacquant, 2011, p. 86). This correspondence proved fruitful in several ways and Bourdieu even traveled to Chicago on numerous occasions to visit Wacquant. They ultimately co-authored the book *An Invitation to Reflexive Sociology*, in which they explore the connection of habitus, social space, and individual dispositions (Bourdieu & Wacquant, 1992).

In reflecting on his ethnography (published as the book *Body & Soul: Notebooks of an Apprentice Boxer*), Wacquant (2011) argues in favor of adopting the role of participant-observer by immersing oneself completely in the subject at hand. However, he underscores the importance of arming oneself with a theoretical framework beforehand so that one may be able to objectivize the experience to some degree, rather than have the experience define the research(er) (Wacquant, 2011). In his research, habitus served this role.

By incorporating the theoretical framework of habitus into my research, along with aspects of its method, I hope to better understand how community members living in the Old Lead Belt identify themselves in relation to this industry. Given that this community was established on a single, historically determined industry, I expect that the
individuals living in the region will view their own identity in relation to this industry. However, as the lead industry has moved out of the region over the last four decades, I also expect that it has left behind not only tailings from the mines, but also evidence of its presence in the identities of the people who still live there.

**Background Literature**

In researching the Old Lead Belt and the history of lead mining in the Southeast Missouri Lead District, three main categories of literature emerged: historical research about the state of Missouri and its legacy of mining, scientific research articles regarding lead mining practices and its health and environmental consequences, and primary source documents including news articles and publications from within the mining industry (such as business prospectuses and technical manuals). I found no evidence of social science research that examined the influence of lead mining on the communities in the Old Lead Belt. For example, the Missouri Lead Study of 1977—a two volume, eleven hundred page, comprehensive study examining the lead contamination resulting from industrial development in the Old Lead Belt, a volume that is self-described as ‘interdisciplinary’—does not include any social science research or even research discussing the health effects of lead contamination on those living in the Old Lead Belt (Wixson, 1977).

However, social science research examining other communities that have been defined by practices that involve extracting resources from the earth, such as coal mining in Appalachia, have been done. Although this kind of research has not been conducted in
the Old Lead Belt, examining past research in similar and parallel American communities is valuable as a guide for this research.

**Historical context of lead and the Old Lead Belt.** Lead is a chemical element and malleable metal. It is a member of the group of heavy metals alongside other metals such as iron, cobalt, copper, mercury, and zinc. Some heavy metals are required by living organisms in small and varying levels to survive, for example, human beings require small amounts of iron and cobalt, whereas, other heavy metals are severely toxic, such as mercury and lead, to living organisms. Even in small amounts some heavy metals, such as arsenic, cadmium, lead, and mercury, can pose a significant health risk due to their tendency to bioaccumulate and biomagnify within individual organisms, ecosystems, and food chains.

Lead has been used for thousands of years due to its prevalence and malleability. Lead jewelry in the form of beads dating back to 6400 BC has been discovered in the region of modern day Turkey (Heskel, 1983). The earliest large-scale lead mines date back to 3000 BC (Lubick, 2008). The Roman Empire was the first society to use lead widely, most prominently for indoor plumbing, and it was the largest preindustrial producer, generating an estimated 80,000 metric tons of lead a year, mostly as a byproduct of smelting silver (Callatay, 2005). Roman vintners also used lead as an additive to balance wines that were deemed too acidic or to sweeten wines that had begun to turn into vinegar (Gough, 1998). Despite causing low grade lead poisoning that came to be known as ‘dry gripes’ or ‘dry colic,’ which consisted of abdominal pains and constipation, the practice of using lead and lead compounds as an additive in wine continued for centuries until late in the 17th century when lead was identified as the
source of the problem by German physician Eberhard Gockel (Gough, 1998). However, this knowledge spread slowly and the practice of using lead in products that were consumed by humans did not fully cease for another 50 years (Gough, 1998). As an aside, the effects of this long-term use of lead in consumed products have been used to challenge the conventional idea that widespread lead poisoning may have contributed to the downfall of the Roman Empire (Nriagu, 1983; Scarborough, 1984).

Although it is possible to find naturally occurring, refined, metallic lead in nature, it is quite uncommon. Lead is most commonly found in ore that contains other metals such as copper, zinc, and silver, and lead is mined alongside these other metals and extracted from the ore. Most ores contain very little lead, less than ten percent; however, due to the high value of lead even ores with as little as three percent lead are economically viable to mine (“Lead Mining Machine,” 2005).

The Southeast Missouri Lead District spans seven counties directly southwest of St. Louis and contains the largest and most highly concentrated known lead ore reserves in the world (Seeger, 2008). Despite being a city founded on the fur trade, more money has passed through St. Louis as a result of lead mining than fur (McHenry, 2006). French explorer Philip Francois Renault was the first to bring industrial lead mining to southeast Missouri in 1720 after discovering the lead rich ore on a mining exploratory expedition on behalf of France’s King Louis XV the previous year (“History of Lead Mining in Missouri,” 2002). Prior to Renault’s arrival the only lead that was mined in the area was surface mined by Native Americans and most likely used to craft jewelry and make paint, and later to manufacture bullets (Broihahn, 2008; Habicht-Mauche, 2005). Renault’s mining operation involved over 200 skilled laborers, as well as hundreds of African
slaves. The refined lead was transported by mules and then floated down the Mississippi River to New Orleans, ultimately destined for Europe (McHenry, 2006). Renault’s mining exploits ended in 1744 when he packed up and returned to France (McHenry, 2006).

France’s control of Missouri, along with the surrounding area, ended in 1762 when France gave the land to its ally Spain. However, in 1800, during the reign of Napoleon Bonaparte the land was retaken by France and then sold three years later to the United States as part of the Louisiana Purchase (Kennedy et al., 2008). Although lead mining continued throughout the 18th century, significant growth in both mining development and population did not occur in the region until the United States purchased the region from France (McHenry, 2006). The final major development in lead mining took place near the end of the Civil War when the demand for lead, mostly for weaponry, had reached its highest levels to date (McHenry, 2006). Mining technology improved in response to demand, most notably with the invention of the diamond drill, which allowed for improved techniques in pinpointing the locations of rich ore deposits deep underground and reaching ore as deep as 1,000 feet (McHenry, 2006). Prior to the diamond drill, a mine could only be excavated to about 100 feet in depth (McHenry, 2006). As lead profits accelerated more business investments were made both in lead mining and the region, laying the foundation for the Southeast Missouri Lead District that exists today (McHenry, 2006).

As lead mining in southeast Missouri grew into the widespread, industrial scale mining operation that it is today, many smaller mining companies were absorbed by larger ones such as the St. Joe Lead Company and subsequently the Doe Run Company.
In fact, the Doe Run Company currently operates all of the lead mines in Missouri as well as other lead mines and smelters around the world. This corporate consolidation in the early 20th century led to the development of numerous mining towns, and “by 1917 major communities had developed as a result of the mining industry” (McHenry, 2006, p. 30). An increase in the volume of mining, the existence of deeper mines, and improved mining technology led to record profits in the early 20th century. For example, in 1830 the Southeast Missouri Lead District produced 3,600 metric tons of lead whereas in 1921 it produced 178,735 metric tons of lead valued at over $16 million (McHenry, 2006).

Beginning in the late 19th century Missouri state law prohibited mining companies from engaging in businesses not specified in their charter in an effort to prevent the formation of company towns. Despite this law, mining companies operated company stores, leased farming land, provided utilities, and conducted other business through subsidiaries (Brownlee, 1977). Another significant change in the region emerged in the early 20th century with labor unionization. Backed by the American Labor Union and the Western Federation of Miners, union organizers representing the newly formed Industrial Workers of the World–colloquially known as ‘Wobblies’–attempted to unionize lead miners in the Old Lead Belt (Thompson, 1955). They called for strikes to force a pay raise, but the lead companies squashed the unionizing effort by offering a twenty-five cent pay raise, which was large enough to appease the miners, before minors could unionize and a strike could occur (Thompson, 1955). A subsequent attempt in 1924 by national labor organizers to unionize lead miners also failed; however, local unions eventually emerged in the region (Thompson, 1955).
Another significant event also related to work conditions appeared in the form of social unrest. By 1917 the major mining companies controlled vast swaths of land, closed it to all prospecting, and established company towns on non-mineable land that were filled with immigrant laborers that were imported in large numbers, mostly from Europe (Brownlee, 1977). Socio-economic segregation between community members and recently arrived immigrant laborers fueled strained relations between mining companies and communities, and the mounting tensions ultimately erupted in the Lead Belt Riot of July 13-14, 1917 (Brownlee, 1977). This riot occurred when the United States was on the brink of entering World War I, a significant event for an industry that was important to arms manufacturing. The mining companies attempted to capitalize on the anticipated wartime demand for lead by revamping mining practices through the introduction of modern, industrial discipline. This included a restructuring of shift scheduling and underground mining practices and guidelines; however, when these efforts were met with resistance from miners who preferred more traditional (and less efficient) mining practices, the mining companies simply replaced their work force with immigrant labor (Brownlee, 1977). What followed was a two-day riot in which gangs made up of laid-off miners and other local men rounded up immigrants and forced them and their families onto departing trains (Thompson, 1955). The riot escalated in the evening of the first day and “by dark a mob of about a thousand roamed the district throwing rocks at the homes of immigrants and occasionally firing into them” (Brownlee, 1977). Foreigners either hid or fled into the woods during the night and those that were caught were beaten (Brownlee, 1977). More than thirty-five hundred immigrants were forced to leave the Old Lead Belt during the riot (Thompson, 1955). By the time the requested state troops had
arrived the riot was over with most immigrants having been expelled from the area (Thompson, 1955).

Community resentment towards the mining companies did not substantially decrease in the wake of the riot; in fact, it increased (Brownlee, 1977). Although technological improvements had drastically improved mining practices and the efficiency and profitability of lead mining in the previous 50 years, it had done little to improve the harsh working conditions for miners. As Brownlee (1977) recounts, “handheld drills, picks and shovels were the basic tools, and men had to work underground, stooped over or standing in water” (p. 407). Furthermore, relations were further strained by the mining companies that continued their efforts to exert enormous control over mining communities, including banning saloons on company leased land and passing legislation that regulated drinking (Brownlee, 1977).

The 1930s brought more hardship to the Old Lead Belt. Much like other industries during the Great Depression, the lead mining industry was hit hard. Lead prices were depressed, banks closed, and nearly everyone lost their savings (Thompson, 1955). In 1931 wages and salaries were cut by 20% across the board with miners only working three weeks out of every five in an attempt by the mining companies to distribute the burden evenly (Thompson, 1955). Because both the price of lead and demand for lead collapsed—for example, the Western Telephone Company’s orders for one hundred thousand metric tons of lead per year ceased for three years—the large Herculaneum smelter, built in 1892 and located 25 miles north of the Old Lead Belt along the Mississippi River, was closed and mined ore was simply stockpiled for nearly five years until the demand for lead and prices began to recover (Thompson, 1955).
Although lead mining practices have improved in the last one hundred years with the advent of the machine shovel (which replaced the need for miners with picks and shovels to hand load ore deep within the mines) and improved safety measures (Gibson, 1972), contemporary lead mining is carried out in more or less the same manner as it was a hundred years ago. Shafts up to one thousand feet deep are dug straight into the ground from which a catacomb of horizontal mining shafts thirty-six feet wide and fifteen to twenty feet tall, called headings, radiate and meander their way beneath the surface (McHenry, 2006). Explosives are used to expand and lengthen these headings while drill jumbos, front-end loaders, and 40 ton dump trucks are used to mine the ore and transport it to the base of the vertical mine shaft (McHenry, 2006). A primary crusher at the base of the shaft breaks the ore into smaller pieces before it is hoisted to the surface, further crushed, and then milled through a floatation process (McHenry, 2006). Once milled, the remaining concentrate is transported to a smelter where it is refined into the primary metal (McHenry, 2006).

Missouri has historically been the largest producer of lead in the Unites States and continues to produce 70% of the lead used in the nation (Seeger, 2008). The United States ranks third in terms of world lead mining production. In 2010 a total of 4.14 million metric tons of lead was mined worldwide with 1.85 million metric tons produced in China, 625,000 metric tons produced in Australia, and 369,000 metric tons produced in the United States ("Lead: World Mine Production," 2010). In 2010 the commodity price for lead peaked at just over $2,400 per metric ton ("Lead Monthly Prices," 2013).

All metals are capable of being recycled and lead is no exception. In fact, lead is the most recycled metal both in the United States (USGS, 2001) and the world (UNEP,
In 2001, 79% of refined lead produced in the United States was refined from recycled scrap, totaling 1.1 million metric tons, the vast majority of which was recovered from lead-acid batteries (USGS, 2001). In the United States 93.3% of lead-acid batteries are recycled due to the “successful collaboration among members of the battery industry, retailers, and consumers” (USGS, 2001, p. 62.6). Worldwide nearly 80% of all products that contain lead are recycled (UNEP, 2011). Missouri recovers more lead from recycled scrap than any other state (McHenry, 2006).

Presently, 78% of all lead is used to produce lead-acid batteries, most of which are used in automobiles and to provide emergency power to large-scale computer systems (such as data centers) (McHenry 2006). Lead is still used extensively today for soldering, sound proofing, televisions and computer displays, and to provide radiation shielding from x-ray machines and to contain nuclear waste (McHenry 2006). It is estimated that every American requires approximately eleven pounds of lead each year to maintain his or her lifestyle (McHenry 2006). Historically, lead was used extensively as a gasoline additive and in ammunition, roofing materials, and paint due to its high levels of corrosion resistance and other properties. However, concerns over pollution and lead poisoning have dramatically decreased the use of lead in these ways, mostly through legal restrictions (McHenry, 2006).

Lead mining has also contributed to extensive environmental and health problems in the Southeast Missouri Lead District, with numerous fines levied against mining companies by the Environmental Protection Agency (EPA) (Hawes-Davis, 1993). Environmental contamination directly resulting from lead mining has resulted in seven EPA Superfund sites in the region. At these sites, toxic waste has been dumped either
accidently or knowingly and the EPA has designated them to be cleaned up. The sites include contaminated soil, water, and air from previous and active mining operations and contaminated tailings (EPA, 2013). Industry employees and area residents have also suffered from lead contamination along with severe respiratory and other health problems and mining companies have done little to address these concerns (Hawes-Davis, 1993). For example, in 1988 the Occupational Safety and Health Administration (OSHA) charged the Doe Run Company with over 300 workplace violations related to employee health risks at their Herculaneum smelter and slapped them with the third largest fine in OSHA history (Hawes-Davis, 1993). Then in 2002, after a state sponsored study found that 56% of the children living near the smelter had dangerously high blood-lead levels (children are especially susceptible to lead poisoning [National Research Council, 1991; Nordin et al., 1998]), the Doe Run Company was forced to buy 160 homes within a three-eights mile radius of the smelter and raze them after residents moved out (Hiles, 2006). With mounting EPA violations and an appeal pending on a recent $358 million judgment against the Doe Run Company from a lawsuit brought by 16 former employees (Thorsen, 2012), the company has announced that it will close the Herculaneum smelter, the last primary smelter operating in the United State, in December 2013 (Fenston, 2012). Beginning in 2014 the Doe Run Company will ship all of its lead concentrate overseas to be smelted, currently roughly half of its lead concentrate is shipped overseas.

**Scientific studies on lead exposure and contamination.** Significant research efforts have investigated the science surrounding lead pollution, contamination, and poisoning with much of this research specifically focused on the Old Lead Belt. Most studies have focused on environmental contamination caused by pollution and mining
practices or they have examined the blood-lead levels of those living near ongoing or former lead mining operations.

Some researchers have concentrated on the problems associated with heavy metal contamination in the environment. Jennett and Wixson’s (1972) early research outlined the major problem areas in controlling lead mining waste, namely controlling liquid tailings during and after the milling process. In subsequent research, Jennett and Foil (1979) found that under non-runoff conditions, streams within the watershed of lead mining, milling, and smelting operations in the Old Lead Belt are no different from control streams that sit nowhere near lead mining. However, under runoff conditions they found that significant amounts of heavy metals emitted during the mining, milling, and smelting processes were carried by runoff into nearby streams (Jennett & Foil, 1979). Furthermore, they found that atmospheric emissions that settle in the soil are susceptible to runoff conditions as well.

Health effects from lead exposure occur in multiple ways and due to the high toxicity of lead even low levels of exposure, most often unnoticeable to the victim, can be harmful. To enter the body, lead must be inhaled or swallowed. Lead poisoning was first recognized as a health threat to populations living in urban areas that were exposed to paint, dust, and air pollution containing lead (CDC, 1991). Exposure to lead was found to be particularly dangerous to children due to their hand-to-mouth behavior and enhanced absorption of lead from the gastrointestinal tract (Bryce-Smith et al., 1978). Furthermore, lead poisoning is significantly more detrimental to children under the age of two because their brains are rapidly developing (Bryce-Smith et al., 1978). Adults are also vulnerable. Later research showed that adults and children living in rural areas in close proximity to
point sources of lead, typically lead mining operations, had elevated blood-lead levels (Danse et al., 1995). Murgueytio and Evans (1996) decided to focus their research on young children between the ages of six- and seventy-one months who lived near a lead mining area in Missouri and they compared their findings to children of the same age who did not live near lead mining. They analyzed blood samples from both groups of children for traces of lead and found that the blood levels of lead were nearly twice as high among children living near lead mining than those who were not (Murgueytio & Evans, 1996). Their research indicated a correlation between a child’s blood-lead level and the lead level in soil surrounding the child’s home, which also revealed that the soil samples in lead mining areas had six times the lead levels than did the soil in non-lead mining areas (Murgueytio & Evans, 1996). Further research by Murgueytio et al. (1998) reinforced this conclusion by finding that children living near lead mining had twice the blood-lead levels than those who did not.

Sterling et al. (2004) evaluated various education approaches to determine which forms of educational interventions would be most effective in helping reduce elevated blood-lead levels in children living in lead mining areas. Their research, conducted in St. Francois County in the Old Lead Belt, examined three different cleaning and health education strategies. One was called the control strategy (so called because it mimicked the conventional practice in the region) and included an informational meeting with a nurse for people at risk as well as the distribution of government pamphlets about the hazards of lead exposure. A second strategy included all the elements of the control strategy along with quarterly newsletters tailored to each participant that included more detailed precautionary measured specifically tailored to the participant’s lifestyle and
home environment. The third strategy included all of the elements of the first two approaches as well as quarterly cleanings of the home and its surrounds by professional cleaners trained to eliminate sources of lead within the vicinity (Sterling et al., 2004). The researchers found that all three strategies were modestly and comparably effective in reducing blood-lead levels among children living in mining areas. However, the researchers stressed, “the most effective prevention is full abatement of all lead exposure sources. This, however, remains a distant reality for many communities” (Sterling et al., 2004).

**Coal mining.** Just as the Old Lead Belt’s history has been tied to lead, so has West Virginia’s to coal. Behind Wyoming, West Virginia is the second-leading coal producer in the United States and, as a result, their economy and identity have been tied to coal (Bell, 2009). Throughout the 20th century the coal industry has been one of the largest employers in West Virginia and it produced $3.5 billion of coal in 2005 (Bell, 2009). Although the coal industry enjoys significant support within the state, there have also been many controversial coal mining practices, such as mountaintop removal mining, that have drawn attention and increased negative sentiment towards the coal industry in the past 20 years (Bell, 2009). This complex relation is aptly captured by Bell (209), who wrote that “West Virginians have had a love-hate relationship with coal through the past century” (Bell, 2009, p. 633).

Bell (2009) employed qualitative research methods to examine whether or not the coal industry has decreased social capital within coal-mining towns in West Virginia. Social capital, first introduced into social science research by Bourdieu (1985) and Coleman (1988), is defined as the features in a community, such as social networks,
community norms, and social trust that foster cooperation and coordination within a social community for mutual benefit (Putnam, 1995). Specifically, Bell (2009) used semi-structured interviews with individuals in both a coal-mining community and demographically similar non-coal-mining community to assess the differences between the two communities regarding social capital. Through her research she found that a decrease in social capital had in fact occurred within the coal-mining community (Bell, 2009). Her research indicated that two things caused this loss of social capital: population loss and a breakdown in social trust among community members.

Over the past fifty years, jobs within the coal industry have steadily decreased due to an increase in mechanized mining practices and the use of mountaintop removal (Burns, 2005). In the same time period West Virginia has lost 40% of its population to migration (Bell, 2009). Bluestone and Harrison’s (1982) conclusions on the effects of de-industrialization on communities provide similar insights into a community that suffers massive job losses at the hand of a single industry. “What begins as a behind closed-doors company decision to shut down a particular production facility ends up affecting literally everyone in town, including the butcher, the baker, and the candlestick maker” (Bluestone & Harrison, 1982, p. 67). Bell (2009) also found that the decrease in population had a significant, negative impact on social relationships in the coal-mining community as compared to the social relationships in the non-coal-mining community.

Although Bell’s (2009) research indicated that population decline had contributed to a decrease in social capital, her interview responses did not directly address this issue. Therefore, she did not discover if the community members saw changes to the community in the same way that she did. In fact, it seemed that participants in the coal-
mining community largely identified the arrival of a non-union mining company in 1981 as the harbinger of social decline within the community. Coal mining in West Virginia has historically been a union industry, a reality that took decades and two ‘coal wars’ to establish. Therefore, when a non-union coal mining company arrived in town and began to buy up all the union mines the community was immediately divided due to differing views toward unionization (Bell, 2009). Massive picketing and protests pitted neighbors and former coworkers against one another. Union loyalists were against those who decided to abandon the community’s shared identity as a union town in order to work outside the union, which they saw as the only way to support their families (Bell, 2009).

Bell’s (2009) research ultimately found that the coal-mining community’s loss of social capital was a direct result of the decline of its main industry and the resulting population decline. Furthermore, she found that this loss not only had far-reaching consequences in the present day community in terms of community social capital (e.g. community trust) and individual social capital (e.g. self worth), it may also have consequences for the next generation.

The present study. Similarly, with this research I am interested in how the communities within the Old Lead Belt have changed in the four decades since mining operations have ceased in the area. I am particularly interested in what changes the community members perceive and their attitudes towards this legacy. My research questions are:

**RQ1:** How has the legacy of lead mining shaped the communities within the Old Lead Belt?
RQ2: *If the communities of the Old Lead Belt were once defined by lead mining, what defines these communities today?*

RQ3: *What is the future of the Old Lead Belt and its people?*

Methodology

Research was carried out through the use of interviews to explore these three main research questions. Although some level of ambiguity is inherent in the process of speaking with interview participants, interviewing remains one of the most common and powerful methods that researchers have at their disposal for understanding human behavior (Fontana & Frey, 1994). Specifically, unstructured in-depth interviews were used both in more formal interview situations as well as informally while interacting and observing participants in their daily lives. However, all recorded interviews were conducted in an unstructured, conversational manner, affording participants the freedom to speak openly about their lives and the various ways in which lead mining has played a role.

Prior to collecting data the Institutional Review Board (IRB) at the University of Missouri reviewed and approved this research. Dr. Earnest Perry, as a member of my master’s committee and a faculty member at the University of Missouri, served as my IRB sponsor.

To facilitate my research and reinforce my commitment to the community I was studying, I relocated to be close to the Old Lead Belt for the duration of my research. From September 1 to December 1 of 2013, I lived in the town of Festus and during my stay traveled throughout the region, visiting all of the main communities in the Old Lead
Belt. In conjunction with embedding myself in the region, I also identified myself to community members, truthfully, as a documentary photography student interested in learning as much as I could about the area and its inhabitants. I chose from the outset not to adopt the role of participant-observer. Not only was being a full participant observer impossible because I could not be employed at a lead mine or pose as the descendent of a lead mining family, it would be very difficult to become a member of a longstanding community in which residents are known to one another or have ready ways of discovering one’s connection to the area. Rather, I decided to see myself as a humble learner as discussed by Wax (1960). In this role, one actively engages with the community they are researching, adopting an almost tabula rasa approach when speaking with participants. In this approach, the interviewer acts as a blank slate, avoiding entering each interaction with preconceptions that might color their findings. Although I was perceived as an outsider by nearly everyone I spoke to, this role allowed me to move easily between divergent and perhaps even conflicting situations while simultaneously embracing each participant on an individual level, fostering their trust, and maintaining accuracy in the research. “The decision of how to present oneself is very important, because after one’s presentational self is ‘cast’ it leaves a profound impression on the respondents and has great influence on the access (or failure) of the study” (Fontana & Fey, 1994, p. 367). Thus, by conducting open-ended, conversational interviews and presenting myself as a humble learner, I was able to build rapport with the community members with whom I engaged, which, in turn, allowed me to see things from their perspective rather than projecting my own preconceptions upon them (Fontana & Fey, 1994).
Because very little qualitative research has been conducted exploring life within the Old Lead Belt and because I approached my research as a humble learner, I felt that conducting extensive in-depth, unstructured interviews across a breadth of the community would be the best method for exploring my research questions. “[Structured interviewing] aims at capturing precise data of a codable nature in order to explain behavior within preestablished categories, whereas [unstructured interviewing] is used in an attempt to understand the complex behavior of members of society without imposing any a priori categorization that may limit the field of inquiry (Fontana & Fey, 1994, p. 366).” This prioritization of understanding over explaining is precisely what makes in-depth, unstructured interviews the best method for this research.

**Participant interviews.** I conducted unstructured *in-depth interviews* (Lindlof & Taylor, 2011) with eleven community members and one outside expert to elicit open-ended responses. Each interview was recorded and lasted between 35 and 75 minutes, and occurred in private residences, places of business, and schools. An *interview guide* (see Appendix) was utilized to organize each interview; however, within each interview the guide served as more of a general outline than a rigid structure. The order in which particular questions were asked and the depth to which each question was explored varied across participants and was guided by their responses. Interviews were conducted in such a way as to encourage participants to speak freely and at length and answer questions in an in-depth and open-ended manner.

**Criterion sampling** (Lindlof & Taylor, 2011) was used to select participants for this study, with the goal that a breadth of community members was represented across the interviews that were conducted. Criterion sampling involves selecting participants within
a particular set of predetermined guidelines based on their value to the research goals.

Potential participants were approached in person or with an invitation letter to participate. Participants were informed that their interview was ‘on the record’ and would not be confidential and that participation was entirely voluntary. Every potential participant that was approached agreed to participate in the study. Some snowball sampling (Lindlof & Taylor, 2011) also occurred, where a community member or interview participant would refer me to other community members to interview. Among the 12 participants interviewed for this research, four were identified through snowball sampling. In each of these situations the recommendation came from a local informant, an insider within a community, who facilitated contact and introductions (Fontana & Fey, 1994, p. 367).

Building rapport quickly, along with establishing trust among those I met and interacted with, proved to be instrumental in connecting me with the community, including the many social groups, individuals, and facilities of which I was previously unaware.

The twelve participants ranged in age from 20 to 96 years old and had varying degrees of familiarity with the lead mining that occurred in the Old Lead Belt. Exactly half of the participants had direct family members, either a parent or a grandparent that worked in the lead mining industry in the Old Lead Belt. One of these participants had actually worked for the St. Joe Lead Company in the Old Lead Belt himself and another participant was currently working as a (third generation) lead miner in the Viburnum Trend lead mining subdistrict. With the exception of the one outside ‘expert’ participant interviewed for his knowledge and expertise regarding lead contamination within the Old Lead Belt, all of the participants currently reside within the Old Lead Belt. Among the remaining eleven participants, two could be considered ‘local experts’ regarding specific
aspects of the community, one of which was a high school principal with a strong knowledge of the school system and the other was the administrator for the Missouri Mines State Historic Site with a strong knowledge of the geology and mining history of the area.

**Analysis.** Participant interviews were first transcribed and then coded using *open-ended* and *in-vivo* coding techniques (Lindlof & Taylor, 2011). The goal was not to analyze each utterance but rather to identify converging and diverging ideas and themes across participant interviews. Again, in line with Fontana & Fay (1994), the goal of this research was to better understand the behaviors and relationships of community members in the context of their community and its lead mining legacy without imposing any pre-established constraints or expectations on their point of view through the research process.

While analyzing the participant interviews, both the primary research questions and the interview guide acted as a framework for identifying and organizing emerging themes.

**Results & Discussion**

Clearly, the lead mining industry significantly shaped the Old Lead Belt while lead was actively being mined in the area from 1864 to 1972. The industry employed thousands of people in the communities of Bonne Terre, Desloge, Leadington, Leadwood, and what is now known as Park Hills. (Park Hills was formed in 1994 when the adjacent towns of Flat River, Elvins, and Esther were combined.) At first various mining outfits operated simultaneously in the region, but the St. Joe Lead Company
quickly bought everyone out. Over time St. Joe successfully connected all of the operating mines in the area into one contiguous, subterranean mega mine (except for the Bonne Terre mine, which remained physically separate). Overall, more than 240 miles of underground rail lines were in place and used to move freshly mined ore to the earth’s surface where it was then milled. Over the course of this 108-year span it is estimated that 8.5 million tons of elemental lead was mined (give or take a few million tons), producing around 250 million tons of mining waste. This waste was either deposited in expansive tailing ponds or piled into mounds known as chat piles that eventually grew to be hundreds of feet tall and came to dominate the Old Lead Belt skyline. Not only did the St. Joe Lead Company enjoy a monopoly on lead mining at the time, it also owned both of the railroads servicing the area, utilizing them to bring in coal to generate electricity and carry out milled ore to be smelted in Herculaneum. The St. Joe Lead Company acted as the area’s electric company until the completion of Bagnell Dam in 1931 when they shuttered their coal power plants and handed over the responsibility to the Union Electric Company. In fact, it was the lead company’s agreement to purchase energy from Bagnell Dam that was instrumental in green lighting the engineering project that, at the time, produced the largest manmade lake in the United States. This lake, the Lake of the Ozarks, still exists and is one of the defining characteristics of the Ozark Mountains in Missouri. Furthermore, the St. Joe Lead Company also acted as the region’s water company—drinking water in the Old Lead Belt is still drawn today from the abandoned mines—as well as operated a registered beef cattle herd, dairy herd, and a handful of company stores that sold goods at near cost to the community. It was, to all effect, a company town.
But when mining ceased in 1972 the power and influence that the lead mining industry held over the area quickly dissipated, leaving behind a handful of communities that had never known a different life or livelihood. In the 41 years that have elapsed since the closing of the Federal Mill and lead mine in Park Hills, how has the legacy of mining contributed to the Old Lead Belt of today?

**RQ1: How has the legacy of lead mining shaped the Old Lead Belt?** It became quickly apparent through casual conversations with community members as well as all of the interviews I conducted with participants that either worked directly for the St. Joe Lead Company or had a relative who worked for them, that an amazing level of company loyalty still exists within the Old Lead Belt towards St. Joe. One participant I spoke with who worked for St. Joe for 46 years had only positive things to say about the company.

_Interviewer:_ What was it like working for St. Joe?

_Earl F._: They were good people to work for. I enjoyed working for them and always got what I considered a square deal and I liked the company because they were a benevolent company, based on the times, and they felt the need to treat the men fairly.

He continued, discussing the many contributions the company made to the community:

_Earl F._: There was no community at Bonne Terre…so when St. Joe started operating here one of the first things they felt the need for was a grocery store with enough assortment because most everybody walked, very few people would have a horse or anything. So they built a store and then they purchased at wholesale and they charged 10% over wholesale, which was a very minimum way of selling the groceries, the clothing, it was a complete store. They could live out of that store. They’d get their chewing tobacco there too, which was
quite common in the old years. Anyway, then they assisted in building a church and they assisted in building schools and so on. They also of course had a large number of cattle so they had their own beef and they sold in a separate store called the butcher shop because they didn’t mix it in with the other groceries for some reason. They also had a dairy where they had milk products and they were sold in their stores.

He then expanded on the extensive reach of the company into the life of the community:

Earl F.: They were involved in everything. They made sure that the streets were built, as I said, they made sure there were school and had church and then they had built a clubhouse. They hired many young engineers and this clubhouse had 17 rooms, a young engineer could come in and–it was a boarding house–where they could live until such a time as they were established in the community. I ate there in the ‘40s especially, quite often would eat lunch, fifty cents you could get a full meal including dessert and drink and everything. So, in everyway they attempted to make the life easier for their employees. However, because of the times it was very hard work.

Another participant, who works as the administrator for the Missouri Mines State Historic Site in Park Hills, which includes an exhibition on the mining that occurred in the Old Lead Belt, affirmed this view in his interview.

Arthur H.: In my 20 years here at the museum, talking to a lot of retirees and a lot of people in the community, in general, everybody thought this was a great company to work for, none of them would leave the company.

He expands on this point later in the interview:

Arthur H.: It’s hard for me to find something that they did really bad to the community or to any employees. I just can’t find it hardly, and I will point out in
in this interview I have never worked for this company, I'm not their PR guy, I try to be totally objective with this. It’s just I don’t hear any bad complaints and I don’t hear local people or retirees saying anything bad. I mean, the company walks on water from their viewpoint.

The bond between the community and St. Joe was so strong that one participant recalled that community members often referred to the St. Joe Lead Company as Uncle Joe.

Similarly, all of the participants I spoke with shared an overwhelming pride in the heritage of their community and the legacy of lead mining in the Old Lead Belt. Participants with direct familial connections to lead mining or who grew up in the area while lead mining was still happening spoke in more sentimental, even romantic, terms about the Old Lead Belt’s legacy. As one participant born and raised in Bonne Terre said:

Shelly B.: Over my lifespan we were close enough that we could go over and play on [the chat dump], because then you could. The cores that came out of the drill–there were billions of them–that laid around and we played with them all of our life. [At the time I] didn’t know what they were. My grandpa after he retired he got two boxers and he would take them over there and walk and so I would walk with him when he would walk the dogs and he would explain how those cores came to the top and how the chat dump came to the top and that it’s mining waste and not hazardous. Looking back that is some of my fondest memories because we were just raised with it, didn’t know anything different, and certainly weren’t afraid of it. My uncle when I was just little, me uncle was about 15 years older than me and he rode his sled off the chat dump and broke his collarbone. (laughs) You know, it was just in our backyard and we played with it.
In contrast, participants who came to the Old Lead Belt in more recent years described the legacy in more academic terms. Another participant who moved to the area twelve years ago said:

Brad C.: I think it’s an important part of the past of this community that should be celebrated. For example, I’ve always thought that if this school were to ever change mascots, in my opinion, most schools try to pick a mascot that is a reflection of their community, well the perfect mascot for this school would be the miners because that was the history of this community. But I don’t have any feelings one way or another. I think it’s important for the community to embrace the mining industry, although it’s not positive or negative, anything I’ve ever heard about the mining of this area in the past.

It seemed as if for one group--those with a long history there--the legacy of lead mining is part of their culture, perhaps even part of their identity; whereas for the other more recently established group, this legacy is simply a part of the local history. This dichotomy, although subtle at first, was amplified when participants discussed their feelings towards the EPA’s remediation efforts to deal with lead contamination resulting from the large amount of mine waste that still exists in the Old Lead Belt. Namely, the participants with lead mining roots were skeptical of any claim related to lead contamination and therefore any remediation effort carried out by the EPA, whereas newcomers were more likely to acknowledge the risks posed by lead contamination and therefore place more value on remediation efforts. For example, one 50-year-old participant who was born and raised in Bonne Terre and whose great-great grandfather emigrated to the Old Lead Belt from Germany to work in the lead mines said:
Shelly B.: Most people, once they find out what it is, are afraid of it. Like they covered it with rock to make it be safe. When if you test us, we’re not like Hercy, those people with the smelter, that was a dangerous situation to those people, but not to us. If you test me I’ve never been high in lead, none of my kids have been high in lead. And then it’s people that do not know the story, do not have the legacy, weren’t exposed to it when it wasn’t covered and they say it’s a dangerous place to live and bring bad publicity to something that is not factual. I don’t like it when people who haven’t lived here say how dangerous it is. We joke, that’s what’s wrong with us, that we have too much lead in our blood. (laughs) But we’ve grown up here, all my family is here and we’re all fine. It’s not radioactive chemicals or something that we’re exposed to. It’s why we’re here.

In contrast, another participant, a single mother whose four-year-old daughter was recently found to have more than triple the acceptable blood-lead level set by the Center for Disease Control, shared this:

Cassandra B.: I was completely terrified. I was beyond terrified. I’m very picky on health and to find out that my daughter’s [blood-lead] level was that high; it scared me to no other. And honestly if I told them if they couldn’t get our yard [remediated] soon enough I would probably have to go back to Texas because I was not going to keep her around this area if it was going to be a problem for her health.

*Interviewer: Have you talked to her about it, does she understand?*

Cassandra B.: She knows that she was sick and that’s why she had to pull her blood, but I told her that she has to do it every couple–she has a problem with needles–and I told her she has to do it every couple months now to make sure
that she doesn’t get sick again and she has to wash her hands periodically. It’s every two hours that we have her, we have a clock right there in the kitchen and we make her check it every two hours and she has to go wash her hands again. Because they said that’s what’s going on, was that it’s most likely getting on her hands and then she’s consuming it. But we were worried; at first I didn’t understand the dogs tracking in the dirt because my daughter doesn’t play in the yard very much because we do have dogs. They use that as a bathroom and it freaks me out, I don’t let her playing in it, so we always take her to the park… and I was scared that maybe there was chat in the park. So I don’t know if there is not but it is one thing that makes me a little nervous. So come summer, I’m not really sure what I’m going to do.

Although most participants did not express their point of view as strongly as these two community members did, all of the viewpoints expressed supported this dichotomy to some degree. In most cases their reactions were more tempered, with participants with lead mining roots stating that mining waste posed no risk and that remediation efforts were unnecessary and a waste of government funds, and participants without lead mining roots stating that lead contamination posed some risk, although not severe, and remediation efforts were worthwhile.

It seems clear that this dichotomy was fueled by two key differences between participants with and without family ties or roots to the lead mining industry. First, those with lead mining roots continue to hold some level of loyalty to the industry, especially the company St. Joe that dominated lead mining in the Old Lead Belt. Second, for these individuals, the heritage of lead mining plays a more significant role in their personal and communal identity. Therefore, the government’s remediation efforts are seen more as a
personal attack by the participants with lead mining roots, both on their families and way of life, whereas participants without mining roots hold no loyalty to the lead industry and do not see the remediation efforts as a personal affront. In fact, this latter group may see remediation as necessary, as it protects them from the dangers associated with the industry.

**RQ2: What defines the community today?** Not only was the identity of the Old Lead Belt established and defined by the lead mining industry, it is likely that the communities in the Old Lead Belt would not exist or be radically different today without the emergence of lead mines in the late 19th century and their dominance throughout the 20th century. Reflecting this claim, nearly all of the participants agreed wholeheartedly that the communities within the Old Lead Belt were once entirely defined by lead mining and would not exist if it were not for the lead mining industry. Only a few elaborated on this point, however, with most articulating through their quick and concise response that it was obvious how powerful the lead mines were in establishing and shaping the Old Lead Belt.

Keith K.: Yes. Well, all of these towns were [defined by lead mining]. They all got a chat dump and this is called the Lead Belt area. That’s what this whole area is considered, the Lead Belt, because even the smaller towns had a mine of some kind.

The few participants that did not entirely echo this quick and concise response still agreed that lead mining once was the dominant defining characteristic of the Old Lead Belt. However, they also suggested that although the communities that exist today were founded on lead mining, if the lead mining had not occurred, other communities would have been established in the area. For example, in response to a question asking if
the communities of the Old Lead Belt would have existed without mining, one participant responded:

Arthur H.: Yeah, quite possibly. You can’t predict what would have happened.

But certainly they would have never had the significance they had in the past [without the mining], and there’s a lot less population here now than there was when the thing was going on full tilt.

Interestingly, when asked to discuss what defines the communities within the Old Lead Belt today, in the absence of lead mining, most participants struggled to come up with a response, and some did not respond at all. This was in stark contrast to the previous question, which garnered immediate and confident responses. Every participant hesitated to answer, with many offering multiple conjectures as to what defines the communities today. Some participants even responded by stating that the communities in the Old Lead Belt currently had no identity. Included in the diverse offerings were the suggestions that the area was defined by its proximity to St. Louis and function as a bedroom community, the numerous state parks in the area, or the many prisons within and around the area. The most frequent response among all participants when asked directly what defines the communities of the Old Lead Belt today was the declining state of the communities.

Fred M.: Hmm (very long pause) well I don’t know. I’d have to think about that.

(long pause) I’m afraid [Bonne Terre] would be identified as a declining community. But I don’t know otherwise, I don’t know the answer to that.

Another participant echoed this sentiment, and also suggested that perhaps simply the people in the community now define it.
Keith K.: Oh, I don’t know. Changing times. Some of it I understand and some of it I don’t. But like I said, I think a lot of people—we call them transplants—they have no idea the history behind a lot of our mining history. I’d say if you talk to them, they probably wouldn’t be able to answer anything and probably wouldn’t care. You know, it’s gone in history.

Interviewer: So what do you think defines Leadwood or the Old Lead Belt area today then? What do you think shapes the community?

Keith K.: I guess just the people in it. There isn’t much. (laughs) Leadwood is down to where it’s got a Dollar General store and a gas station and a school. That’s about all there is here. People nowadays, you know the internet is taking over where the outdoor part just ain’t there. I guess it’s just a living and surviving in Leadwood anymore. Nothing to do with mining period.

Although participants struggled to discuss what defines the identity of the Old Lead Belt today when directly asked to do so, they eagerly and easily discussed various defining characteristics of the communities within the Old Lead Belt when they were responding to other questions. In this regard, three themes emerged that were each mentioned by nearly every participant, they were: the people, the close-knit smallness of a rural community, and the schools. Among these three themes, the most important and frequently mentioned was the value participants placed on the people in the community, particularly family, often saying that the best part of the community was the people.

Jesse H.: I guess family and friends and everyone being close, a lot of people know everybody. You always have someone you can count on. I’ve never wanted to move real far away and be away from everybody, not saying I don’t want to be out on my own, but I just think there’s like a family aspect to this area too.

There’s a lot of churches, like a lot of churches, I don’t know if you noticed that,
but I think that keeps people together also. I don’t see myself going anywhere, cause I just like the area. There’s not a lot to do, but you have friends and family so what more do you need.

Another participant elaborated on this theme by discussing how her favorite aspects of the community, the people and it being close-knit, were fostered by its small size and slow pace:

Cassandra B.: Everyone knows everyone, everyone knows what’s going on and people just stop by and say hello for no reason. If you ever walk through Wal-Mart around here it’s really funny because you’ll see all the little people stop and talk for about 20 minutes and just catching up because they ran into each other at Wal-Mart and they know each other from 20 years ago. But honestly I like it, I like seeing the closeness, especially living in New York everyone just passes you by and they’re in such a rush to get everywhere they want to go, they don’t want to stop and say hello. And it’s nice, people actually care around here, they care a lot, sometimes maybe too much, but they care. (laughs)

Additionally, the quality of the schools was mentioned by a majority of the participants as both a defining feature of the community as well as an attraction that has drawn new residents to the area. Three public school districts, North County, West County, and Central, blanket the five communities within the Old Lead Belt, with the community college Mineral Area College serving the entire region. As a participant in this study, the principal at Central High School suggested that the school system has become a symbol of the community much like lead mining once was:

Brad C.: Mining was it; the whole town was built on mining. There are still remnants of that all over the place. But there is nothing else that’s really taken the
place of mining as a real feature of this community and as a symbol of this community. The school system though has. The school system is nationally recognized, the school system is community based, big time.

And he elaborated on this theme later in the interview:

Brad C.: The opportunities here are not great, no matter what profession you go into. So the school system keeps their parents here, the school system is still attractive. We’ve enrolled so many kids this year from other local schools who’s parents move into our district because they want the schooling for their kids.

(Brad C.)

The juxtaposition between the educational opportunities and economic opportunities for youth in the region could not be more profound. Whereas the quality of the local school system has significantly increased in the past decade, largely due to direct institutional efforts to do so, the employment opportunities for young people after the completion of school are few and far between. One striking fact discussed by the principal at Central High School was that among all of the students in his district, not one had a parent who was a doctor or a lawyer. Although the quality of the school system may attract families in the region to move to the Old Lead Belt, it is questionable whether or not ample infrastructure exists in the community to retain younger members of the community after they complete school. Everyone I spoke with discussed to some extend how the Old Lead Belt functions as a bedroom community for St. Louis and that one would most likely have to commute for a quality job.

Jesse H.: It will be five years in February of 2014 that I’ve worked there. What I do, I’m a welder and fabricator. There’s not really a whole lot down here in that field. Actually, there’s one place over by the chat dump, they do fabrication, but
they don’t really pay, you’re lucky to see $10 an hour out of that shop. That’s okay, but it’s not enough to get you by, it’d be hard to live on something like that. So I work in St. Louis, which is a higher paying job, obviously, and it’s worth the commute because it’s better pay and better insurance and stuff like that.

Even though he wanted to continue living in the area as a young adult, he was forced to find work in St. Louis and commute. Another participant, who recently joined the Navy, elaborated on the lack of opportunity in the area:

*Interviewer:* What do you think defines the community today?

Andrew C.: Hmm… (long pause) probably big city jobs and that’s about it really.

The community is kind of dysfunctional, it ain’t as close knit as it were back in the past when mining was around. Another thing is probably the prison that keeps it together because without the prison not many jobs would be around here. So that’s about it really.

*Interviewer:* Can you talk more about the big city part? Do a lot of people live here and then commute into St. Louis?

Andrew C.: Yeah, a lot of people that live in Bonne Terre and in Park Hills commute to either Cape Girardeau or St. Louis to look for jobs and get better pay and whatnot. A couple people work up at the mining up north I think like in, I forgot the area, but it’s mining out west, just like rock quarry mining. They live in Bonne Terre and do that.

*Interviewer:* What kind of jobs are available in the area here?

Andrew C.: Mostly fast food. There’s Proffer’s that is owned by a business person in Park Hills, but yeah mostly fast food jobs or factory jobs really.
Interviewer: What do you think is the consequence of people living here and working in other places?

Andrew C.: Not bringing jobs to this area and here soon jobs are leaving, or we see this more and more. This town will slowly die out; a lack of jobs and a lack of interest, and people will just move on.

Interviewer: So do you see that today, do you see the community sort of changing now?

Andrew C.: Yeah, a lot of people want to get out of here. I’m one of them, but I want to get out of here because there ain’t no future here really. If I stay here I’ll be working at a dead end job like my dad in a factory and at the age of forty my body will be useless basically from the rigorous work that I’d be doing, so yeah. But a lot of people are looking towards the city to get out.

Overall, the interviews conveyed a sense of change in the community and suggest that a re-identification of the community and its members is underway. Although lead mining played a significant role in the formation and initial identity of the communities within the Old Lead Belt, the identities of these communities today appear to be more strongly shaped by the individual members of the community. Other aspects of the community, such as schools, churches, and the smallness or rural aspect of the area, that featured prominently in participants’ responses as defining aspects of the community have little to do with the legacy of lead mining in the area. The only aspect of the community that bore any connection to the legacy of lead mining, and it was only mentioned by a couple of the participants, was the proximity of the area to numerous state parks that sit on land donated to the state by various mining companies or individuals associated with lead mining. However, the few participants that did mention it
seemed to outright dismiss it, suggesting that it was more of a public relations branding effort than anything else.

    Robert T.: Well the phone book went to the extreme of selling several years ago the idea of the Parkland, Missouri’s Parkland, because we have so many state parks and we’re in the middle of a bunch. Others have talked about the number of prisons that are in this area. I don’t know that we’re defined by either one. We still, I believe the community still holds onto this Lead Belt idea…but I don’t know, can you define an area by its history? There’s a lot of places throughout the country that are known for more of what happened in the past than what they’re doing now, and maybe that’s going to be our place, to hang on to the past while we look for something in the future to expand to.

    One fascinating outcome from this research is the schism that exists between the perceived identity and actual identity of the communities within the Old Lead Belt, which suggests that the post-mining identity of the Old Lead Belt is still being formed and has yet to be collectively understood or agreed upon by community members. When asked directly what defines their community today, most participants were unable to respond with confidence, if at all. However, when asked tangential questions, such as what is the best aspect of this community today or what aspect of this community keeps people here, their substantive responses painted a much clearer picture of their understanding of what shapes the Old Lead Belt today. These characteristics may not make the communities within the Old Lead Belt unique among other rural communities in Missouri, or across the Unites States, but they do suggest that the Old Lead Belt today is not simply defined by the absence of the lead mining industry.
RQ3: What is the future of the Old Lead Belt? Although most participants voiced significant concern over the current economic climate in the Old Lead Belt, none feared that their community would suffer a significant change or loss as a result of the economy. Most attributed the poor economic situation in their community to the national economy and as a result seemed resigned to having little or no control over changing the status quo. Furthermore, when asked to consider how the community might change in the next decade, most felt that there would be little to no change.

Victoria K.: I hope I’m still alive in ten years. (laughs) I don’t know that it would be much different. The trees will be a little bigger. You hear people say, “I can’t wait until I grow up,” when you’re driving the [school] bus, “I want to get out of this town.” But so many times they’re back. This is just a nice kind of lifestyle I think. I like it.

However, some residents voiced concern that the general infrastructure within the community would be more dilapidated in a decade’s time than it is today, especially with an increase in vacant or condemned buildings. But, for the most part, all of the participants did not anticipate much change in the coming years and did not voice a significant desire for things to change either, other than an economic turnaround.

However, when participants were asked what they found to be the most worrisome aspect of the community, many voiced serious concerns, ones that they feared could escalate in the future if left unaddressed. Three participants expressed concern about increasing crime and drugs in the community, which they attributed to individuals coming to the area from St. Louis as a result of the prisons in Bonne Terre and nearby Farmington. In addition, numerous participants voiced serious concerns over the economic future of the area, two of which specifically mentioned the decreasing tax base
in Bonne Terre. Years ago the residents of Bonne Terre voted to replace their property tax with a sales tax, which has subsequently suffered as the number of retailers in Bonne Terre has dried up. In recent years, their attempt to reinstate a property tax has failed.

Fred M.: The income the community gets is really limited and so it’s really hard to come up with funding for things to help the city develop. We tried to get the property tax passed twice while I was on the city council and it failed both times, and then it failed once since then…we put out a thousand surveys in the community and we only got 52 surveys back. But oddly enough out of those 52 there was a place to write on the survey suggestions and 33 of the people who responded suggested that we get a property tax, and there was no question about that on the survey, it was just an open ended question. So the city council thought, “well maybe the community is in the mood to help things develop and maybe progress a little bit.” It was put on the ballot…I’m guessing less than 10% of the people voted…which indicates people live here but they don’t have a lot of an investment in the community. That’s a problem.

On this same point, another participant, who still works as a lead miner in the Viburnum Trend, expressed fear that unforeseen economic or regulatory changes could halt mining.

While all of the participants communicated some sense of pride and interest in maintaining the Old Lead Belt’s mining heritage, a theme emerged among a few that this heritage is slowly being lost. Specifically, two participants identified a decrease in a sense of community as the reason the Old Lead Belt’s heritage is waning.

Andrew C.: This place has a rich vibrant history, and it would be a shame to watch it fade away in today’s modern ignorance with people worrying about everything else besides their own communities. It would just be a waste. Kids
nowadays are just more worried about the next thing that’s coming instead of learning about the past or where they came from.

This theme of looking back and expressing apprehension about the future of the community took on various forms. Some participants were more sentimental about the matter and others were more practical. Whereas one participant shared nostalgic feelings for the area’s legacy and wished that the lead mines were still operating in the Old Lead Belt today, others hoped the area’s heritage could be leveraged to bring more visitors to the area in the future.

On this point the members of the community are in agreement, the future of the Old Lead Belt and its residents is far from clear. The collective understanding that arose from the participant interviews about where the area was heading is neither overly optimistic nor hopeless. Although the Old Lead Belt will most certainly not become a mining ghost town, due to its proximity to St. Louis and ability to function as a bedroom community, the lack of economic potential within the community suggests stagnation at a community level that will continue indefinitely into the future. Perhaps it even foreshadows a slow deterioration in the coming years unless some unforeseen development injects a positive change into the area. Despite this grim forecast, hope for the community, nonetheless, abides and it is centered on the community itself.

John W.: If anything I would guess that they would maintain a fairly good baseline, with maybe a modest level of increase as they can attract more investment. But, no I don’t think they’ll completely tank and taper off into nothingness…I think that they’ve just kind of reached the baseline, or the background level to where there’s enough people living in the area and those
people demand a certain level of services and so it’s kind of a community that exists because it’s a community.

**Conclusion & Future Research**

In many ways these findings illustrate Bourdieu’s notion of habitus and its role in individual experience and identity. They also expand this view in that they demonstrate the persistence of this process in that even after four decades without lead mining in the area, the perceptions of community members in the Old Lead Belt, of both their community and themselves, remains closely tied to the lead industry and the way things once were when it dominated the region. The main differences in the comments between participants with and without a family history of lead mining reinforce this view. That is, individuals with a personal history tied to the lead industry define themselves and their community more closely with the legacy of mining. However, this connection is also apparent to some degree in the comments of those with weaker ties to the legacy of mining. This pattern suggests that identification with the industry of lead mining and the specific legacy in the area is pervasive within the entire community, albeit to varying degrees among community members.

The future of the community seems uncertain, and its uncertainty stems from several sources. First, the absence of the lead industry, even though it has been gone for many decades, is still felt. In some ways, the community is still struggling because it is largely defined by what it no longer does than by what it presently is. Second, the lack of a collectively agreed upon community identity, perhaps due to different connections among community members with its history, will also affect its future. Third, the inability
of community members to identify, even for themselves, what defines the community in which they live poses a challenge to progress.

These observations suggest that those who live in the Old Lead Belt are deeply marked by the context in which they live, and that the history of the community remains deeply entwined with the community itself and the identities of the people who live there. Living in what was once the global epicenter of lead mining for more than a century, but no longer is, is no easy place to move forward from. History continues to take its toll, and a bleak economy has made moving on even more challenging in the region. In this light, one cannot help but be reminded of William Faulkner’s observation that, “The past is never dead. It’s not even past” (Faulkner, 1950).

These findings parallel those discovered in West Virginia and discussed by Bell (2009); namely that in both cases the decline of the dominate industry—coal mining in West Virginia and lead mining in the Old Lead—directly led to a loss in community social capital. In fact, one aspect of these findings that is particularly interesting is that participants in both studies cited similar anecdotes as the cause of their community’s decline. Participants in both studies identified the arrival of community outsiders as the problem. In the case of West Virginia it was non-union coal companies and the resulting non-union miners that moved to the area or abandoned their former unions who filled the role of the outsider. In the case of the Old Lead Belt, it was the arrival of new residents following the end of lead mining in the area who had no familial connection to lead mining who were seen as the outsider. Regardless of the significance that the arrival of outsiders had in contributing to the significant change and decline within each community, it seems worthwhile to note this parallel.
This distinction between insiders and outsiders, community members with a familial mining connection and those without, hints at a larger conversation of the distinction between the heritage of the Old Lead Belt and the legacy of the Old Lead Belt. Here, legacy refers to the history of the Old Lead Belt, whereas heritage connotes the culture and way of life associated with the mining that took place. Although no participants in the study openly discussed or made distinctions between the ideas of the Old Lead Belt’s heritage versus its legacy, their overall perspective demonstrated a nuanced view that does draw a distinction. Overall, this point of view suggests that those with familial ties to lead mining, whose lineage dates to the 108-year history of lead mining in the area, embody the heritage of the community. One could even say they are the heritage. Whereas newcomers who arrived after 1972, when mining ceased in the area, are entirely disconnected from the Old Lead Belt’s heritage, both in identity and personal understanding. However, the legacy of the Old Lead Belt is independent of both the residents and events of today. The area’s legacy is its history, perhaps preserved by future generations and, in many ways, unchangeable.

This distinction between heritage and legacy, although not a revelation by any means, is profoundly interesting in the case of the Old Lead Belt. The community at present sits at a threshold in time, there are miners still alive who worked in the lead mines when they were flourishing and there are many descendants of these miners still living in the area who grew up while the mines were active. This living heritage presents a pivotal moment that is directly tied to the cultural memory of the community as well as the legacy of the Old Lead Belt. But it will undoubtedly pass on in the coming years. It is possible that much of the angst towards the decline of the community felt by community
members with familial connections to lead mining—and expressed as frustration or blame towards outsiders—is to a certain extent a reaction to this threshold or moment in time, one that foreshadows the inevitable eclipse of the Old Lead Belt’s heritage by its legacy.

Like all research, this study has limitations. With no prior social science research conducted in the area, the study was in many ways exploratory, which led to the inclusion of a breadth of participants representing a cross section of the community. This tactic provided a valuable introductory look into the people and the community. However, future research could benefit from interviews with a more narrowly defined sample so as to drill down into more specific aspects of the Old Lead Belt. For example, one could focus on younger community members who have more at stake in terms of the future of the area. Another interesting segment of the community worth exploring further would be members of the community more directly impacted by lead contamination and remediation efforts. Furthermore, with the decrease in average household income in the last decade and significant increase in government assistance, focusing future research on those with the least economic capital could prove fruitful. This might be especially important in relation to the future of the community given the success of the public school system and the community efforts to find support for the schools through local tax and bond measures.

Alternatively, other qualitative methods, or quantitative methods, could be employed to identify significant factors that are supporting or impeding changes that are beneficial to the community and its members. These research efforts should attempt to both explain behavior or circumstances as well as understand them more deeply. Some of the themes identified in this research may be helpful in these efforts. This project was
aided by a theoretical foundation, specifically the notion of habitus, and future researchers are urged to arm themselves with a theoretical stance that helps them go beyond the surface as they engage with a community and its members. Additionally, complementary research could be conducted outside of the Old Lead Belt, such as in the Viburnum Trend or other rural communities with similar characteristics that have no mining legacy to compare and contrast finding with what was discovered in the Old Lead Belt.

This project was eye opening and its findings clearly demonstrate the lasting impact the legacy of lead mining has had on the Old Lead Belt. In fact, so strong is the legacy of mining that, for better or worse, it is questionable whether or not the communities in the region will ever be able to entirely move past the legacy of their community having been established on the single, historically determined industry of lead mining.

Last but not least, this work would not have been possible without the numerous members of the Old Lead Belt who opened their lives to me and shared their point of view. I would like to acknowledge and say thank you to all of the participants, community members, and fellow researchers who participated and assisted in this project and made me feel, if only for a brief moment, a member of their community.
Work Cited


